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University Land Used Potential to Generate Income

Muhamad Nur Fadhli Minhat*¹, Norhidayah Md Yunus¹, Maimunah Sapri¹, Hariati Abdullah Hashim¹, Nur Berahim¹, Nur Anis Aqila Zulkifli¹, Muhamad Norfiqiri Hamid¹, and Zurinah Tahir²

¹Department of Real estate, Universiti Teknologi Malaysia, Johor Bahru, Malaysia.

²Pusat Kajian Pembangunan, Sosial & Persekitaran (Seeds), Universiti Kebangsaan Malaysia, Bangi, Malaysia.

E-mail:mnfadhli2@graduate.utm.my

Abstract Public universities currently struggle with reduced budget allocations from the Federal Government. Therefore, universities need to diversify revenue sources to sustain operational costs. One initiative that could be taken is to effectively manage the university assets, in which land is one of the essential components. If strategically managed and developed, universities typically possess substantial land holdings that could offer significant financial benefits. Therefore, this study aims to provide an overview of the potential utilization of university land to generate revenue. In order to achieve this, twelve universities in Peninsular Malaysia were interviewed on behalf of their respective land management organizations. Interviews were undertaken to explore the university's current land use practices. Thematic and quasi analysis techniques will be used in this study. As a result, this research discovered several potential university land use to generate income that categorise into residential, commercial, agricultural, and industrial. Leveraging this land's potential can assist universities in innovating land use for generating income.

1. Introduction

Public universities worldwide have faced increasing financial challenges in recent years, as reductions in budget allocations from government sources have strained their ability to cover operating costs [1]. To ensure their continued operation and quality education provision, universities have been compelled to explore alternative revenue sources and diversify their income streams [2][3][4]. One valuable asset that universities possess is land, which, if effectively managed and developed, has the potential to generate substantial financial benefits [5].

The utilization of university land as a means to generate revenue has gained significant attention as a strategic initiative for financial sustainability. With their substantial land holdings, universities have the opportunity to leverage their assets and unlock the income-generating potential of their land resources while aligning with their core educational missions. By doing so, universities can mitigate the impact of reduced government funding and ensure the continued provision of high-quality education[5].

University land is seen to have the potential to generate university income. This potential arises from the development of urban areas surrounding the university, which grows due to the institution's presence. This can be observed from several past studies where the impact of university development has led to increased population migration to the university's surrounding area in search of employment opportunities [6]. This population migration has also positively influenced the urban economy surrounding the university. The increased population has led to land development in the urban area, with



numerous housing and commercial projects being established. According to a study by [7] university development has further stimulated commercial growth around the university.

Furthermore, this increasing development will further stimulate infrastructure construction, enabling smooth connectivity between various destinations. Urban development growth is perceived as having a positive impact on university land, especially concerning income generation. Rapid urban development has increased the value of university land, providing opportunities for revenue generation through its utilization. In line with that, this study examines the potential use of university land for income generation.

In this study, the definition of "land" used is based on Section 5 of Act 828[8], which includes the surface of the earth, the land beneath the surface, vegetation and natural products, objects attached to the land, and land covered by water. Therefore, the potential use of land to generate income will be examined based on the university's utilization of buildings and land.

2. Unlocking university land to generate income

Universities are increasingly exploring the potential of leveraging their land to generate income. To ensure that the university can utilize their land to its full potential university need to know what they need to do and how they can do it. Therefore, in this case, the matters to be considered are the activities for using the university land and the steps to enable the monetization it to generate income.

2.1 Utilizing university land to generate income

Utilizing university land to generate income has become an increasingly popular strategy for higher education institutions worldwide. By exploring various avenues such as residential, commercial, industrial, and agricultural projects, universities can unlock the potential of their land assets.

2.1.1 Residential land use

According to Annual Education Outlook [9], the generation of income from residential land is developing university-owned land for residential purposes can involve building student dormitories, faculty housing, or even creating rental properties for the general public. On-campus housing options can attract more students and provide a convenient living environment for them. Additionally, renting out properties to the local community can generate steady rental income for the university.

2.1.2 Commercial land use

Utilisation of university land includes many activities such as leasing space to businesses, establishing retail or dining establishments, and providing office spaces to both emerging enterprises and well-established corporations [9]. The geographical position and proximity of a university to a target market or business centre can substantially influence the appeal of commercial prospects in that area.

