



# INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN ACCOUNTING, FINANCE AND MANAGEMENT SCIENCES



[www.hrmars.com](http://www.hrmars.com)

ISSN: 2225-8329

## Diversifying Local Government Funding in Implementing Green Open Space for Green City Development: A Systematic Literature Review

Nabilaa Mohamed, Thenmolli Vadeveloo

To Link this Article: <http://dx.doi.org/10.6007/IJARAFMS/v13-i2/18067> DOI:10.6007/IJARAFMS /v13-i2/18067

**Received:** 10 April 2023, **Revised:** 13 May 2023, **Accepted:** 27 May 2023

**Published Online:** 18 June 2023

**In-Text Citation:** (Mohamed & Vadeveloo, 2023)

**To Cite this Article:** Mohamed, N., & Vadeveloo, T. (2023). Diversifying Local Government Funding in Implementing Green Open Space for Green City Development: A Systematic Literature Review. *International Journal of Academic Research in Accounting Finance and Management Sciences*, 13(2), 946–961.

**Copyright:** © 2023 The Author(s)

Published by Human Resource Management Academic Research Society ([www.hrmars.com](http://www.hrmars.com))

This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <http://creativecommons.org/licences/by/4.0/legalcode>

**Vol. 13, No. 2, 2023, Pg. 946 - 961**

<http://hrmars.com/index.php/pages/detail/IJARAFMS>

JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at  
<http://hrmars.com/index.php/pages/detail/publication-ethics>



## Diversifying Local Government Funding in Implementing Green Open Space for Green City Development: A Systematic Literature Review

Nabilaa Mohamed, Thenmolli Vadeveloo

Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM),  
40450 Shah Alam MALAYSIA.

Corresponding Author's Email: [thenm020@uitm.edu.my](mailto:thenm020@uitm.edu.my)

### Abstract

Funding in the green open space (GOS) sector is one of the critical elements in the successful implementation of green city development (GCD). Therefore, appropriate strategies of funding are needed to ensure the consistent existence of green and balanced urbanisation. This review aimed to provide a systematic overview of how strategies of local government have been applied to increase their income and create a successful green city in the context of GOS studies. Hence, this study reviewed a considerable number of past studies on local government's financial resources in funding GOS implementation. The study used the systematic literature review which utilised two journal databases, namely SCOPUS and Web of Science, and was guided by the PRISMA (Preferred Reporting Items and Meta-Analyses) in reviewing process. The main findings show that the 16 eligible papers reviewed mainly discussed the local government's financial resources in funding GOS implementation. Researchers found 12 strategies that have been taken by local governments in diversifying the financial resources in funding GOS management and maintenance continuously. Findings revealed that the only strategies that show high potentials to be practiced are crowdfunding and payment for urban ecosystem services (PUES). Regardless, there is sufficient recommendations were presented as a shred of evidence to warrant further research on this topic.

**Keywords:** Funding, Green City, Green Open Space, Local Government, Systematic Literature Review

### Introduction

The success of green city development (GCD) programs such as the implementation of green open space (GOS) is influenced by the financial stability of a country which is determined by its ability to diversify financial resources to fund sustainable urban development projects continuously (Zhan et al., 2018). A study by Brilhante & Klaas (2018) also found that the greenest city in the world belonged to a country that has a high gross domestic product.

Traditionally, local government's financial resources come from local tax revenue and financial assistance from the central government (Mell, 2017). For example, in Malaysia, local

governments make full use of their own income from taxation (Berahim et al., 2019). Unlike in Indonesia, their financial resources to fund the management and maintenance cost of GOS implementation 81% are funded by the private sector through corporate social responsibility (CSR) programs (Wikantiyoso & Suhartono, 2018) and both countries practiced full dependency on financial aid from their central or state government (Berahim et al., 2019; mstar.com, 2011). However, most local governments in developing countries are experiencing continuous financial constraints and income decreased due to the difficulty in diversifying financial resources (Mohd & Kaushal, 2018; Houda & Lamia, 2016) and compounded by full dependency on the central government to fund urban development have made management and maintenance of GOS has been delayed, causing the quality and performance of GOS in Malaysia and Indonesia has been declined and often been neglected by park users (Hakim & Endangsih, 2020; Mansor et al., 2019; Alfatih et al., 2018; Koesoemawati & Sulistiyowati, 2018; Eriawan & Setiawati, 2017; Ibrahim et al., 2017; Bakar et al., 2016; Rusadi et al., 2016).

Therefore, the SLR study on the type of GOS implementation funding was conducted to support the Malaysian and Indonesian governments to achieve their national mission of implementing a productive GOS towards GCD. The investigations were conducted by reviewing past literature that focused on the same subject matter from different countries. This study is important because the researchers want to solve the constraint of financial resources of local government to fund GOS implementation continuously by proposing a strategy to diversify the funding.

### **The Need for a Systematic Review**

Diverse financial resources in the local government administration are crucial in creating a productive GOS but the financial constraints often faced by the local government caused the quality and performance of GOS as the most important element in GCD has declined. Moreover, local government needs to ensure a smooth financial flow to maintain GOS for the long term. Therefore, it is important to understand the local urban context first before deciding which strategies can stabilise financial resources effectively in order to ensure the GOS is well-managed and well-maintained in the long term (Hamdy & Plaku, 2021). Therefore, this paper will answer the question of how the local government of Malaysia and Indonesia can diversify their financial resources in implementing a productive GOS by simplifying the previous findings. The reason is to give the first idea to the local government and policymakers in Malaysia and Indonesia on how to diversify financial resources to increase their financial sustainability by considering the diversity of strategies to diversify the financial resources from other countries on how their local government generates their own innovative income to fund GOS implementation continuously.

