The Management of Reserved Lands for Public Purposes: A Conceptual Framework

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ABSTRACT

Reservation is a form of disposal, land disposal made by the State Authority (SA) under the National Land Code (NLC). This means that SA may allow a person or body or company to occupy, own and operate the government land according to the purpose of the land being reserved in accordance with the provisions of section 62 of NLC. The development of parallel land according to the purpose of the reserved land is a beneficial effect on the community which is to create sustainable development, economic development and provide facilities to the community. The reserved land should be managed as best as possible so as not to cause any issues such as pollution or encroachment. There are relevant circulars and the NLC which can be used as a guide to the parties responsible for the management of land. However, some of the land is overlooked and unmanaged until the land is abandoned. This paper shares a conceptual framework for the management of reserve land for public purposes. This framework includes a number of policies and other elements that affect how land is managed across the scales. Framework of land management reserve referred from the land management paradigm towards achieving the sustainable development goal. This framework encourages the consideration of incentives and complements across a variety of policies and practices, as well as the need for stronger alignment to meet land management goals and can help build a more equitable and sustainable world by ensuring the long-term conservation and responsible use of these valuable public resources.

Keywords: reserved land, public land, land management, land governance, land law

INTRODUCTION

Land reservation for public purposes through a press notice implemented by the State Authority (SA) in accordance with the provisions of section 62 NLC (Act 828), which contains such things as describing the land of the reserve, describing what purpose the land was reserved for, appointing a civil servant for the time being to have control over that land, and is a conclusive statement that the land described is reserved for a public purpose (JKPTG, 2023). Reserve land can be developed various infrastructure for public purposes to provide facilities to the community. It's visible, The development plan by the Government on the reserve land may involve various public facilities on the same lot of land (underground layer, the surface layer and the airspace layer) such as road construction, highways, railways, forestry systems, water supply systems, electricity, gas and telecommunications network facilities (JKPTG, 2023). The development of road, highway, rail, sewerage systems, water supply systems, electricity, gas and telecommunications network facilities is regulated through the provisions of relevant acts, regulations and regulations by the regulatory agencies and detailed in agreements between the parties concerned. Despite having good laws and circumstances but management is still ineffective due to certain factors, this is proved through issues that arise on reserve land such as invasion and pollution.

Examined from the point of view of the purposes and objectives of exploration and invasion of the government lands, it was found to have a variety of uses such as for agricultural activities, workshop sites, business grounds, residential housing sites, small enterprise sites, commercial storage, storage of equipment, fish and shrimp livestock pools, vehicle routes and so on. There are also intrusions that are carried out for the purpose of making an easy profit by renting the site to certain parties (Zakaria, 2013). While there have been many attempts to manage land, these methods typically result in temporary repairs rather than long-term solutions that are inconsistently effective.

This study to build a framework on land management reserve referred from the land management paradigm towards achieving the sustainable development goal. This framework provides insights into the elements influencing reserve land management and was created based on a broad literature review. The study is to thoroughly comprehend the main variables impacting reserve land management by analyzing pertinent data from current sources, with a focus on encouraging sustainable and ideal land use techniques.

Weak land management leads to a number of issues like invasion. In the activities of land invasion can be divided into various activities land invasion involving agricultural activities, land settlement, Soil harvesting, garbage disposal and soil theft. The question is, how can this happen in every agency? land administration has legal provisions that have been established and Enforcement units have also been set up to deal with this problem. Besides, the attitude of the parties responsible directly with this problem becoming the cause of the ongoing problem of land invasion illegally when the lack of surveillance operations carried out on the land to carry out development activities. They're more focused on detectable land invasions than on large-scale lands. In this connection, these invasions have caused the development activities not to continue due to the period of occupation of the invaders who have long occupied the land of the government's reserve without any explicit action from the landowner or the land administrator (Mohamed, 2015). Various strategies have been implemented to deal with land reserves, but they have not produced consistently satisfactory results. Often, this approach focuses on short-term solutions such as measures taken and measures formulated by the government as a design solution to address the problem, including through enforcement measures, the provision of reserve land taxation among the settlement methods implemented by the Government (Mohamed, 2015). While these measures may provide little help, they need to offer sustainable and long-term solutions to the underlying issues of land reserves. In some cases, this short-term solution can exacerbate the problem by encouraging landowners to continue holding their unused land in the hope of future profits or increases in land value (A. et al., 2000).