2.1.3 Industrial land use

In Industrial land use, the University of Alaska generates income based on renewable energy and extracting mineral resources [10]. In addition, the use of university land also includes many activities, such as engaging in collaborative research and development initiatives with industries and constructing technology parks and innovation centres. Universities can rent out physical areas to enterprises seeking research facilities, incubation rooms, or specialized laboratories.

2.1.4 Agricultural land use

Agricultural land use encompasses a range of activities, including establishing farms, orchards, and vineyards [11]. The university can engage in the production and commercialization of agricultural goods. Alternatively, it may collaborate with local farmers or agricultural enterprises to effectively utilise its land resources.

Based on the four categories of land use mentioned [9][10][11], universities can effectively utilize land to generate income. However, to enable the land use to generate income for the university, a Monetization Asset strategy is necessary

2.2 *Monetization Asset*

Monetization asset defines as a step institution take to generate income from their existing assets to stabilize their financial infrastructure [12]. Peterson [13] further states that asset monetization is one form of investment instrument that can help institutions generate income in addition to revenue obtained from fees and property taxes. Wilkin & William E Croteau [14] describe university asset monetization as using real estate assets to achieve financial objectives, while the "University Transformation Programme Purple Book" [14] sees it as converting non-income-producing assets into revenue generators. Asset monetization is a strategic process where institutions, including universities, generate income from their existing assets, genuine estate, to stabilize their financial infrastructure. It involves utilizing asset monetization as an investment instrument to complement revenue from fees and property taxes. Universities can focus on using real estate assets to achieve financial objectives and transform non-income-producing assets into sources of revenue generation. Overall, asset monetization offers an alternative approach for universities to attain financial balance. The "University Transformation Programme Purple Book" [14] outlines five steps for university land asset monetization:

2.2.1 *Lease and rental*

In this method, universities can generate income by leasing and selling their physical and non-physical assets. This includes generating revenue from university-owned land and buildings, with valuation done through direct assessment. Universities can either directly lease the land or lease it without any future use.

2.2.2 *Corporate collaboration with third parties*

Universities can establish a special entity jointly owned by the university and a third party. The entity acquires university assets with a clear purpose of providing services to the university and marketing services to external companies. Each contributing party gains ownership rights to the entity and the possibility of future revenue.

2.2.3 *Outsourcing with third parties*

Physical university assets are essential revenue sources. The rights to use these assets can be transferred to third parties through outsourcing transactions. In this way, third parties use the assets to serve customers in association with the university, enabling the university to earn revenue through profit-sharing agreements.

2.2.4 *Improving asset usage*

Underutilized university equipment can be utilized to generate income to offset asset purchase and maintenance costs. For example, less-utilized laboratory equipment or campus facilities can be offered to other universities or external organizations. Universities can also strategically assess their space utilization for more flexible usage, turning empty spaces into revenue sources.

2.2.5 *Commercialization of assets*

Universities can transform assets used for research and teaching purposes into commercial ventures. This strategy requires investment to make assets suitable for commercial use and appealing to a broader customer base. For instance, universities can license internally developed software applications to other universities or businesses and convert internal processes into external services

Overall, effectively monetizing university assets requires strategic decision-making and responsible partnerships. By leveraging lease and rental agreements, corporate collaborations, outsourcing, and improved asset usage, universities can fully utilize their land use to generate income. Therefore, based on income generation, universities can create sustainable income streams, support their core missions, and contribute positively to their academic communities.

3. Research methodology

In order to investigate the possibility of using university land to generate income, a qualitative approach was used in this study. Primary data was collected through face-to-face interviews with 12 university informants selected using the purposive sampling method whereby the informants were the parties directly involved in the decision-making and implementation of university land management. All the selected universities are located in Peninsular Malaysia. Interviews were undertaken to determine the university's current land use practices to generate income. In alignment with this objective, the interview questions were directed toward investigating university land use activities and the execution of asset monetization strategies. The results from these findings will showcase the uniqueness of practices in income generation based on four land use categories. In connection with that, Table 1 below shows the list of respondents:

Table 1. list of respondents.