### **Method**

SLR was used to find past literature related to the financial resources of local government in funding GOS implementation to build a successful green city. SCOPUS and Web of Science databases have been selected in this study as both databases are robust and focus a lot on environmental studies and social science (Shaffril et al., 2019). It shows both databases are highly reliable in this study topic. Therefore, both databases are used.

## The Systematic Review Process for Selecting the Articles

### Identification

Search string activity was conducted on 23<sup>rd</sup> August 2022 (Refer to Table 1) by using reliable keywords.

Table 1

Search String

Database	Keyword Used	Result
Scopus	TITLE-ABS-KEY ((“finance” OR “financial” OR “funding”) AND (“green space” OR “green open space” OR “urban green space” OR “urban green open space” OR “urban green” OR “public park” OR “recreational park” OR “urban park” OR “pocket park” OR “ecology park” OR “eco park”))	438
Web of Science	(AB=((“finance” OR “financial” OR “funding”))) AND AB=((“green space” OR “green open space” OR “urban green space” OR “urban green open space” OR “urban green” OR “public park” OR “recreational park” OR “urban park” OR “pocket park” OR “ecology park” OR “eco park”))	164

### Screening

Through the screening process, as many as 45 duplicate articles were eliminated and another 443 articles were removed because did not follow the inclusion criteria that had been set (Refer to Table 2). The first criterion is the literature selected must be within a 5-year period (from 2016 to 2021) to get the latest information by early year until the end of the year. Henceforth, the literature type must only focus on articles from journals in the final stage because it consists of primary sources that involve complete empirical data and non-empirical data. Therefore, publication in the form of a book, book chapter, book series, review, conference paper or proceedings, editorial, business article, conference review, erratum, and short survey including trade publications were excluded in the current research, and all literature reviewed must be published in the English language.

Table 2

Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Year	Between 2016-2021	Before 2016
Document Type	Article	Book chapter, review, conference paper, book, editorial, business article, conference review, erratum, and short survey
Source Type	Journals	Book, conference proceedings, book series and trade publications
Publication Stage	Final	Article in press
Language	English	Non-English

### Eligibility

After examining the 114 articles deeply in the eligibility process, the researchers found that only 16 articles were relevant to the topic of the study and were selected to answer the research questions (Refer to Figure 1). In the eligibility process, all articles were filtered by

looking at the title and abstract including their contents to achieve the objective of the current research. Consequently, a total of 98 articles were excluded because it is hard sciences articles and did not focus on local government financial resources in funding GOS implementation. Finally, a total of 16 remaining articles are ready to be assessed and analysed comprehensively.

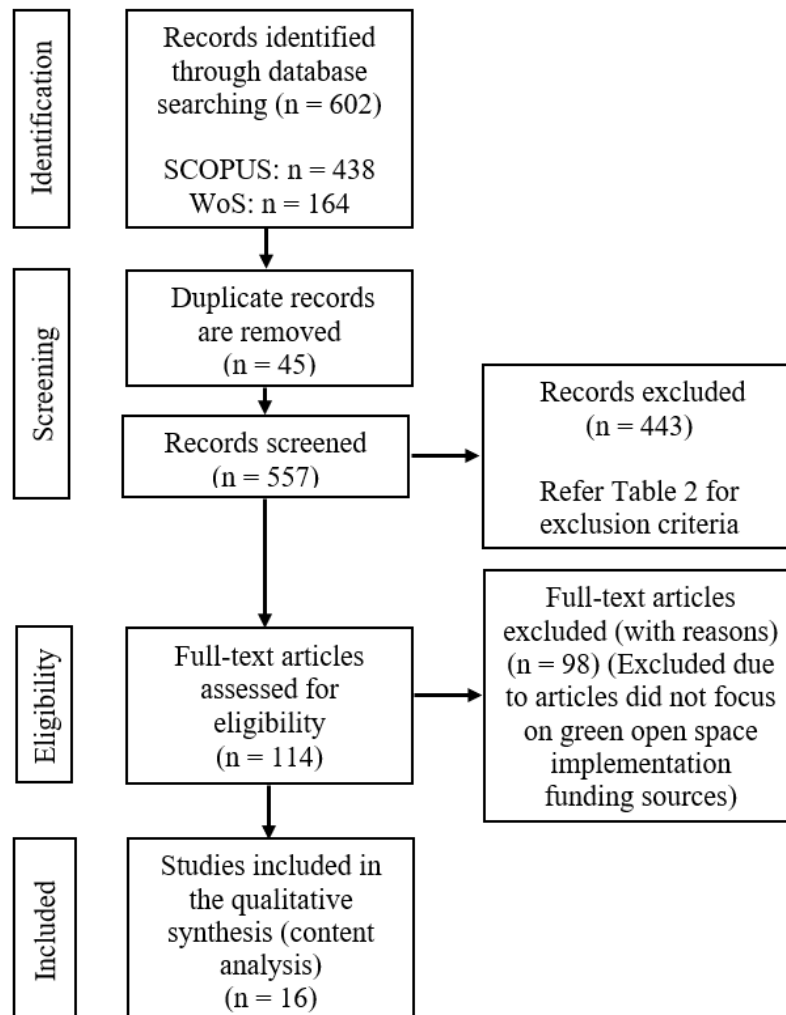


Figure 1: Flow Diagram of the Process in Selecting Article

### Data Abstraction and Analysis

The remaining 16 articles were assessed and analysed through in-depth reading by using the PRISMA review method to identify appropriate themes and sub-themes. Qualitative analysis was performed using content analysis to identify themes that related to the local government's financial resources in funding GOS implementation then later the researchers organised the sub-themes by using typology around the themes.