In summary, unused reserve land is a major obstacle to attaining sustainable development and the SDGs. The fact that this problem is prevalent in both rural and urban locations across nations with varying levels of development emphasises the need for long-lasting solutions. The insufficiency of temporary solutions in tackling the intricacies of idle reserve land has demonstrated the need for a more all-encompassing and unified strategy that takes into account the diverse elements impacting land use decisions (A. et al., 2000).

METHODOLOGY

Data Collection and Cleaning

This review contains several previous review articles, as will be discussed later. To find suitable and relevant articles, two sets of keywords have been developed. First, to develop appropriate keywords for the term 'land management' by following systematic procedures. A preliminary understanding of Land Management is drawn from several articles (e.g., (Bačić et al., 2022); (Rahmat & Zainudin, 2023); (Shunagqing Sheng et al., 2022); (Van Der Molen & Mitchell, 2016). Based on the readings from these articles, a preliminary list of more than 20 keywords is compiled. To assess the feasibility of keywords, a search is made within several combinations in the Scopus database using the title of the article, abstract or keyword feature. Gradually, it became clear that many of the initially arranged keywords caused unnecessary duplication. keywords are selected as follows ‘land governance’, ‘sustainable development’, ‘land administration’, ‘public land’, ‘land reservation’, ‘responsible land’, ‘immovable asset’, and ‘ethical land’.

Second, keywords for the organization of the land sector are also selected systematically. Initially, the keyword is framed more than 20 keywords after reviewing several previous articles. Keywords were searched for in the Scopus database but found that most keywords did not add additional value and were less helpful in terms of search. Those keywords are dropped and the following keyword list: 'land use', 'land government', 'land sector', 'public purpose, 'reserved land', 'land taxation', 'land management', 'land organisation', and 'land law'.

The above keywords are searched by using any word from the first set of keywords and any word from the second set of keywords, namely OR. The search is carried out using Scopus data base using the title of the article, its abstract or keyword features. The search yielded approximately 610 articles in English, which were limited to land use, GIS, sustainability, land management, land use change, climate change, and land use planning.

Next, the data is manually cleared by excluding overlapping articles, book reviews and short articles published elsewhere and which contain little discussion of land management and sustainable development (Tina Saebi et al., 2019). This resulted in less 64 articles. After that, the technique of snowballing search for the source of the article from the results of citations in 64 articles. It produced 22 more articles. This additional article is found in several other databases for example is Research Gate such as (Ian P. Williamson et al., 2008), (Hartmann et al., 2024) ,and (Rahmat & Zainudin, 2023) and ScienceDirect such as (Hull & Antony, 2024), (Park et al., 2019), and (Burns et al., 2023). In total, the final list contains 86 articles.

Data Analysis

The analysis technique used is qualitative data. articles are selected and coded manually according to the focus of the study, for example the process of coding a paper by (Ian Phillip Williamson et al., 2010) it has been coded as 'land administration for sustainable development' because the main purpose is to study the level of land administration for sustainable development this helps also for studies carried out to manage reserve land for public purposes influenced by land administration which should be more effective. Another example of the method used in this study is the (S. O. Babalola & Uyi, 2019) it has been coded as a land information system because its main purpose is to ensure responsibility in land use by complying with the provisions of the land law. Overall, the coding process leads to several elements focused on the land management paradigm that leads to sustainable development. Table 1 shows examples of articles on each of the areas focused in this study and the key elements for these areas in land management including reserve land management so that reserve land management can be done more effectively and ensure sustainable development.