Code	University	Department
U1	Universiti Kebangsaan Malaysia (UKM)	Pusat Pengurusan Penjanaan UKM (JANA@UKM)
U2	Universiti Teknologi Malaysia (UTM)	Bahagian Pengurusan Aset, Jabatan Timbalab Naib
U3	Universiti Sains Malaysia (USM)	Jabatan Pembangunan dan Pengurusan Aset
U4	Universiti Malaya (UM)	Jabatan Pembangunan dan Pengurusan Harta Benda
U5	Universiti Putra Malaysia (UPM)	Pejabat Pembangunan Dan Pengurusan Aset
U6	Universiti Teknologi Mara (UiTM)	Jabatan Pengurusan & Pelaburan Hartanah, Unit Pelaburan harta tanah
U7	Universiti Islam Antarabangsa Malaysia (UIAM)	Bahagian Pembangunan
U8	Universiti Malaysia Kelantan (UMK)	Pusat Pembangunan dan Pengurusan Infrastruktur
U9	Universiti Malaysia Terengganu (UMT)	Jabatan Pembangunan dan Harta
U10	Universiti Sains Islam Malaysia (USIM)	Jabatan Pembangunan dan Pengurusan Fasiliti
U11	Universiti Tun Hussein Onn Malaysia (UTHM)	Pusat pembangunan perniagaan
U12	Universiti Teknikal Melaka (UTEM)	Jabatan Pembangunan dan Pengurusan Fasiliti

Based on the interview, the data obtained will be analyzed to determine the current utilization of university land for income generation. The analysis technique used in this study is thematic analysis and quasi analysis. From the outcomes, the acquired data will be categorized into four distinct themes: residential, commercial, agricultural, and industrial. Guided by the theme, the land use activities and land asset monetization strategies will be arranged to align with the chosen theme. Subsequently, a quasi-analysis will be used to demonstrate the percentage of the university's current practices implemented to generate their income. It identifies the frequency of land use activities that universities have actively pursued and those that have received comparatively lesser implementation. In light of this observation, the underexplored activities emerge as potential prospects within university land utilization, holding promise for income generation.

4. University land use practise to generate income

Based on the four land use categories, namely residence, commercial, agriculture, and industry, universities employ various alternatives to generate income based on their land utilization. In connection with this, based on the table below, it demonstrates the current implementation of university land use for income generation.

Table 2. University Residence Land Use Practise to Generate Income.

LAND USE	LAND USE ACTIVITY	LAND ASSET MONETIZATION STRATEGY	IMPLEMENTATION FROM 12 UNIVERSITIES
Residence	i. Residence of university students/staff	i. Rental	100%
	i. Lease Student Hostel	i. Lease ii. Outsourcing with Third Parties	8%
	i. Hotels and guest accommodation	i. Rental ii. Improving Asset Utilization	33%
	i. Luxury student residence	i. Rental	16%

Table 2 shows that 100% of the universities interviewed use their land to generate income through residential university students/staff activities. U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, and U12 all have implemented this strategy, allocating their land for the construction of on-campus residences catering to both students and staff members. By providing quality housing options, these universities have created a conducive living environment that fosters academic and personal growth while promoting a strong sense of community. The rental income generated from these residential properties has contributed significantly to the universities' financial sustainability and allowed them to invest further in educational programs and campus infrastructure, ultimately enhancing the overall student experience and attracting top talent to their academic institutions.

Moving forward, the lease student hostel strategy has been adopted by 8% of the universities. It was informed by U2 this approach involves leasing student accommodations to external third-party entities, allowing for specialized management while still generating income from the university's land assets.

The hotels and guest accommodations category has seen implementation in 33% of the universities, showcasing a strategy that includes both rental income and improving asset utilization. By renting out facilities to guests and visitors, these universities capitalize on their properties' potential, serving as venues for various events and conferences, which positively impacts their financial sustainability (U1, U2, U6, U11)

Lastly, 16% of universities have ventured into luxury student residences, adopting a rental land asset monetization that caters to students seeking upscale accommodations. It was informed by U1, U2 By offering exclusive housing options, these universities attract discerning individuals while bolstering their revenue streams.

Table 3. University Commercial Land Use Practise to Generate Income.