### Results and Discussion

#### General Findings and Background of the Studies Included in the Review

The analysis produced a total of three themes and 12 sub-themes that referred to the strategy to diversify local government financial resources. As presented in Table 3, the three themes are public (3 sub-themes), public-private (4 sub-themes), and community-public-private (5



sub-themes). More specifically, it should be noted that seven previous studies focused on the United Kingdom (UK) local government financial resources (Smith, 2021; Barker et al., 2020; Hayes & Dockerill, 2020; Nam & Dempsey, 2020; Mell, 2020; Dickinson et al., 2019; Mell, 2017) and two studies examined worldwide in general perspective (Toxopeus & Polzin, 2021; Richards & Thompson, 2019). Other than that, each study on Italy's local government financial resources Trovato (2021), Mediterranean Countries (involves Egypt and Albania) local government financial resources Hamdy & Plaku (2021), European Countries (involves Portugal, Poland, and Germany) local government financial resources (Herman et al., 2018), China local government financial resources Wang & Bao (2018), Indonesia local government financial resources Wikantiyoso & Suhartono (2018), the Netherlands local government financial resources Mattijssen et al (2017), and the United States of America (USA) local government financial resources Mowen et al (2016) were also included in the review.

In the case of the present study, regarding the year of publication, four articles were published in 2021 Hamdy & Plaku (2021); Smith (2021); Toxopeus & Polzin (2021); Trovato (2021) and four articles were published in 2020 Barker et al (2020); Hayes & Dockerill (2020); Mell (2020); Nam & Dempsey (2020), and two articles were published in 2019 (Dickinson et al., 2019; Richards & Thompson, 2019). Next, three articles were published in 2018 Herman et al (2018); Wang & Bao (2018); Wikantiyoso & Suhartono (2018), followed by two articles published in 2017 Mattijssen et al., (2017); Mell (2017) and one article published in the year 2016 (Mowen et al., 2016). Furthermore, five studies applied a qualitative approach Hamdy & Plaku (2021); Smith (2021); Trovato (2021); Hayes & Dockerill (2020); Wang & Bao (2018), one study employed a quantitative approach Mowen et al (2016) while four studies applied a mixed methods (qualitative and quantitative) approach Nam & Dempsey (2020); Herman et al (2018); Wikantiyoso & Suhartono (2018); Mattijssen et al (2017) and six articles employed from review and concept paper (Toxopeus & Polzin, 2021; Barker et al., 2020; Mell, 2020; Dickinson et al., 2019; Richards & Thompson, 2019; Mell, 2017).

Table 3

*The Findings of the Themes and the Sub-Themes*

Author	Public			Public-Private				Community-Public-Private				
	L	B	ME	PC	P	C	CSR	CF	S	PUES	CSO	LBS
Hamdy & Plaku (2021) – Mediterranean					√		√				√	
Trovato (2021) – Italy								√				
Toxopeus & Polzin (2021) – Worldwide	√	√		√				√				
Smith (2021) – UK					√				√		√	
Mell (2020) – UK				√	√		√		√		√	
Hayes & Dockerill (2020) – UK								√				
Barker et al. (2020) – UK	√			√	√	√			√		√	
Nam & Dempsey (2020) – UK	√					√			√			
Dickinson et al (2019) – UK	√											
Richards & Thompson (2019) – Worldwide										√		
Herman et al (2018) – European												√
Wang & Bao (2018) – China			√									

Wikantiyoso & Suhartono (2018) – Indonesia			√
Mell (2017) – UK	√	√	
Mattijssen et al (2017) - The Netherlands			√
Mowen et al (2016) – USA			√

L	= Levy	C	= Commercialisation	CSO	= Community Self-Organised
B	= Bond	CSR	= Corporate Social Responsibility	LBS	= Low-Budget and Upcycling Strategies
ME	= Mega-Event	CF	= Crowdfunding		
PC	= Private Company	S	= Sponsorship		
P	= Privatisation	PUES	= Payment for Urban Ecosystem Services		

## Main Findings

In this section, the discussion revolves around three themes, namely public, public-private, and community-public-private and enforcement along with the emergence of 12 sub-themes (Refer Table 3).

### Public

This section concentrates on the financial resources practiced by local government through a public approach such as levy, bond, and mega-event.

### Levy

A total of five out of 16 studies focused on levy to increase local government income in funding GOS management and maintenance. Levy is the most common and traditional method through taxation, fee, or fine imposed by local government to local citizens (Mell, 2017) including lease which is a new idea in the USA when a piece of green grass in Dolores Park, San Francisco was leased (Barker et al., 2020). Meanwhile, Wimbledon and Putney Commons open space in London is funded through a levy paid by households that have been imposed by the Green Benefits District because GOS was in the residential area (Barker et al., 2020). In Liverpool City, they have made taxation as their main financial resources, such as council tax and business tax (Mell, 2020). For this reason, many citizens do not agree if additional taxes are imposed on GOS (Nam & Dempsey, 2020). Similarly, the heterogeneous tax rate (HTR) in the UK is imposed on households that received rain catchment services located in GOS areas so that floods can be prevented (Toxopeus & Polzin, 2021). Besides that, user-charging schemes on the use of green space have similarities with HTR was often practiced in England and Wales has caused local people who cannot afford to pay including the homeless not to be able to access GOS (Richards & Thompson, 2019).

