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GREEN CITY CONCEPT DEVELOPMENT IN MALAYSIA AND INDONESIA: A CROSS-COUNTRY COMPARATIVE ANALYSIS ON THE IMPLEMENTATION OF GREEN OPEN SPACE AT LOCAL GOVERNMENTS

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NABILAA BINTI MOHAMED

Thesis submitted in fulfilment
of the requirements for the degree of
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ABSTRACT

Although Green Open Spaces (GOS) can complement governmental efforts towards Green City Development (GCD), their potential has often been compromised due to global declines in GOS performance, resulting in unhealthy urban ecologies. This study was motivated by the need to address this issue and propose a Green Open Space-Green City Conceptual Framework (GOS-GCCF) as a primary guideline for local governments. The research tackles five key objectives: (1) To examine the important roles of GOS in Green City Concept Development (GCCD), (2) To identify local government's strategies in managing GOS based on current city urbanisation conditions, (3) To identify local government's strategies to increase financial stability on GOS implementation towards GCCD, (4) To suggest the strategies to increase community participation in GOS implementation, and (5) To formulate the GOS-GCCF based on the local context of Melaka and Padang. This qualitative research involved 40 informants, including local government officials as policymakers and residents as park users. The data collection comprised semi-structured interviews and non-participant observations, while the analysis employed deductive-inductive thematic analysis, constant comparative analysis, pattern matching analysis, and comparative analysis of primary data. Secondary data were analysed through content analysis. The results contributed to the development of a GOS implementation model to support local government efforts in enhancing GOS management for GCD. The conclusions highlight the novelty of implementing a GOS-GCCF through the integration of multiple variables, including the three pillars of sustainability (economic, social, and environmental), urbanisation, financial stability, and community engagement. The study formulated two frameworks: the Melaka City Green Open Space-Green City Conceptual Framework (MEGOS-GCCF) and the Padang City Green Open Space-Green City Conceptual Framework (PAGOS-GCCF). Recommendations from the study emphasise the need for optimal governance strategies to promote Green City (GC) status and improve the sustainability of urban life. The study's novelty lies in its comprehensive approach to GOS management, which incorporates urbanisation challenges and financial sustainability. The findings have practical implications for local governments, particularly in managing green spaces to balance economic, social, and environmental outcomes. The theoretical contributions extend to understanding GOS's role in urban sustainability, while the contextual contributions provide valuable insights for cities with similar environmental and urban challenges.

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LIST OF ABBREVIATIONS

Abbreviations

ADB	Asian Development Bank
BAPPEDA	Badan Perencanaan Pembangunan Daerah [Development Planning Agency at Sub-National Level]
BAPPENAS	Ministry of National Development Planning of the Republic of Indonesia
BMP	Bunga Merdeka Park
BSRP	Bukit Serindit Recreational Park
CBO	Community-Based Organisation
COP	Community Participation
CSR	Corporate Social Responsibility
DLH	Dinas Lingkungan Hidup [Department of Environmental Services]
DPUR	Dinas Pekerjaan Umum & Penataan Ruang [Department of Public Works & Spatial Planning]
EERE	Energy Efficiency or Renewable Energy
GCA	Green City Approach
GCAP	Green City Action Plan
GCC	Green City Concept
GCD	Green City Development
GCCD	Green City Concept Development
GCCF	Green City Conceptual Framework

GCDP	Green City Development Program
GCP	Green City Performance
GE	Greenery Extensive
GGCPI	Global Green City Performance Index
GOS	Green Open Space
GTMP	Green Technology Master Plan
HIS – GCCF	Institute for Housing and Urban Development Studies – Green City Conceptual Framework
JLN	Jabatan Landskap Negara [National Landscape Department]
KeTTHA	Kementerian Tenaga, Teknologi Hijau Dan Air [Ministry of Energy Green Technology and Water]
LCCF	Low Carbon Cities Framework
LG	Local Government
LR	Literature Review
MBMB	Majlis Bandaraya Melaka Bersejarah [Melaka Historic City Council]
MEGOS – GCCF	Melaka City Green Open Space – Green City Conceptual Framework
MO	Melaka Historic City Council Officer
MR	Melaka City Resident
NP	Nanggalo Park
OBP-BMP	Observational Photo-Bunga Merdeka Park
OBP-BSRP	Observational Photo-Bukit Serindit Recreational Park
OBP-NP	Observational Photo-Nanggalo Park