LAND USE	LAND USE ACTIVITY	LAND ASSET MONETIZATION STRATEGY	IMPLEMENTATION FROM 12 UNIVERSITIES
Commercial	i. Commercial rental for student use (Restaurant, Grocery store, photostat shop, stationery store)	i. Rental	100%
	i. Asset services (Sports facility)	i. Outsourcing with Third Parties	16%
	ii. Use of Building Space	i. Improving Asset Utilization ii. Outsourcing with Third Parties	
	i. Asset services (sports facility management, convention hall, multi-purpose hall, event site)	i. Rental	100%

Table 3 shows that the analysis of commercial land use activities and income generation strategies among 12 universities highlights diverse approaches to capitalize on their properties. In the first category, all 12 universities have fully implemented the land asset monetization strategy of commercial rental for student use. By offering rental spaces for businesses like restaurants, grocery stores, photostat shops, and stationery stores, these universities create a vibrant campus ecosystem while generating steady income from commercial tenants (U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, and U12).

The second category, asset services, has been adopted by 16% of the universities. This strategy involves outsourcing sports facility management and utilizing building spaces for various purposes. For example, U1 They have outsourced the management of the golf driving range to an external company to handle the place. While U2 renting and outsource out a space to a company, and then the company upgrades the space into a café. Therefore, by partnering with external organizations, they can cater to a diverse range of events while generating revenue from facility rentals and services. This proactive approach demonstrates the universities' commitment to maximizing the potential of their commercial assets for financial gain and creating vibrant and dynamic spaces for various community activities.

Finally, the third category, which also falls under commercial land use, shows a full implementation rate of 100%. It was informed by U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, and U12. These universities have embraced the land asset monetization strategy renting out assets such as sports facilities, convention halls, multi-purpose halls, and event sites. By providing rental spaces for conferences, exhibitions, and other events, these universities generate substantial income while promoting their campuses as versatile venues for a range of activities.

Table 4. University Agriculture Land Use Practise to Generate Income.

LAND USE	LAND USE ACTIVITY	LAND ASSET MONETIZATION STRATEGY	IMPLEMENTATION FROM 12 UNIVERSITIES
Agriculture	i. Lease of land for agricultural purposes to university staff	i. Rental	25%
	i. Farming, Orchard	i. Commercialize assets	33%

Table 4 shows that the assessment of agriculture land use activities and income generation strategies across 12 universities reveals diverse approaches to capitalize on their agricultural assets. In the first category, 25% of the universities have implemented the land asset monetization strategy of leasing land for agricultural purposes to university staff. It was informed by U2, U5 and U10 offering lease agreements to staff members for agricultural use, these universities not only foster a sense of community engagement but also generate income through rental arrangements. The second category involves commercializing assets and has been adopted by 33% of the universities. This strategy entails leasing agricultural assets and outsourcing management to third-party entities. For example, Farm Fresh at UPM, where U5 generates income from their land by collaborating with Farm Fresh to create ecotourism on their land. By collaborating with external partners, universities can optimize asset utilization and benefit from specialized expertise, while generating revenue from the agricultural activities and services offered on their land.

Table 5. University Industry Land Use Practise to Generate Income.

LAND USE	LAND USE ACTIVITY	LAND ASSET MONETIZATION STRATEGY	IMPLEMENTATION FROM 12 UNIVERSITIES
Industry	i. Installing solar panels on the rooftop	i. Improving Asset Utilization	25%

The analysis of industry land use activities among 12 universities reveals a noteworthy implementation of the land asset monetization strategy focused on improving asset utilization. Specifically, 25% of the universities have chosen to install solar panels on the roofs of their buildings. U2, U6, U11 inform the leveraging their industrial land for renewable energy generation, university contribute to sustainability and environmental stewardship and create an additional revenue stream. The generation of solar energy caters to the university's power needs. It allows them to sell excess energy back to the grid, generating income by optimizing their industrial land assets. This forward-thinking approach showcases the universities' commitment to environmentally conscious practices while harnessing their infrastructure for financial gain.

5. Discussion

Based on the research findings, universities have utilized their land for income generation. They have implemented various initiatives to optimize land use effectively. In relation to that, the study results indicate a wide range of potential land use options for further income generation opportunities.