RESULTS

Land Management Paradigm

As mentioned earlier, the land management paradigm is the basis of land management. Therefore, the paradigm is also suitable to be applied in the management of reserve land for public purposes. This is because land management is the process by which the resources of land are put into good effect all actions related to the management of land and natural resources that are necessary to accomplish sustainable development are included in the field of land management. Land management organisational structures vary greatly between nations and regions globally, reflecting local legal and cultural contexts to better support the execution of land policy and sound governance, the institutional arrangements may evolve over time. In this country, land policies, land information infrastructures, and land administration infrastructures supporting sustainable development can be used to describe land management operations (Enemark, 2005).

Determining the traits of successful land management initiatives is crucial to addressing the intricacies of reserved land management. Reviewing previous research makes it easier to spot recurring characteristics, trends, and ideas that have worked well in various contexts. In this context, an organised method for arranging and evaluating findings from the existing literature on efficient land management is offered by the land

management paradigm. This well-known conceptual framework includes essential components of land management. Each component has a unique influence on land management strategies, and taken as a whole, they create an integrated and thorough framework that captures all aspects of successful land management. Researchers can comprehensively understand the various aspects that contribute to efficient land management by organising pertinent material based on those elements.

Thus, the four elements of the land management paradigm land administration functions, land policy framework, land information infrastructures, and institutional arrangements can be used to classify effective land management features. This Land Management Paradigm is presented in Figure 1 below (Enemark, 2005)

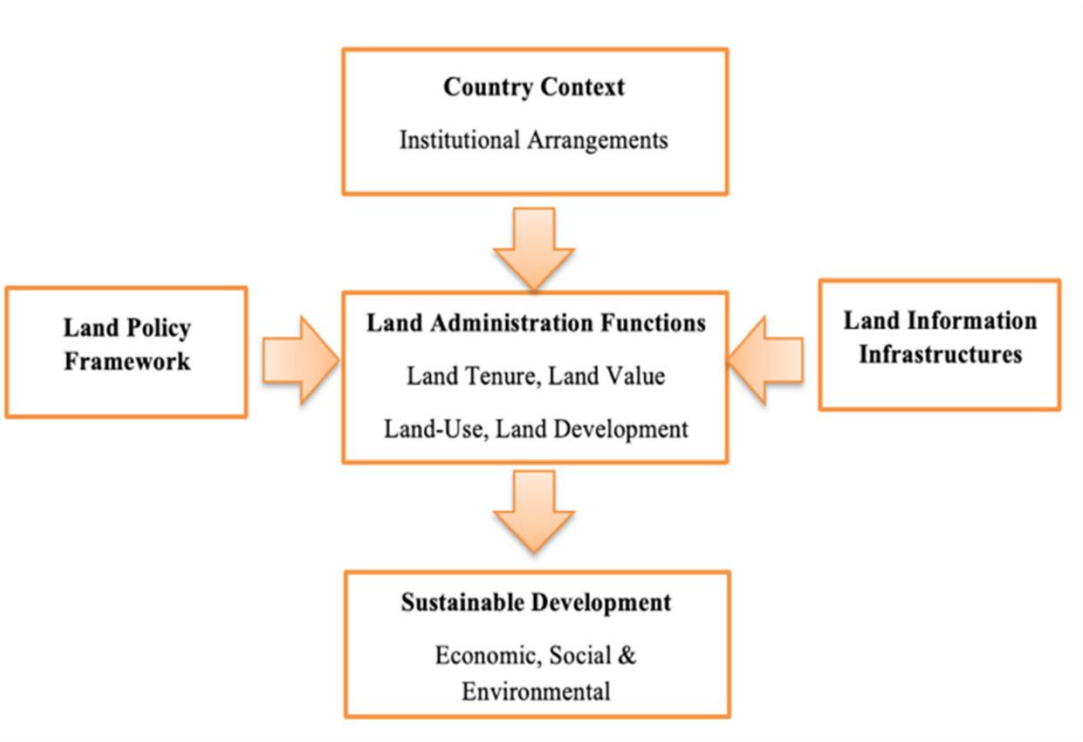

Figure 1. The Land Management Paradigm (Enemark, 2005)