OBP-RTHIBP	Observational Photo-Ruang Terbuka Hijau Imam Bonjol Park
OBV-BMP	Observational Video-Bunga Merdeka Park
OBV-BSRP	Observational Video-Bukit Serindit Recreational Park
OBV-NP	Observational Video-Nanggalo Park
OBV-RTHIBP	Observational Video-Ruang Terbuka Hijau Imam Bonjol Park
PAGOS – GCCF	Padang City Green Open Space – Green City Conceptual Framework
PBT	Pihak Berkuasa Tempatan [Local Authorities]
PLG	Padang Local Government
PO	Padang Local Government Officer
PR	Padang City Resident
RTH	Ruang Terbuka Hijau [Green Open Space]
RTHIBP	Ruang Terbuka Hijau Imam Bonjol Park
SACPL	Sherry Arnstein's Citizen Participation Ladder
SD	Sustainable Development
SDG	Sustainable Development Goals
SLR	Systematic Literature Review
TOD	Transit-Oriented Development

CHAPTER 1
INTRODUCTION

1.1 Background of Study

Several architects and activists from a non-governmental organisation called Urban Ecology in Berkeley, California, America was actively involved in urban ecology development since 1975 (De Jong et al., 2015; Ma et al., 2018) following the rise of environmental awareness at the United Nations Conference in 1972 (Ramli et al., 2019). Multiple activities have since been executed to establish a socially and environmentally-healthy city based on three pivotal components such as city planning, ecological elements, and community participation (Ma et al., 2018). The term 'urban ecology' was coined in the 1930s by sociologists Robert Park and Peter Burgess, who applied ecological theories and concepts to the study of human behaviour (Grineski, 2003). Meanwhile, the term 'Green City' (GC) originated from the revolutionization of the term 'eco-city' coined by Richard Register (American green activists) in his book, 'Ecocity Berkeley: Building Cities for a Healthy Future', in 1987 (Bibri, 2020; De Jong et al., 2015; Pace et al., 2016; Zhang et al., 2012). Notwithstanding, Aiello is regarded as the father of the eco-city based on his theoretical eco-city development framework in his book, *The Future of Europe* (Zhang et al., 2012), which emphasises the establishment of an economy that aligns with an environmentally friendly community (Engwicht, 1992; Leonardi & Distefano, 2024; Register, 2002; Zhang et al., 2012). In line with Richard Register, an eco-city implies an urban environmental system that alleviates resource utilisation and wastage (Bibri, 2020; Register, 2002), a principle also reflected in contemporary urban planning strategies that incorporate traffic-calming measures to enhance environmental sustainability (Leonardi & Distefano, 2024).

As a non-governmental organisation, Urban Ecology presented the notion of sustainable economic growth, environmental conservation, and social development in the 1980s with a more environmentally-friendly urban city design (Zhang et al., 2012). The sustainability theory emerged in response to environmental degradation caused by unrestrained economic growth, which posed significant threats to urban well-being and long-term city sustainability (Barbier, 1987; Purvis et al., 2019; Sunny et al., 2025). According to Barbier (1987), achieving sustainable development requires a balance

between social equity, economic progress, and environmental conservation, forming the foundation of modern sustainability frameworks. Similarly, Sunny et al. (2025) highlights the influence of economic theories in shaping sustainability concepts, reinforcing the need to integrate economic, social, and environmental dimensions into urban development policies. As such, this theory encapsulates all three components of sustainability—economic, social, and environmental (Barbier, 1987; Purvis et al., 2019; Saiu, 2017; Sunny et al., 2025; Zhou & Williams, 2001) as fundamental pillars to achieve city sustainability (Hegazy et al., 2017) for sustainable development (Purvis et al., 2019; Saiu, 2017) and urban environmental protection (Barbier, 1987; Purvis et al., 2019; Sunny et al., 2025).

Multiple terms denoting GC have emerged in line with in-depth studies following the first global Eco-City conference organised by the Urban Ecology Organisation in 1990 (Ma et al., 2018). Since then, according to McCosh (2001), GC has been referred to by multiple terms, including ecological city (eco-city), ecologically sensitive city, green urbanism, and sustainable city. The evolving nature of these terms has significantly influenced GC development (GCD) in both developed regions (Western and European countries) and emerging economies (such as Asian and Southeast Asian nations like Malaysia, Indonesia, and Thailand) through various green initiatives (Ibrahim et al., 2015).