Actually, the local government is not legally obliged to provide GOS, this has given the local government an advantage to try to reduce costs by transferring the responsibility to an external party (Barker et al., 2020). The study shows that there is a call in England and Wales to make local government legally obliged in the provision to providing GOS Dickinson et al (2019) because people in Falata and Prusa Corner Park and Butterflies Garden at Krakow, Poland believed it will be easier to access GOS with no additional payment imposed on the public (Hamdy & Plaku, 2021). Also supported by findings from Dickinson et al (2019) found that GOS funding directly from local government is preferred by many compared to using

user-charging schemes because parks can be accessed by all levels of society without entrance fees (Dickinson et al., 2019). Furthermore, the advantages of management and maintenance of GOS that is administered directly by the local government became better because it meets local needs due to the flexibility of local authorities to allow the involvement of local people in the process of management and maintenance of GOS together (Dickinson et al., 2019) and through lease charges, connections fees, and taxes scheme also have increased the value of land including tax increment financing (TIF) which is imposed on infrastructure development has increased real estate profits (Toxopeus & Polzin, 2021) such as in Singapore public land owners who often lease real estate in park areas for commercial traders such as the Singapore National Park Board has earned SGD10 million from leasing revenue in 2016 and this income has been channelled to organisations that develop GOS (Dickinson et al., 2019).

### ***Bond***

Findings from Toxopeus and Polzin (2021) show social and environmental impact bond schemes can benefit the social and environmental interests of the people in the UK by shifting the risk of achievement to private bondholders. Unfortunately, bonds are not often discussed comprehensively in previous articles.

### ***Mega-Event***

Mega-event that has been funded by the central government helps local government to develop the urban landscape. For example, in China, local government uses mega-events to fund urban landscape development including the conservation of green areas in some selected cities (Wang & Bao, 2018). The Chinese government has intensively allocated public funds, USD 48.9 billion to build new facilities, upgrade urban infrastructure and restore environmental quality to welcome the mega-event, Beijing Olympics 2008 (Wang & Bao, 2018). One of the main aspects that has been given crucial attention by central government is the environmental area which includes green areas and urban parks development (Wang & Bao, 2018). This shows that mega-events are also an effective strategy for local government to fund the management and maintenance costs of GOS implementation. Findings from Wang and Bao (2018) also found that mega-events have influenced the improvement of the welfare of the population in terms of economy, society, and environment, but however most low-profile cities are neglected under this strategy.

### ***Public-Private Partnership***

A total of nine articles reported that the local government practiced public-private partnership approach as a strategy to diversify their financial resources. Under these theme, four sub-themes emerged, namely private company, privatisation, commercialisation, and CSR.

### ***Private Company***

The local government collaborates with private companies to develop urban infrastructure including urban landscape development. The agreement between local government and city developer to provide capital funding for new investment in GOS and shared revenue to meet the maintenance cost have been commonly practiced in Liverpool City (Mell, 2020, 2017) and some Victorian public parks in the UK was privately managed by Bryant Park Corporation a division of the local Business Improvement District (Barker et al., 2020). Furthermore, in the UK the bank also helps the local government in cutting local government's costs when a land



bank can hold the initial risk in the provision of land in a weak real estate market or in a volatile market and it has successfully increased private investment in green area restoration projects (Toxopeus & Polzin, 2021).

### ***Privatisation***

Privatisations refer to a private investor that privately owns and maintains GOS causing local government to have limited power over the GOS has made GOS areas have a gate and limited operational hours like at Paley Park and John F. Collins Park in New York City, USA (Hamdy & Plaku, 2021). Besides that, through privatisation, local government will sometimes sell the land to local communities or businesses to remove local government's liability and cost (Mell, 2020). According to Barker et al (2020), GOS is a commodity or asset that can be sold, and local government can sell GOS to businesses or landowners for commercial purposes or any development projects. This selling activity has been a reasonable way to help local government to funding public park maintenance services and at the same time generate income but by selling a park have causing not everyone can access the park publicly because the park that is sold will be privately owned or under a park club that can only be accessed by the owner or members of the park club such as in Granary Square Park in King's Cross London, UK when only certain people can access the park with an entrance fee charged or subject to the personal invitation (Barker et al., 2020). Besides that, the park is also vulnerable to the threat of exploitation of commercial development (Barker et al., 2020). It gets worse when privatisation through commercialisation activities made GOS defined as an asset or commodity to be maximised and not being protected, therefore many people oppose GOS being privatised (Mell, 2020).

### ***Commercialisation***

In London, one of the new park management models is to put individual parks into trust ownership funded by commercial income (Smith, 2021). As in Battersea Park in London, UK external funding through commercial activities by privatisation and homogenisation approach is often used as a financial resource for GOS implementation funding Barker et al (2020), as in Potters Fields Park, Southwark which is under the management of the Management Trust, funded through self-financing through events, grants, and donations Smith (2021) and in Gunnersbury Park changed to self-financing parks through commercialisation in 2018 managed by the Community Interest Company (CIC) is more entrepreneurial by social enterprises resulting in most public park areas in London has been temporarily privatised (Smith, 2021).