Each element represents an essential aspect of land management and, when properly combined, supports effective land governance. Policymakers and stakeholders can obtain important insights into developing comprehensive and effective land management systems, encouraging responsible land use, addressing land-related challenges, and fostering socio-economic development while preserving environmental integrity by investigating and classifying these characteristics within the land management paradigm as shown in Table 1 below (Enemark, 2005).

Table 1. The Land Management Paradigm (adapted from (Enemark, 2005))

Element	**Content**
Land Administration Functions	The functions of land administration ensure the appropriate handling of rights, obligations, liabilities, and hazards concerning land, property, and natural resources.
	These functions include the areas of land tenure; land value; land use; and land development
Land Policy Framework	Land policy is a component of national policy aimed at advancing goals such as political stability, economic growth, social fairness and equity, and environmental sustainability.
	Security of tenure, land markets, real property taxes, sustainable management and control of land use, natural resources, and the environment, the provision of land for the impoverished, women, and ethnic minorities, as well as steps taken to stop land speculation and resolve land disputes, are all examples of land policies.

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Land Information Infrastructure	Appropriate land information infrastructures, which comprise cadastral and topographic datasets and offer access to comprehensive and current data about the built and natural environments, serve as the foundation for and enable the land administration functions.
Country Context	Land management organisational systems vary greatly between nations and regions globally, reflecting local legal and cultural contexts.
	In order to better support the execution of land policy and good governance, the institutional structures may evolve over time.

The purpose of the global context in land administration is to require a holistic view and as a major component in the Land Management Paradigm. The purpose of this study is to convey a holistic approach to the reserve land administration system by offering a paradigm as a theoretical basis. Although the study acknowledges that all countries or jurisdictions have their own needs, it provides some ideas for each element of the paradigm to manage reserve land for public purposes. This focuses in particular on those affected.

Land Management in Malaysia

This study presents some examples of Land Management in Malaysia. Land administration in Malaysia, the Constitution of Malaysia clearly states that as far as land issues and affairs are concerned, the Federal Government has limited administrative powers. The Federal Government may interfere in the administration of the matter in two matters, namely first, through Article 91 of the Federal Constitution, the National Land Council is chaired by the Federal Minister who has the responsibility to make policy on land and control and promote the use of land.

Secondly, the Survey Department in each state is a department under the Federal Government and the control of the Federal Minister. In the National Land Code (NLC), land administration in Malaysia can be divided into two levels, namely the federal-level administrative machinery and the state-level administrative machinery. The state authority (SA) has the authority to appoint several state officials including the State Director of land and Mines, deputy registration of Title, Assistant Colony administration, surveying officers, as well as other officials involved in the state land administration. To strengthen the track of land administration matters, SA makes general rules and regulations that can be implemented at the state level, which include how to apply for government land; issuance of Temporary Occupation licenses, permits to maintain rock materials, and permits for animal conservation areas; regulation and management of reserve land and its leasing; sale of land by auction; determining the rental tax rate and land premium to be charged on land ownership under the NLC; and ancillary payments and fees on licences and permits issued under the NLC (Abdullah, 2005).

It can be seen, NLC has authority over the control of reserve land in Malaysia. Under section 5 of Act 828, "reserved land" means land that was then reserved for public use in accordance with the provisions of section 62 or any previous land law. The Government's seizure of land may be carried out for public purposes for State or Federal use in accordance with the matters under the Ninth Table of the Federal Constitution. Examples of civilisation for public purposes are such as open areas, surau, mosques, highways, playgrounds, green areas, pavement zones, public halls, motorways or gardening areas. Government land privatization is crucial to the public interest and is one of the methods of controlling the Government's land. From invasion. Government land confiscation is also a method of protecting public interests from being assigned to individuals or any association or body specified under section 43 of Act 828. In this context, Government land pollution acts as a form of obstacle or limitation to eradication (Jaiya bin Abu et al., 2023).