The term GC, which was extensively employed in the West since the early 1990s (Azmi & Romlee, 2015), implies a city developed for individuals who strive to decrease waste output and pollution (Latif et al., 2013). This connotation was also utilised in the crucial aspects of sustainability categorised into the environment, society, and economy (Brilhante & Klaas, 2018; McCosh, 2001). Essentially, GC must be complemented with a human urban structure that employs ecological components through behaviours that prioritise the essentiality of environmental existence in GCD under the environment category (Brilhante & Klaas, 2018; European Landscape Contractors Association, 2011; Ji et al., 2017; McCosh, 2001; Olaniyan, 2020; Pace et al., 2016; Pankaja et al., 2015). Relevant activities acknowledge vital ecological processes resembling urban management based on natural systems (waste management) with more ecological counterparts (McCosh, 2001; Mingaleva et al., 2020), such as optimising renewable energy resource usage (Lee & Kim, 2016; McCosh, 2001; Ramli et al., 2019). Urban planning activities must also benefit both human beings and the surrounding environment (Arif, 2017; Caesarina & Aina, 2018; McCosh, 2001; Pakzad & Osmond,

2015; Pankaja et al., 2015; Shen & Fitriaty, 2018). The community element denotes the social structure of communities or individuals to complement human needs and optimise their life quality in urban regions (Chiesura, 2004; Faragallah, 2018; Hajmirsadeghi, 2012; McCosh, 2001; Rostami et al., 2015; Safrilia & Poerwoningsih, 2021). Thus, a healthy and ecological neighbourhood is deemed crucial for an independent and self-sustaining city in terms of fulfilling its needs and resources and those of its dwellers (McCosh, 2001; Pakzad & Osmond, 2015).

Individuals from various social backgrounds are required to uphold social justice and equality in access to public facilities, such as public spaces or recreational parks, fostering a collective spirit within shared spaces and contributing to a novel identity at both individual (city dweller) and collective (local community) levels (Kirmanto et al., 2012; McCosh, 2001; Subadyo et al., 2019; Werner, 2014; Wikantiyoso & Suhartono, 2018; Zhou & Williams, 2001). Meanwhile, the Green City (GC) concept entails economic structuring that emphasises local resource utilisation (food and energy) while ensuring economic progress and development do not surpass healthy environmental limits (Barbier, 1987; Basiago, 1998; McCosh, 2001; Purvis et al., 2019; Saiu, 2017; Sunny et al., 2025). The principles outlined by Barbier (1987) regarding the interconnection between economic growth and environmental conservation have been reinforced by Sunny et al. (2025), who argue that economic theories have played a crucial role in shaping contemporary sustainable development concepts. These perspectives affirm that a balanced economic approach is essential for maintaining long-term urban sustainability.

As the three pivotal sustainability elements (economic, social, and environmental) remain integral to GCCD, past studies have shown strong correlations between urban components, city development, and environmental sustainability (Barbier, 1987; Basiago, 1998; Hegazy et al., 2017; McCosh, 2001; Purvis et al., 2019; Saiu, 2017; Sunny et al., 2025; Zhou & Williams, 2001). These elements must be further developed and adapted in response to modern urban challenges, as sustainability needs vary across cities (ADB, 2015; Brilhante & Klaas, 2018; El Ghorab & Shalaby, 2016; McCosh, 2001; Shen & Fitriaty, 2018). Overall, it is crucial for city stakeholders, particularly local governments (LG) and urban developers, to holistically integrate city-specific sustainability needs into urban planning and GOS policies to ensure resilient and adaptive city growth.

The ninth Chief Ministers and Governors Forum (CMGF) in 2012 for collaborations on the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) and Green City Action Plan (GCAP) for each nation, specifically Malaysia, emphasised cities in Melaka followed by counterparts in Indonesia (Medan and Batam) and Thailand (Songkhla and Hat Yai) under the Asian Development Bank or ADB (ADB, 2014, 2015; Jamaludin & Sulaiman, 2018; Mustaffa, 2016; Subramaniam, 2018). As the first collaboration among Southeast Asian countries, every nation was required to present their GCAP as an IMT-GT GC initiative under the Economic Planning Unit, Malaysia (EPU) and ADB (Jamaludin & Sulaiman, 2018; Mustaffa, 2016). This initiative, which strived to facilitate the general public towards climate change, global warming, and green technology entailing green practices (ADB, 2014; Jamaludin & Sulaiman, 2018; Mustaffa, 2016), has demonstrated the commitment on the IMT-GT towards collective GCD. Despite being a pilot state incorporating GC since 2010, Melaka struggles to attain a GC state status (ADB, 2014; Krishnan et al., 2014; Mustaffa, 2016; Mustaffa et al., 2016; Zhang, 2016).