Some commercial activities that are often done in the UK's parks such as ticketed events, entrance fees, cafés, kiosks, shops, and Go Ape (adventure playground with zip wires and rope walks installed in tree-top setting) (Smith, 2021; Barker et al., 2020; Nam & Dempsey, 2020). The weaknesses of commercial activities in Gunnersbury Park and Battersea Park as a result of major events have prevented some local people from using GOS facilities Smith (2021); Barker et al (2020) due to expensive entrance fee Barker et al (2020) and sports facilities that have to be paid for Smith (2021) with varying charges have made the sports facilities are being neglected (Barker et al., 2020). Besides that, commercialisation has increased the social gap where only the rich can use the park even though Gunnersbury Park is a public park and according to Smith (2021), it is even worse when private parties such as CIC do not want local people to be involved in the management and maintenance of GOS because they believed local people do not have the expertise. This commercialisation issue also worsens the

relationship between local authorities, private organisations, and local communities (Smith, 2021) while the advantage of commercialisation, in Sheffield City activities such as festivals, fun days, and circuses are accepted by many people because they have increased community participation (Nam & Dempsey, 2020) and the large events that are held also promoted GOS to the national and international level (Barker et al., 2020). Furthermore, despite the high price of Go Ape, 64% of the population prefers it and supports this commercial activity as a financial source for local government to fund the management and maintenance of GOS (Smith, 2021).

Although the parks in London are privatised, they are not actually fully privatised as there is still local authority intervention because if their commercial income exceeded in certain amount they have to return it to Southwark Council based on the terms of the lease and Smith (2021) also stated that it is very impossible to prevent the parks been commercialised nowadays because according to him commercialisation is considered the most effective way to help local government to solve financial constraints and poor park management.

### ***Corporate Social Responsibility***

Differentiation between privatisation and commercialisation with CSR is CSR from private sector only act as a fund-raising partner and does not own the GOS by only raise the funds, donate cash funds, and provide park facilities as part of their social responsibility and in exchange, they also can display their logo in the GOS areas (Hamdy & Plaku, 2021). CSR became a common strategy by local government to increase GOS funds such as in Indonesia (Wikantiyoso & Suhartono, 2018), in the USA Hamdy & Plaku (2021) as well as in the UK (Mell, 2020). The implementation of GOS in Indonesia is almost 81% funded by the private sector through CSR programs involving corporates and individuals such as banks, the steel industry, communication companies, and a businessman (Wikantiyoso & Suhartono, 2018). The practice of social responsibility and philanthropic activities such as charitable giving is the main approach of CSR (Wikantiyoso & Suhartono, 2018). CSR prioritises social welfare and promotes moral and ethical principles for community development (Wikantiyoso & Suhartono, 2018). The concept of CSR also emphasises with joint ventures with the government, community resources agencies and local communities for every social development that is carried out (Wikantiyoso & Suhartono, 2018). However, to make this CSR program a success, the management needs high accountability and transparency and a high commitment from community and government involvement (Wikantiyoso & Suhartono, 2018).

### ***Community-Public-Private Partnership***

A total of 11 studies reported community-public-private-partnership (CPPP) approach as one of the latest strategies taken by some local governments around the world. Under this theme, a total of five sub-themes emerged, namely crowdfunding, sponsorship, PUES, community self-organised, and low-budget and upcycling strategies. CPPP is a new strategy taken by some local governments to diversify its income to fund GOS implementation. It is a new form of management that involves the planning process (Trovato, 2021). CPPP also known as the Tripartite model in the UK in the implementation of GOS with costs and benefits that are shared by public organisations, businesses, and citizens so that they can both achieve a sustainable city (Toxopeus & Polzin, 2021).

### ***Crowdfunding***

Crowdfunding is one of the alternatives and innovative financial resources generated under CPPP approach and has become a new funding instrument where the community as organisers and managers including a diverse group of partners and financiers together generate funds to fund the cost of GOS implementation in the UK (Trovato, 2021). Crowdfunding activities such as philanthropic and public donations are often practiced in Salford, Greater Manchester, UK (Hayes & Dockerill, 2020). In Tirana, Albania the Pallati me shigjeta Pocket Park has been managed by Co-PLAN Institute for Habitat Development, Tirana municipality, residents, and professional groups as well as funded by international and local donors (Hamdy & Plaku, 2021). Same goes to downtown Cairo, Egypt the Kodak Passageway has been managed by municipal initiatives and funded by a foreign donor but Hamdy and Plaku (2021) recommended in their study that Cairo also needs to get involvement from privatisation or community organisations in order to increase the level of social consciousness because their urban context surrounding by business areas that can allow more freedom and flexibility for the space that then can lead to increased user-participation in the GOS design implementation (Hamdy & Plaku, 2021). However, voluntary donation per individual is least accepted by citizens in Sheffield City, England, UK (Nam & Dempsey, 2020). But not in Italy, crowdfunding became the most successful types of fundraising, collected by various community groups among the citizens and public or civic organisations included private companies and they all are been united in one website called Meridonare, it is the first social crowdfunding platform that launched on November 2019 has funded GOS project in March 2020 and recognised by the Italian government and has enshrined in Italian law (Trovato, 2021).