In Malaysia, land management would be more effective if there was an administration on the land. The responsibilities of the administrators appointed by the government play an important role.

Element of Land Administration Functions for Reserved Land

The study found several elements for effective land management including reserve land management for public purposes. This element is also suitable for managing reserve land.. This study to build a framework on

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land management reserve referred from the land management paradigm towards achieving the sustainable development goal.

The first element that is focused on in the land management paradigm is the function of land administration for reserve land is the backbone of management. If a country is without any land policy administration as its primary asset, land ownership cannot be guaranteed to disrupt the foundation of property improvement and business development. Uncontrolled land use and development through overall planning policies and land regulations. The function of land administration is to address this problem by providing the basic infrastructure to implement land-related policies and land management strategies to ensure social justice, and economic and Environmental Protection. This function can involve conceptual frameworks such as those introduced by developed countries. Until 2008, countries with well-developed development often paid attention to land administration. This can be seen, when information on land and land market processes can be generated from an effective land administration system plays an important role in economic development (Ian P. Williamson et al., 2009).

The focus of land administration is the effective procedures for titling land registration. By establishing secure ownership rights, such systems instill confidence in investors and reduce legal uncertainty, as well as promote economic growth and development (Sulong & Taha, 2016). Simplified land transfer and transaction procedures also lower transaction costs and bureaucratic hold-ups, which facilitates land investment for both people and corporations and supports effective land markets. (Enemark, 2006). To encourage maximum land utilisation and reduce conflicting land uses, effective land-use planning and zoning restrictions are equally important. These laws encourage planned and sustainable growth by allocating particular regions for different uses, including residential, commercial, and agricultural (Enemark, 2010). Conflicts and disputes over land are frequent problems in land management, and social stability and economic development depend on the prevention and resolution of these conflicts. Conflicts can be settled more quickly by developing dispute resolution procedures and offering impartial, open procedures, which will promote an atmosphere that is favourable to land development (Ian P. Williamson et al., 2008).

Infrastructure development and land development mechanisms enable economic progress and satisfy societal expectations. These policies encourage infrastructure and land development, which supports urbanisation and socioeconomic advancement (Asmarhansyah et al., 2017). The literature concludes this part by pointing out how crucial it is for sustainable land management to successfully conduct land administration functions. All of these functions from effective procedures for titling land registration, simplified procedures for land transactions and transfers, implementing efficient zoning and land-use planning policies, techniques for managing and preventing conflicts and land issues and strategies to encourage the availability of infrastructure and land development, this paves the way for a prosperous and sustainable future, by embracing these functions in the broader land management framework.

Land Management Paradigm	**Element**	**Author**
Land Administration Functions	Effective procedures for titling land registration	(Sulong & Taha, 2016)
	Simplified procedures for land transactions and transfers	Enemark, 2006)
	Implementing efficient zoning and land-use planning policies	Enemark, 2010)
	Techniques for managing and preventing conflicts and land issues	Ian P. Williamson et al., 2008)
	Strategies to encourage the availability of infrastructure and land development	Asmarhansyah et al., 2017)