5.1 Potential for residential land use

Based on the findings, Malaysian public universities still need to fully utilize two residential land use activities at university campuses. These activities are student hostel leasing, luxury student hostels, and Hotels and guest accommodation. These activities are perceived to be underutilized by university authorities, with only 8%, 16%, and 33% of universities utilizing their land to generate income through these activities. Therefore, these activities are potential land usage opportunities that other public universities can implement. By leasing student accommodations to external third-party entities and outsourcing management, universities can tap into specialized expertise, potentially leading to increased revenue and reduced administrative burdens. Besides that, Universities can attract discerning individuals by providing luxurious accommodations to students seeking an elevated living experience while boosting their revenue streams. The university is fine Hotels and guest accommodations in universities provide temporary lodging for visitors, guests, and tourists on or near university campuses. These accommodations serve various purposes: housing visiting academics, conference attendees, prospective students, their families, alums, and tourists exploring the university and its surrounding areas. They play a crucial role in enhancing the university's reputation and contributing to its revenue generation.

5.2 Potential for commercial land use

From a commercial perspective, the potential use of university land can be seen from Asset services (Sports facility) dan Use of Building Space. The data shows a 16% implementation rate across 12 universities, indicating that many institutions embrace strategies to optimize their commercial properties. The income generation strategy includes outsourcing with third parties and improving asset utilization, enabling universities to capitalize on their commercial spaces effectively. Outsourcing sports facility management and renting out facilities for various events and activities enable universities to focus on their core academic missions while generating revenue from facility rentals and services. By partnering with external organizations, universities can cater to diverse events, conferences, and gatherings, creating a dynamic and vibrant campus environment.

Moreover, improving asset utilization allows universities to leverage their commercial spaces and enhance their financial sustainability fully. By efficiently using building spaces, universities can attract tenants, businesses, and organizations, contributing to income-generation effort

5.3 Potential for agriculture land use

Based on the research findings, agricultural land use is still underexplored by universities for income generation. The data reveals that 25% of the 12 universities generate income by leasing land for agriculture to their own staff, encouraging sustainable farming practices and fostering community involvement. Additionally, 33% of the universities commercialize their agricultural assets by leasing the land to third-party entities, allowing them to focus on academics while capitalizing on their land's farming potential. These strategies present opportunities for universities to diversify revenue, promote innovation in farming, engage the community, and build beneficial partnerships. Embracing these income-generation methods in agriculture can unlock the full potential of university land, creating financially resilient and environmentally responsible campuses.

5.4 Potential for industry land use

As for industrial land usage, based on the obtained findings, universities have yet to venture into utilizing land for industrial purposes to generate income. According to the research findings, only 25% of universities have utilized their land to generate income by improving their buildings by installing solar

roofs. By adopting solar panel installations, universities contribute to environmental sustainability and optimize their land use by tapping into an alternative revenue stream.

The income generation strategy focuses on improving asset utilization, as universities effectively utilize their rooftops to harness solar energy and generate electricity. This approach allows them to reduce their reliance on traditional energy sources, leading to cost savings in the long run. Additionally, excess energy generated through solar panels can be sold back to the grid, creating additional income opportunities for the institutions.

In addition to improving buildings, respondents U1, U2, U10, and U11 suggest that using university land for industrial purposes can also be implemented through corporate partnerships with third parties. This collaboration involves the development of laboratories or workshops that can be used jointly by the university and the funding company. This benefits both parties, as the university can generate income through the land and provide facilities for students and others. On the other hand, the company can gain knowledge exchange and access to land resources for developing workshops or laboratories.

6. Conclusion

In conclusion, generating income within university contexts is not a concept. This research finds that all 12 universities have already engaged in land-based income generation. Nonetheless, this research also emphasizes the potential for universities to optimize their land for generating income while upholding their core educational mission. These opportunities can be observed through universities innovatively adapting their land usage strategies to align with contemporary demands and effective revenue generation techniques.

These opportunities can be observed through universities innovatively adapting their land usage strategies to align with contemporary demands and effective revenue generation techniques. By emphasizing strategies like asset monetization through leasing and renting, collaboration with external entities, resource outsourcing, improved asset utilization, asset commercialization, and forward-thinking land management, universities possess the potential to capitalize on their land assets. This can entail creating accommodations, cultivating agricultural fields, establishing research hubs, nurturing cultural spaces, setting up retail outlets, and exploring other land-use avenues harmonizing with each institution's distinctive requirements and resources.

Therefore, guided by the proposed potential, the university can foster a culture of ongoing innovation in land utilization. Consequently, the revenue generated through these diversified land-use strategies can play a pivotal role in enhancing the financial stability of universities.

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