### ***Sponsorship***

Private business sponsorship is one of local government's strategies to increase GOS funds such as in the UK (Mell, 2017) and the USA (Mowen et al., 2016). The findings of Mowen et al (2016) found that in Northern Virginia, Washington, D.C., corporate sponsorship as an alternative to funding GOS implementation has increasingly been welcomed by the legislative. Corporate sponsorship is commonly practiced in private events such as in professional sports Mowen et al (2016) also have been practiced in the form of trust from independent charities (e.g. NGO), local business sponsors, and endowments also provides sponsorship in the form of park facilities such as park benches (Nam & Dempsey, 2020). Besides that, through corporate sponsorship, not only financial assistance on playground facilities and recreational spaces is provided but staff assistance and expertise are also provided to local authorities to develop GOS (Mowen et al., 2016). As in London, one of the new park management models is to put individual parks into trust ownership funded by endowments (Smith, 2021). The consideration of park trust or endowment models to overcome local government's financial constraints became one of the strategies (Mell, 2020) and trusts also are a common practice in the USA (Barker et al., 2020). Besides that, sponsorship is also not limited to corporate sponsorship. In Liverpool City, local government also received sponsorship from public or civic institutions such as the National Health Service and police or fire department including university (Mell, 2020).

In addition, based on the study by Mowen et al (2016) in 2012 as much as 75% supported park funding from corporate sponsorship because GOS quality and performance are getting better from the eyes of park users compared to 1998, only 53.4% supported and corporate sponsorship from local was preferred than outside sponsorship. However, local people still

have concerns about funds from corporate sponsorship because parks are at risk of being privatised through commercialisation, thus limiting public access to use the parks and people believe they have paid local taxes, thus public parks should be free to use by all (Mowen et al., 2016).

### ***Payment for Urban Ecosystem Services***

The findings from Richards and Thompson (2019) found that PUES has great potential to be an innovative financial resource to support the development of urban ecosystems involving the three most important city actors, namely public or civic organization, private companies, and citizens. How does PUES work? Through PUES private companies or an individual can pay government agencies to plant and maintain street trees near their premises or house so that they have shaded areas and vice versa, and this can reduce the cost of air conditioning such as in Akure, Nigeria, and in the City of Sacramento, California where the construction company has planted 580 trees in the homeowner's private park area (Richards & Thompson, 2019).

### ***Community Self-Organised***

Community self-organised such as Community-Asset Transfer practised by local government in the UK has enshrined local communities or interest groups to handle their responsibility to fund, manage and maintain GOS by themselves (Mell, 2017, 2020). Furthermore, most parks in London are funded by volunteers (Smith, 2021; Barker et al., 2020). They, the park club members become volunteers as a fundraiser, with the cost of management and maintenance of the park is through sharing among members (Barker et al., 2020). In addition, the residents as a park member are also involved in the community's self-organised the GOS by applying for permit and preparing the initial funding for land acquisition, fences, gates, benches, and plants and they are responsible for long-term maintenance by preparing maintenance schedule with specific tasks for each local member and some maintenance costs also have been shared with a town council or community associations (Hamdy & Plaku, 2021). If an outsider like the street vendor is interested in renting some space in GOS they need to sign a maintenance sharing contract as in Esta es Una Plaza in Madrid, Spain (Hamdy & Plaku, 2021). The advantage of community self-organised is parks were saved from commercial exploitation with collaboration between park managers, and local governments including among the residents together with the alliance of park community groups and voluntary associations have successfully preserved GOS, as many as 6000 Friends of the Parks (FoP) in 2016 in the UK was established Barker et al (2020) and FoP have helped local government actively manage and maintain all parks Smith (2021) so as to successfully reduce local government costs and generate income for local government has resulted GOS continued to be managed and well preserved (Barker et al., 2020; Smith, 2021). According to Heritage Lottery Fund (2016) volunteers from FoP managed to raise funds between £50 million to £70 million every year (Barker et al., 2020). The government always considers volunteers to be a successful strategy in helping the government to mitigate its financial constraints in funding GOS implementation (Barker et al., 2020).

### ***Low-Budget and Upcycling Strategies***

In the City of Faro, Portugal local government uses a thrifty and recycling approach through the "Light, Quick, Cheap" program by reusing abandoned green space areas, the waste materials are creatively transformed and recreated to a new form, and low-budget is the best

way for saving through the intervention-based approach that it has become a trend in urban landscape development, especially in countries facing the problem of budget cuts from their central government (Herman et al., 2018). In addition, Herman et al (2018) stated that according to Ziehl and Oßwal (2015) the concept of recycling is encouraged by doing some alternative practices such as sharing, do-it-yourself, collection self-organisation, try-outs, recycling, and flexible operation. For example, the Parque de Laser das Figuras in Faro adopts a minimalist way to manage all the facilities in the park with small financial assistance from the local government as much as €150,000 budget together with the active participation of local people in GOS implementation the GOS became more productive because the facilities provided meet the needs of local users compared to other two parks, Parque Ribeirinho de Faro and Parque das Cidades with huge budget €3.5million and €7.9million respectively with no local people participation.