According to Jabatan Perangkaan Malaysia (2020), the local government (LG) of Melaka encompasses four local councils (Melaka Historic City Council, Hang Tuah Jaya Municipal Council, Alor Gajah Municipal Council, and Jasin Municipal Council) with three primary districts: Central Melaka, Alor Gajah, and Jasin. Central Melaka is further classified into (i) Melaka City, which is administered by Melaka Historic City Council and (ii) Ayer Keroh City under the governance of Hang Tuah Jaya Municipal Council. The head of state government leads the city councils, the Chief Minister, and all the councils are under 18 Melaka State Government Departments. As the highest authority in Melaka, the Chief Minister is entitled to make policy-oriented decision-making while the local authority of Melaka Historic City Council or Majlis Bandaraya Melaka Bersejarah (MBMB) is led by a mayor (Datuk Bandar). The MBMB is categorised into 14 departments. Melaka City, which was recognised as a World Heritage Site on 7 July 2008, denotes the capital of Melaka (Jamaludin & Sulaiman, 2018; Krishnan et al., 2014; Loo et al., 2018) with a population of 932,700 people as of 2019 and an area of 1,650 sq. km (including the metropolitan area). This coastal city is also situated near the Melaka River estuary, which flows into the Straits of Melaka (Shah et al., 2020).

Meanwhile, the West Sumatran province in Indonesia receives green-oriented awards annually with a capital city (Padang) that houses 914, 968 people (Giani et al.,

2020). Specifically, this hilly region has received the Adipura Award 18 times for being the cleanest and greenest city under the big city category as of 2017 (Faruqi, 2017). Based on the Badan Pusat Statistik Provinsi Sumatera Barat (2021), Padang constitutes one City Council, the Dewan Perwakilan Rakyat Daerah (DPRD) Kota or City Regional House of Representatives led by a mayor (Wali Kota): the highest government official as the head of administration and regional leader at municipal-level in Indonesian cities (Badan Pusat Statistik Provinsi Sumatera Barat, 2021). For example, DPRD oversees and regulates LG city-level policy implementations. An Indonesian regency or city has form a district to manage administrative affairs to serve the regency or local urban and rural communities (Badan Pusat Statistik Provinsi Sumatera Barat, 2021). Padang City constitutes 11 sub-districts (Kecamatan) that are facilitated by 22 service departments (Dinas) and four regional agencies (Badan Daerah), including 10 regional secretariats (Secretariat Daerah) (Badan Pusat Statistik Kota Padang, 2016; Pemerintah Kota Padang, 2017). Every service department (Dinas) functions akin to MBMB with distinct and overlapping tasks (Badan Pusat Statistik Kota Padang, 2016; Pemerintah Kota Padang, 2017). For example, Dinas Lingkungan Hidup (Department of Environment) and Dinas Pekerjaan Umum dan Penataan Ruang (Department of Public Works and Spatial Planning) or Dinas Perumahan Rakyat, Kawasan Pemukiman dan Pertanahan (Development Planning Agency at Sub-national Level) are required to collaborate effectively for GOS implementation (Badan Pusat Statistik Kota Padang, 2016; Pemerintah Kota Padang, 2017).

Several gaps and missing links have been addressed in this study. Perceivably, the presence of GOS has been documented since ancient Babylon (Stanley et al., 2012). As the primary contributor to urban area development (Malek & Nashar, 2018), GOS or Green Neighbourhood Park was recorded in 2005 within Malaysia as a national mission under the Garden Nation policy for GCCD. The policy was stringently enforced in 2010 for a greener and more sustainable development (Malek, 2013). Notwithstanding, Malaysian policy implementations, management protocols, and GOS enforcement in city development remain ambiguous following past studies (Bilal et al., 2014; Hezri & Hasan, 2006; Kanniah, 2017; Rakhshandehroo & Yusof, 2014). Meanwhile, GOS in Indonesia, which is typically known as '*Ruang Terbuka Hijau*' or RTH, is incorporated as a means of developing its Smart City initiative (Mahesa et al., 2019; Ratnawati, 2017). Although GC (Indraprahasta, 2012) has committed to achieving 30% of GOS in urban areas under the 2011 Indonesian national mission and

written law, which functions as a predictor to ensure that all 174 cities attain GC status (Fitriana et al., 2019; Koesoemawati & Sulistiyowati, 2018; Wahdaniyat, 2019), only 12 cities have fulfilled the GC prerequisites (Wahdaniyat, 2019).