Land Policy Framework	Well-defined goals in line with the aims of sustainable development	(Hallett et al., 2017)
	Thorough and all-encompassing stakeholder participation	(Enemark, 2006)
	Mechanisms for responsible and transparent government	(Ahmad et al., 2020)
	Planning for the future and adaptability in situations of change	(Khalid, 2016)
	Regulations that are adaptable and balance social, economic, and environmental factors	(Ian P. Williamson et al., 2008)
	Encourages responsible land use methods	
	Enables vulnerable and marginalized groups to gain access to land	
Land Information Infrastructure	Comprehensive data systems and databases for land	Hallett et al., 2017)
	Integrating land-related data with other relevant datasets	
	Open access for stakeholders to land information	(Enemark, 2010)
	Consistent maintenance and update of land information systems	(Ian Phillip Williamson et al., 2010)
	Strategies to ensure data security and privacy	
	Accurate and up-to-date geospatial data	
	Mechanisms for data sharing and cooperation that are dependable and easily available	(Ian P. Williamson et al., 2008)
Country Context (Institutional Arrangements)	Cooperative and well-coordinated government systems	(Branca et al., 2013)
	Clearly stated roles and responsibilities for land management organizations	(Sahide & Giessen, 2015)
	Efficient cooperation and communication between agencies	(Khalid, 2016)
	Integrates and engages all pertinent parties	(Ian P. Williamson et al., 2008)
	Sufficient financial and human resources for land management	(Rico & Maseda, 2008)
	Continuous evaluation and observation of land management programs	(Amoateng et al., 2013)

Land Policy Framework for Reserved Land

To encourage sustainable land management practices and ensure that land resources are used responsibly to meet long-term socioeconomic and environmental objectives, a land policy framework is essential. A comprehensive framework for land management procedures is provided by specific objectives with sustainable development goals, which direct decision-makers towards a balance between sustainable development and economic growth (Hallett et al., 2017). In addition, incorporating a variety of stakeholders including corporations, local communities, and environmental organizations guarantees that policies represent the needs

and preferences of all societal groups (Enemark, 2006). Mechanisms for responsible and transparent government. By this, policymakers can promote accountability and reduce the likelihood of corruption by upholding the principles of transparency and releasing pertinent information (Ahmad et al., 2020). Planning for the future and adaptability in situations of change. It is imperative for policymakers to anticipate and proactively address developing issues in order to ensure the sustainability of land resources for posterity (Khalid, 2016).

The land policy framework incorporates regulations that are adaptable and balance social, economic, and environmental factors. Finding this fine balance guarantees that land management strategies support economic expansion while preserving environmental sustainability and social wellbeing. Furthermore, encourage responsible land use method. Methods of managing land sustainably encourage sustainable development by safeguarding natural resources and ecosystems. Enables vulnerable and marginalized groups to gain access to land. Policymakers can strengthen marginalised groups economically and socially, promoting poverty reduction and social inclusion, by granting fair access to land (Ian P. Williamson et al., 2008).

The literature on the importance of a well-crafted land policy framework in guiding societies towards sustainable land management practices has been succinctly summarised in this section. By carefully examining these elements and incorporating them into land management plans, it becomes feasible to create a harmonious and balanced relationship between people and natural resources.

Land Information Infrastructure for Reserved Land

The basis of efficient land management are land information infrastructures, which offer the methods and instruments necessary for well-informed decision-making and the sustainable use of resources. Comprehensive data system and databases for land. Which compile a wide range of land-related information, from environmental evaluations to ownership records. This abundance of information enables decision-makers to develop a comprehensive understanding of land resources and possible applications, supporting the development of evidence-based policies and resource planning (Hallett et al., 2017). Open access for stakeholders to land information. Public access to land data increases accountability and participation in decision-making among individuals, corporations, researchers, and non-governmental organisations. Diverse viewpoints are welco med, and public confidence in land management procedures is increased by open access (Hallett et al., 2017).

Integrating land-related data with other relevant datasets enhances the usefulness and comprehensiveness of land information systems. Policymakers can obtain a more comprehensive understanding of the effects of land-related choices across several sectors by integrating land data with other vital datasets, like population statistics and infrastructure maps. This integration facilitates the creation of more coherent and knowledgeable policies (Hallett et al., 2017). Consistent maintenance and update of land information system. By continuously updating land data, policymakers can rely on current and reliable information for decision-making, avoiding the pitfalls of outdated data. Regular maintenance ensures that the systems function optimally, preventing potential disruptions in data accessibility (Enemark, 2010). Strategies to ensure data security and privacy. In the digital age, safeguarding land data's security and privacy is crucial, and strong precautions are required to reduce any hazards (Enemark, 2010).