This study has attempted to systematically analyse the existing literature on how local government can diversify its financial resources in funding GOS implementation continuously. Financial constraint in local government is a big challenge and strategy measures must be practiced minimising its impact and capture possible opportunities. A rigorous review of sources from two databases has resulted in 16 articles related to local government financial resources in funding GOS implementation and the researchers have found 12 strategies practised by local government around the world on how they diversified their financial resources in funding their costs of GOS management and maintenance such as levy, bond, mega-event, private company, privatisation, commercialisation, CSR, crowdfunding, sponsorship, PUES, community self-organised, and low-budget and upcycling strategies. Unfortunately, there is no best strategy that can diversify local government financial resources and strengthen their income in funding GOS implementation continuously (Mell, 2020). Nevertheless, Smith (2021) stated that commercialisation is the most effective strategy, but in the opinion of the researchers, commercialisation has more disadvantages than advantages. One of its common disadvantages is that commercialisation increased the social gap between the rich and the poor or those who cannot afford to use the facilities of GOS. While according to Trovato (2021) crowdfunding is the best innovative strategy in diversifying local government financial resources with the collaboration from all levels of society. Meanwhile, from Richards & Thompson (2019) suggested that PUES has a great potential to generate sustainable economy and can help local government maximise the advantages of GOS as a high-value asset in the future. In addition, the researchers found that crowdfunding and PUES also have the advantage on preventing the culture of exclusive rights that often occurs in private company, privatisation, commercialisation, CSR, and sponsorship strategy because crowdfunding and PUES strategy have active local people participation in GOS management and maintenance process that allow them to become a overseer to ensure that GOS remains for public benefits. Therefore, crowdfunding and PUES show great potential as the best strategy to be imitated by Malaysia and Indonesia's local government because of its advantages of being more flexible and easier with the participation of all levels of society working together in managing and maintaining the GOS so that a productive GOS will strengthen urban sustainability that includes economic, social, and environmental sustainability to achieve success in GCD.

## Conclusions

This systematic review has highlighted several strategies to diversify local government's financial resources in funding GOS implementation from management and maintenance



aspects. Financial constraints are often faced by local governments around the world especially in developing countries because they are having difficulty in diversifying their financial resources, compounded by budget cuts from the central government, it becomes worse and results in the management and maintenance of GOS being delayed until the quality and performance of GOS in the city decreased. In response to this, some local governments around the world have practiced several strategies to increase their income. Based on the systematic review performed, the researchers have identified 12 strategies that can fund GOS implementation continuously. This study hope will bring a rough idea to the local government of Malaysia and Indonesia to stabilise their financial resources by looking at the context of other countries' strategies. However, which is the most appropriate strategy to be practiced in Malaysia and Indonesia so that productive GOS can be created is still a question mark, and how to prove that GOS is productive GOS or not is also a question mark because previous and current studies only emphasise the advantages of GOS on social sustainability. These two questions are expected to be answered by future researchers.

### Acknowledgement

The authors appreciate the financial support from Universiti Teknologi MARA (UiTM), Shah Alam, Malaysia.

### References

- Alfatih, A., Sartika, D. D., & Enh, D. H. (2018). Public Policy on Green Open Space Development in Palembang City, Indonesia. *International Journal of Social Science and Humanity*, 8(2), 55–58. <https://doi.org/10.18178/ijssh.2018.v8.933>
- Bakar, N. A., Malek, N. A., & Mansor, M. (2016). Access to Parks and Recreational Opportunities in Urban Low-income Neighbourhood. *Procedia - Social and Behavioral Sciences*, 234, 299–308. <https://doi.org/10.1016/j.sbspro.2016.10.246>
- Barker, A., Crawford, A., Booth, N., & Churchill, D. (2020). Park futures: Excavating images of tomorrow's urban green spaces. *Urban Studies*, 57(12), 2456–2472. <https://doi.org/10.1177/0042098019875405>
- Berahir, N., Jaafar, M. N., & Zainudin, A. Z. (2019). Assessment of Potential Non-Tax Revenue in Malaysian Local Authorities. *Journal of Business Management and Accounting*, 9(Number 2), 1–21. <https://doi.org/10.32890/jbma2019.9.2.1>
- Brilhante, O., & Klaas, J. (2018). Green city concept and a method to measure green city performance over time applied to fifty cities globally: Influence of GDP, population size and energy efficiency. *Sustainability (Switzerland)*, 10(2031), 1–23. <https://doi.org/10.3390/su10062031>
- Dickinson, J., Bennett, E., & Marson, J. (2019). Challenges facing green space: is statute the answer? *Journal of Place Management and Development*, 12(1), 121–138. <https://doi.org/10.1108/JPMD-09-2017-0091>
- Eriawan, T., & Setiawati, L. (2017). Improving the quality of urban public space through the identification of space utilization index at Imam Bonjol Park, Padang city. *AIP Conference Proceedings*, 1855(June), 1–6. <https://doi.org/10.1063/1.4985514>
- Hakim, & Endangsih, T. (2020). Evaluation of Environmental Performance Using the Green City Index in Depok City, Indonesia. *Journal of Physics: Conference Series*, 1625(1). <https://doi.org/10.1088/1742-6596/1625/1/012001>
- Hamdy, M., & Plaku, R. (2021). Pocket parks: Urban living rooms for urban regeneration. *Civil Engineering and Architecture*, 9(3), 747–759.