Both LGs strive to revitalise their urban settings following the unrestrained economic progress that proved detrimental to trees and urban greenery. The essentiality of an optimal GC without solely emphasising economic progress has garnered much public attention. The presence of GOS in a city, which also functions as a predictor in GCC for GC creation, is pivotal to mitigating the degradation of urban greenery. Notably, GOS implementation is deemed challenging as various intricacies have hampered optimal GOS development despite its successful incorporation into GCCD. The paucity of GOS areas is also cause for grave concern (Alfatih et al., 2018; Arsalina & Wilis, 2020; Astuti, 2018; Endangsih et al., 2020; Iqbal & Jumiati, 2019; Koesoemawati & Sulistiyowati, 2018; Lubis et al., 2019; Mansor et al., 2019; Mao et al., 2020; Murtini et al., 2020; Public Health England, 2020; Purnawan, 2019; Rasli et al., 2019) given the negligence of GOS owing to urbanisation, financial constraints in LGs, and low communal involvement. The low green performance in Malaysia and Indonesia between Melaka City and Padang City could also be observed through the overall tree canopy following (Mongabay, 2020b, 2020a) based on Table 1.1. It shows the total of tree cover decreasing every year for both cities, Melaka and Padang. In Melaka, from 146 *ha* become 89 *ha* on year 2020. While, Padang from 34,864 *ha* to 33,476 *ha* on year 2020.

Table 1.1
Total Tree Cover in Malaysia and Indonesia

Year	**Malaysia**	**Central Melaka District (Melaka City)**	**Indonesia**	**West Sumatra (Padang City)**
2000	29, 430, 571	146	1, 60, 641, 201	34, 874
2005	27, 874, 386	128	1, 56, 025, 542	34, 727
2010	25, 713, 965	104	1, 48, 584, 221	34, 302
2015	23, 189, 371	89	1, 40, 000, 202	34, 044
2020	21, 038, 632	89	1, 32, 920, 208	33, 476

Note: All area figures are in hectares (ha).
Source: Mongabay (2020b, 2020a)

According to World Resources Institute (2022) the drivers of permanent deforestation country around the world are mainly due to urbanisation and commodity-driven deforestation. The commodity-driven deforestation refer to commodities production such as beef, soy, palm oil, pulp, paper, energy and minerals, is the leading cause of deforestation (World Resources Institute, 2022a) and one of the frequent negative impact from deforestation is the natural catastrophes in the city, such as floods occur following the absence of greenery (Hidayat, 2014; Pandiangan & Buono, 2019; Rasli et al., 2019) while the lack of green has cause stagnant water and floods. Given the high frequency of flash floods in the city, specifically in major metropolitan areas (Salih & Ismail, 2018b; Samsuri et al., 2018), GOS implementation is crucial in GCD to avoid urban floods (Kim et al., 2016; Salih & Ismail, 2018b; Samsuri et al., 2018; Schuch et al., 2017). As the primary catalyst of GCD (Brilhante & Klaas, 2018; Chiesura, 2004; Faragallah, 2018; Hajmirsadeghi, 2012; Rostami et al., 2015), GOS could optimally absorb carbon dioxide (CO2) and other hazardous particles, serve as a natural air filter to produce cleaner air (Buijs et al., 2016; Rakhshandehroo et al., 2017; Razali et al., 2020; S. Yin et al., 2011), and functions as a natural means of rainwater absorption (Kim et al., 2016; Ratnawati, 2017; Schuch et al., 2017; Serlan, 2013; Wahdaniyat, 2019).