In summary, it has been shown from this review that land information infrastructures are a bedrock for sustainable land management, enabling policymakers to make informed decisions, promote transparency, and collaborate effectively. Each characteristic contributes to the success of land information systems, from comprehensive land databases and accurate geospatial data to user-friendly interfaces and data privacy measures.

Country Context (Institutional Arrangements) for Reserved Land

Institutional arrangements, which offer the required framework for coordinated and cooperative governance, are crucial in determining the efficacy and success of land management activities. Cooperative and well-

coordinated government system (Branca et al., 2013). Clearly stated roles and responsibilities for land management organizations. This keeps things simple and helps each organisation function more efficiently by reducing redundancies and increasing clarity. It is easier to allocate resources wisely and hold institutions responsible for their activities when responsibilities are well defined (Sahide & Giessen, 2015). Integrates and engages all pertinent parties. By this, policymakers can address a variety of complex land-related issues in a comprehensive way by encouraging cooperation and communication amongst diverse land management entities (Khalid, 2016). The last one is, continuous evaluation and observation of land management programs. Frequent evaluations help reveal areas for improvement and refinement and offer insightful information on how effective policies are (Amoateng et al., 2013).

In summary, institutional arrangements are essential to efficient land management because they offer the framework and systems required for coordinated governance, stakeholder involvement, and adaptive management. When these qualities are carefully considered and integrated, land management can become a potent weapon in creating a wealthy and sustainable future for future generations.

Figure 2 this shows the conceptual framework of reserve land for public purposes in Malaysia. In the early stages of the law, reserve land was allocated in section 62, NLC. The NLC describes the category of reserve land and who is responsible for the reserve land. From the NLC, subsection 42 (1) of Act 828, states that the power to dispose of land by the state Authority (SA) through the government land reservation can be exercised for public purposes for the use of the state or association by the Ninth Schedule of the Federal Constitution. Some examples of public purposes are open spaces, public halls, highways, playing fields, public halls, or catchment areas. SA may reserve government land for any public purpose. However, Act 828 does not specify what the rules are for reserving government land.

From the conceptual framework, each agency involved can adopt the land management paradigm to manage the land by appointing a land officer in charge of the reserve land, in addition, the elements that have been found in several previous studies can be applied according to the suitability and needs of the state or country.