<https://doi.org/10.13189/cea.2021.090316>

- Hayes, S. J., & Dockerill, B. (2020). A Park for the People: examining the creation and refurbishment of a public park. *Landscape Research*, 00(00), 1–14. <https://doi.org/10.1080/01426397.2020.1832452>
- Herman, K., Sbarcea, M., & Panagopoulos, T. (2018). Creating green space sustainability through low-budget and upcycling strategies. *Sustainability (Switzerland)*, 10(6). <https://doi.org/10.3390/su10061857>
- Houda, B., & Lamia, M. J. (2016). Interaction between Financial Development and Sustainable Development, Evidence from Developing Countries: A Panel Data Study. *International Journal of Economics and Finance*, 8(2), 243. <https://doi.org/10.5539/ijef.v8n2p243>
- Ibrahim, P. H., Dali, M. M., & Haron, R. C. (2017). Open space development planning in Malaysia: Issues and problems. *Advanced Science Letters*, 23(7), 6322–6325. <https://doi.org/10.1166/asl.2017.9261>
- Koesoemawati, D. J., & Sulistiyowati, H. (2018). Analisis Kebutuhan Ruang Terbuka Hijau (RTH) Kota Jember dalam Upaya Menuju Infrastruktur Hijau Kota: Prosiding Aspi 2018. In A. E. Pravitasari, E. Rustiadi, J. T. Hidayat, & D. O. Pribadi (Eds.), *Perencanaan Wilayah, Kota, dan Desa Terintegrasi yang berkelanjutan, Berimbang dan Inklusif* (Issue August, pp. 219–226). P4W LPPM IPB Prosiding.
- Mansor, M., Zakariya, K., & Harun, N. Z. (2019). Challenges on use of recreational parks in Kuala Lumpur. *Journal of Construction in Developing Countries*, 24(1), 141–162. <https://doi.org/10.21315/jcdc2019.24.1.8>
- Mattijssen, T., Buijs, A., Elands, B., & Arts, B. (2017). The ‘green’ and ‘self’ in green self-governance—a study of 264 green space initiatives by citizens. *Journal of Environmental Policy and Planning*, 20(1), 96–113. <https://doi.org/10.1080/1523908X.2017.1322945>
- Mell, I. (2017). Financing the future of green infrastructure planning: alternatives and opportunities in the UK. *Landscape Research*, 43(6), 751–768. <https://doi.org/10.1080/01426397.2017.1390079>
- Mell, I. (2020). The impact of austerity on funding green infrastructure: A DPSIR evaluation of the Liverpool Green & Open Space Review (LG&OSR), UK. *Land Use Policy*, 91(October 2019). <https://doi.org/10.1016/j.landusepol.2019.104284>
- Mohd, S., & Kaushal, V. K. (2018). Green Finance: A Step towards Sustainable Development. *MUDRA : Journal of Finance and Accounting*, 5(01). <https://doi.org/10.17492/mudra.v5i01.13036>
- Mowen, A. J., Trauntvein, N. E., Potwarka, L. R., Pitas, N. A., & Duray, N. (2016). Shifting Attitudes Toward Corporate Sponsorship of a Public Park Agency: Results From a 14- Year Follow-Up Study. *Journal of Park and Recreation Administration*, 34(2), 12–29. <https://doi.org/10.18666/jpra-2016-v34-i2-7144>
- mstar.com. (2011). Indonesia Had Perbelanjaan Petugas Kerajaan Tempatan. *Mstar*, 1–2. <https://www.mstar.com.my/global/dunia/2011/09/14/indonesia-had-perbelanjaan-petugas-kerajaan-tempatan>
- Nam, J., & Dempsey, N. (2020). Acceptability of income generation practices in 21st century urban park management: The case of city district parks. *Journal of Environmental Management*, 264(May 2019), 109948. <https://doi.org/10.1016/j.jenvman.2019.109948>
- Richards, D. R., & Thompson, B. S. (2019). Urban ecosystems: A new frontier for payments for ecosystem services. *People and Nature*, 1(2), 249–261. <https://doi.org/10.1002/pan3.20>
- Rusadi, E. Y., Nurhayati, P., Tallo, A. J., & Setiawan, B. (2016). Smart Green Open Space Outlook: Pattern Identification (Case Study: Yogyakarta City and Batu City). *Procedia -*

- Social and Behavioral Sciences*, 227, 630–636.  
<https://doi.org/10.1016/j.sbspro.2016.06.125>
- Shaffril, H. A. M., Samah, A. A., Samsuddin, S. F., & Ali, Z. (2019). Mirror-mirror on the wall, what climate change adaptation strategies are practiced by the Asian's fishermen of all? *Journal of Cleaner Production*, 232, 104–117.  
<https://doi.org/10.1016/j.jclepro.2019.05.262>
- Smith, A. (2021). Sustaining municipal parks in an era of neoliberal austerity: The contested commercialisation of Gunnersbury Park. *Environment and Planning A*, 53(4), 704–722.  
<https://doi.org/10.1177/0308518X20951814>
- Toxopeus, H., & Polzin, F. (2021). Reviewing financing barriers and strategies for urban nature-based solutions. *Journal of Environmental Management*, 289(August 2020), 112371.  
<https://doi.org/10.1016/j.jenvman.2021.112371>
- Trovato, M. R. (2021). An axiology of residual green urban areas. *Environments - MDPI*, 8(6).  
<https://doi.org/10.3390/environments8060053>
- Wang, M., & Bao, H. X. H. (2018). Mega-event effects on the housing market: Evidence from the Beijing 2008 Olympic Games. *Cities*, 72(November 2016), 207–216.  
<https://doi.org/10.1016/j.cities.2017.07.014>
- Wikantiyoso, R., & Suhartono, T. (2018). The role of CSR in the revitalization of urban open space for better sustainable urban development. *International Review for Spatial Planning and Sustainable Development*, 6(4), 5–20.  
[https://doi.org/10.14246/irspsd.6.4\\_5](https://doi.org/10.14246/irspsd.6.4_5)
- Zhan, C., de Jong, M., & de Bruijn, H. (2018). Funding sustainable cities: A comparative study of Sino-Singapore Tianjin Eco-City and Shenzhen International Low-Carbon City. *Sustainability (Switzerland)*, 10(11), 13. <https://doi.org/10.3390/su10114256>