Furthermore, the problems underlying urbanisation, financial constraints, and low community participation will be addressed more in next subtopic (refer 1.2 Statement of Problem) as GOS proves essential for high urban life quality (Malek & Nashar, 2018) using GCC. The significance of bridging the aforementioned gaps through effective urbanisation management has provide a sufficient amount of green urban space for city development activities (Humaida et al., 2016) and most of developing country having problem in their financial system due to less ability to diversifying their financial sources in funding sustainable project (Houda & Lamia, 2016). Financial assistance from LGs also impacts GOS quality as its successful urban implementation towards Green City Development (GCD) was acknowledged by LG (Brilhante & Klaas, 2018): a primary medium linking the government to its people. As such, LG ensures the successful implementation of all central government policies in covering all social layers. Each local policy and programme has been regulated by LGs that serve as a middleman in conveying national revenue sources to community members (Vadeveloo & Kuppusamy, 2013) for improved life quality. In this vein, GOS implementation could be comprehensively attained by highlighting the lack of presence

within the immediate community as urban programmes has not be successful without complete involvement by urban dwellers (Ibrahim et al., 2017; Mao et al., 2020). In line with the study rationale, an adequate and robust framework could be developed with a comparative analysis between Malaysia and Indonesia to address the questions arising from relevant intricacies as every city requires a distinct framework (Brilhante & Klaas, 2018; El Ghorab & Shalaby, 2016). The GOS implies one of the essential sectors in successful develop GC (Amalia et al., 2020; Brilhante & Klaas, 2018; Chiesura, 2004; Diah et al., 2018; Faragallah, 2018; Shen & Fitriaty, 2018) to avoid (i) demolishing whole green areas in the name of urban development, (ii) ecosystem and environmental habitat imbalances, and (iii) low life quality (Karade et al., 2017; Morrison, 2017; Pakzad & Osmond, 2015; Serlan, 2013; Zheng et al., 2019; Zhu et al., 2017).

1.2 Statement of Problem

On a global scale, low GOS performance in urban areas (Alfatih et al., 2018; Arsalina & Wilis, 2020; Astuti, 2018; Endangsih et al., 2020; Iqbal & Jumiati, 2019; Koesoemawati & Sulistiyowati, 2018; Lubis et al., 2019; Mansor et al., 2019; Mao et al., 2020; Murtini et al., 2020; Public Health England, 2020; Purnawan, 2019; Rasli et al., 2019) has adversely impacted the city ecosystem (Karade et al., 2017; Morrison, 2017; Pakzad & Osmond, 2015; Zheng et al., 2019; Zhu et al., 2017) and GCD (Pakzad & Osmond, 2015; Shen & Kawakami, 2013) in China (Jim & Chan, 2016), Singapore (Haaland & Bosch, 2015; Jim & Chan, 2016), sub-Saharan African countries (Azagew & Worku, 2020), Malaysia (Bakar et al., 2016; Gairola & Noresah, 2010; Ibrahim et al., 2017; Mansor et al., 2019; Rusli & Ludin, 2009), and Indonesia (Alfatih et al., 2018; Endangsih et al., 2020; Eriawan & Setiawati, 2017; Harahap, 2015; Iqbal & Jumiati, 2019; Koesoemawati & Sulistiyowati, 2018; Rusadi et al., 2016). The key determinants of GOS performance entail urbanisation, financial restrictions, and minimal community participation.

Urbanisation or the rise of urban populations due to economic or industrialisation attraction (Liao & Yip, 2018; Lyu et al., 2020; Moses et al., 2017) has resulted in the scarcity of GOS (Haaland & Bosch, 2015; Ibrahim et al., 2017; Lubis et al., 2019; Murtini et al., 2020; Purnawan, 2019; Rasli et al., 2019; Zain et al., 2015), which is highly necessary for densely-populated regions (Lubis et al., 2019; Murtini et al., 2020), such as major cities. Nevertheless, urban population growth inevitably

supersedes that of green areas. The population growth in Malaysia, which reflected 74% in 2014 compared to 27% in 1970 (Rasli et al., 2019), demonstrates the rapid rise of the human population as opposed to green growth and an incongruent human-environment development. In this vein, GOS proves necessary to enhance life quality and urban development for a healthy and green economic cycle to resolve the intricacies resulting from the increasing population (Humaida et al., 2016). The scarcity of green areas in Malaysia and Indonesia (Ibrahim et al., 2017; Zain et al., 2015) has instigated other complexities for city dwellers, such as high urban development and population and unforeseen climate shifts (recurring flood issues in city areas) (Pandiangan & Buono, 2019).