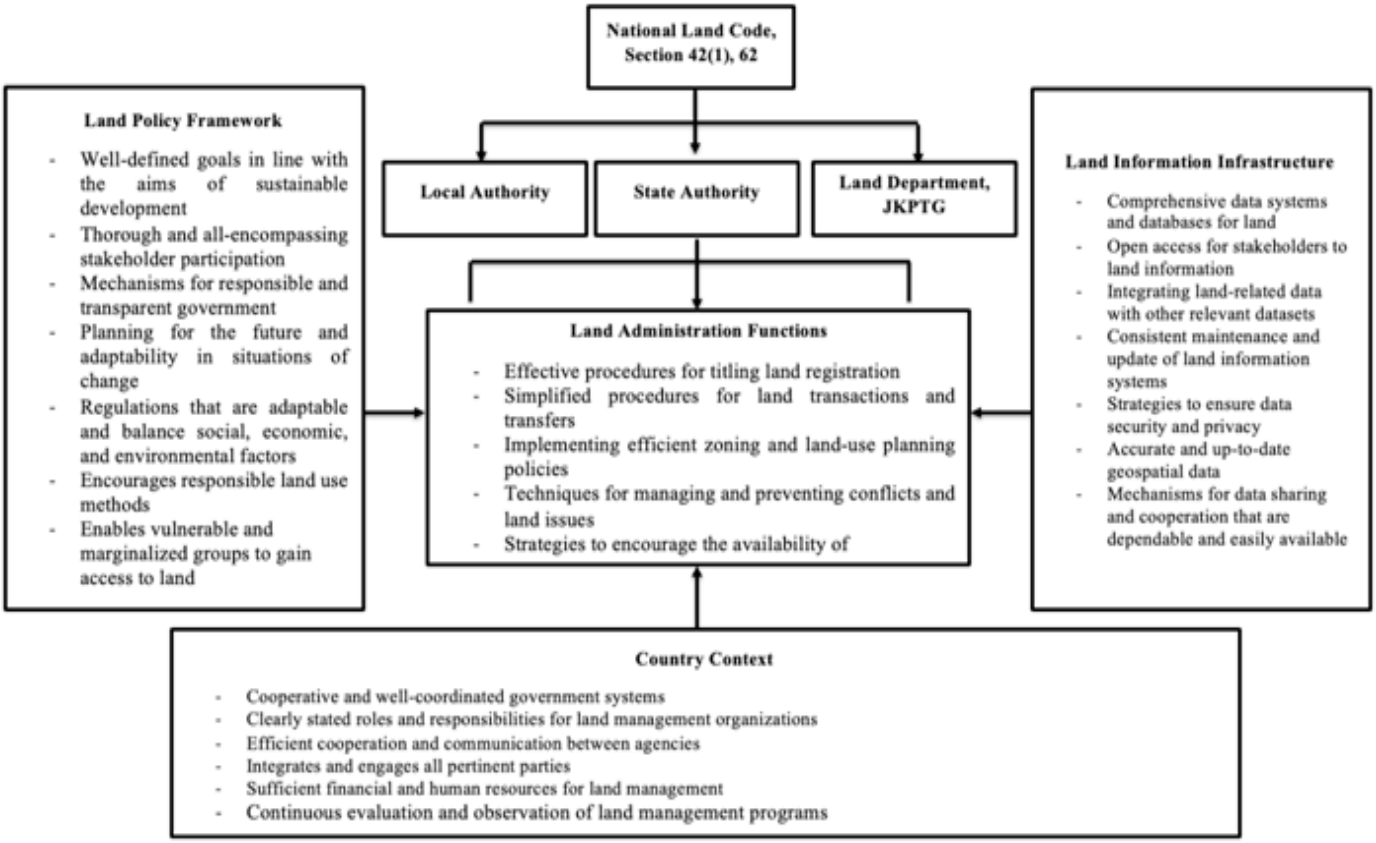

Figure 2. The Conceptual Framework of Management for Reserved Land

DISCUSSION

The objective of this study is to provide a comprehensive picture of reserve land management for public purposes using the land management paradigm as a theoretical basis. At the land administration level, it plays an important role and becomes the backbone of Land Management. The selected organization has responsibility for the public reserve land allocated in Section 62 of the NLC.

This conceptual framework will have an impact on the organizations involved, this is to further facilitate land management according to the elements in the land management paradigm. Through these elements, continuous development will be achieved. The organisational structures for land management differ greatly throughout nations and regions globally, reflecting the local legal and cultural contexts. Over time, institutional arrangements may be modified to better facilitate the application of land policies and sound governance. The three elements of land management operations in this country can be summed up as follows: land policies, land information infrastructures, and land administration infrastructures supporting sustainable development. Political stability, social justice and equity, and economic development are among the goals of national policy that land policy aims to advance.

After researching past studies that talked about land management. The reserve lands are not described in detail. Therefore, this study focuses on the management of reserve land which should be taken into account by all parties so that the sustainability of the land is maintained.

CONCLUSIONS

In conclusion, the results of this study will have an impact on land management to increase their awareness of the reserve lands that may be abandoned or still not developed according to the purpose of the land. The researchers hope that this study will open the eyes of researchers to research more about reserve lands in Malaysia and abroad. This is because the landscape is still dark and undefined. The efforts of this article, conceptually created can have an impact on the parties involved. This study proposes to examine the extent to which reserve land management can achieve sustainable development.

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