The recurrence of flash floods in Melaka City has adversely impacted most urban dwellers following the destruction of private and public properties (Zakinan, 2019) while the same scenario in Padang City occurs annually following the scarcity of trees or green areas, the negative implications of excessive populations, low public awareness owing to littering issues, and insufficient rain catchment areas to naturally absorb excess water (Hidayat, 2014). Under the regulation of the Minister of Public Works (05 / PRT / M / 2008), the Indonesian government has declared that each city must constitute a GOS area of at least 30% for urban environmental protection to balance city ecosystems (areas specified to the population, resources, and biological and physical environments from social, economic, political, and cultural perspectives) (Rosales-Pérez, 2018) and the ecology (relationship between plants, animals, and human beings with the environment) for high-quality air, a healthy life, and aesthetic and value-added urban elements (Koesoemawati & Sulistiyowati, 2018) as the current extent of GOS areas fail to fulfil state requirements (Fitriana et al., 2019; Koesoemawati & Sulistiyowati, 2018).

Regardless, Indonesia encounters insufficient green areas with Jember City only constituting 5.8% of GOS (Koesoemawati & Sulistiyowati, 2018) and other counterparts failing to meet urban law standards (Wahdaniyat, 2019). Only 12 Indonesian cities presently fulfil the GC prerequisites (Wahdaniyat, 2019). Meanwhile, the Malaysian government requires only 10% of GOS to be developed for each new building construction, such as housing development (cleanmalaysia.com, 2020), which proves insufficient (Wahdaniyat, 2019). In line with past Indonesian studies, the prerequisites underlying GOS identification relies on the oxygen level necessary for three pivotal components: population, vehicles, and industry (Irham et al., 2017).

Hence, GOS is necessary following the drastic rise in the dense Padang City population (Purnawan, 2019) with a projected increase of 1.2 million people and nearly seven million vehicles by 2037 (Purnawan, 2019). In this regard, systematic preliminary planning proves crucial to guarantee the presence of green and balanced urbanisation. Comprehensive research is crucial to observe the efficiency and creativity of LG policy practices in confronting present and future complexities.

The financial constraints encountered by LGs imply the second factor influencing low GOS and the negligence of most GOS in Malaysia and Indonesia (Alfatih et al., 2018; Endangsih et al., 2020; Eriawan & Setiawati, 2017; Harahap, 2015; Ibrahim et al., 2017; Iqbal & Jumiati, 2019; Koesoemawati & Sulistiyowati, 2018; Mansor et al., 2019; Omisore et al., 2017; Rusadi et al., 2016; Rusli & Ludin, 2009). Notably, such restrictions inevitably hamper the Malaysian LG (Ibrahim et al., 2017). Most of the recreational parks within the Malaysian GOS region encounter inadequate and vandalised facilities and insufficient tools (Rusli & Ludin, 2009). For example, the GOS administration and maintenance quality has substantially affected the frequency with which communities employ GOS and social interactions (Salih & Ismail, 2018b) in Kuala Lumpur (Bakar et al., 2016; Mansor et al., 2019) and Johor Bahru (Ibrahim et al., 2017). Likewise, the Indonesian GOS in Palembang City (Alfatih et al., 2018), Jatinegara in East Jakarta (Endangsih et al., 2020), RTH Imam Bonjol Park in Padang City (Eriawan & Setiawati, 2017; Iqbal & Jumiati, 2019), Yogyakarta City, Batu City (Rusadi et al., 2016), and Pekanbaru City (Harahap, 2015) struggle with similar intricacies following low LG commitment (Alfatih et al., 2018; Endangsih et al., 2020; Eriawan & Setiawati, 2017; Harahap, 2015; Koesoemawati & Sulistiyowati, 2018; Rusadi et al., 2016) through inadequate facilities, maintenance, and management.

The third factor denotes minimal community participation in GOS implementation programmes owing to insufficient knowledge and awareness (Arsalina & Wilis, 2020; Hotimah et al., 2015; Ibrahim et al., 2017; Iqbal & Jumiati, 2019; Januarisa et al., 2015; Mao et al., 2020). Such low engagement has led to the negligence of GOS by community members (Mao et al., 2020) and development sector stakeholders (Ibrahim et al., 2017) who solely depend on the LG. As such, optimal GOS implementation has proven challenging without social and industrial facilitation. Sociologically, local communities are less engaged in preserving GOS following a poor level of awareness and information access (Hotimah et al., 2015; Januarisa et al., 2015). The community participation in GOS management and development is crucial as active

employee and community member involvement in Bogor Botanica Gardens (BBGs), for example, is a prerequisite to functioning optimally as a GOS area (Arsalina & Wilis, 2020; Hotimah et al., 2015; Januarisa et al., 2015). Notwithstanding, issues arise when the GOS community members in Iman Bonjol, Padang City frequently litter their immediate surroundings, which implies insufficient awareness of GOS hygiene care (Hidayat, 2014; Iqbal & Jumiati, 2019). Specifically, the dwellers are ignorant that the LG-implemented GOS serves to develop GCC as the catalyst of urban sustainability and believe that GOS solely denotes recreational activities (Iqbal & Jumiati, 2019).

Specific knowledge gaps were identified based on past studies. For example, much emphasis has been placed on the social advantages of GOS for sustainable city development compared to economic and environmental counterparts (Amalia et al., 2020; Diah et al., 2018; El-khateeb, 2019; Faragallah, 2018). Although some empirical works indicated that rapid urbanisation limited GOS areas and GC status attainment (Haaland & Bosch, 2015; Ibrahim et al., 2017; Lubis et al., 2019; Murtini et al., 2020; Purnawan, 2019; Rasli et al., 2019; Zain et al., 2015), Brilhante and Klaas (2018) asserted that population size did not impact GC performance or any urban green area. Moreover, most emerging nations could not diversify their financial sources for GCD (Houda & Lamia, 2016; Mohd & Kaushal, 2018). Bednarska-olejniczak et al. (2019) affirmed that community participation needs to be explored from other viewpoints as multiple variables complement the generalisation of holistic findings. On another note, population or content and methodology gaps highlighted the scarcity of comprehensive and in-depth GOS research in Malaysia (Aziz et al., 2018; Kasim et al., 2016) and Indonesia (Dollah & Rasmawarni, 2019; Fitri & Invanni, 2020; Irham et al., 2017; Mao et al., 2020; Rachmawati et al., 2020; Rahman & Zhang, 2018; Ratih & Febrianto, 2016). Studies on GC policies involving environmental quality (Bush, 2020; OECD, 2011), including inadequate evaluations from cross-country perspectives remain lacking despite much GC-oriented research (Ali, 2017; Lee & Kim, 2015; OECD, 2011). Such comparative works could significantly ascertain optimal green policy implementations (OECD, 2011). Overall, the gravity of the aforementioned issues and literature gaps necessitates in-depth exploration based on the study rationale. Thus, to gain insights into ‘what is occurring’ rather than ‘what caused this’, the study examines the implementation of GOS by local governments through four key dimensions. These dimensions subsequently contribute to the development of the GOS-GCCF: (1) a comprehensive understanding of the important roles of GOS in Green Cities, (2)

effective urban management, (3) stable financing mechanism, and (4) strong community engagement. Followed the research objective (RO) and research questions (RQ) as per below listed.

1.3 Research Objectives

Based on the problem highlighted in the previous section, it has led to the development of the following research objectives:

a) To examine the important roles of green open space in green city concept development.
b) To identify local government's strategies in managing green open space based on current city urbanisation condition.
c) To identify local government's strategies to increase financial stability on green open space implementation towards green city concept development.
d) To suggest the strategies to increase community participation in green open space implementation.
e) To formulate the best green open space-green city conceptual framework that suit with Melaka and Padang local context.

1.4 Research Questions

Based on the research objectives, the research questions formulated as follows:

i) What are the important roles of green open space in green city concept development?
ii) How do the local government manage green open space based on current city urbanisation condition?
iii) How to increase local government's financial stability on green open space implementation towards green city concept development?
iv) What are the strategies to increase community participation in green open space implementation?
v) What are the best green open space-green city conceptual framework that suit with Melaka ad Padang local context?

1.5 Scope of Study

This qualitative study employed a cross-country comparative embedded multi-case study research design, holistically assessing specific theoretical and empirical analyses to evaluate GOS implementation towards GCC. The study data collection, which has been derived using semi-structured interviews, ranged from eight to 12 months. Relevant interviewers have been selected through purposive sampling. The study has emphasised LG-implemented GOS in urban areas as one of the fundamentals in GCC for the GCD situated in Melaka City and Padang City in Malaysia and Indonesia, respectively. Melaka City encompassed 932, 700 individuals as of 2019 (Shah et al., 2020) while Padang City entailed 914, 968 counterparts (Giani et al., 2020). The LG in Melaka City LG is categorised into 11 departments (Jabatan Perancangan Bandar dan Desa Negeri Melaka, 2016) while Padang City is classified into 22 service departments (Pemerintah Kota Padang, 2017). The research informants have been recruited among (i) LG officers with relevant expertise and explicit engagement in GCC and GOS development to ascertain comprehensive results and outcome generalisation and (ii) local residents with knowledge and experience in the closest GOS area.

Malaysia and Indonesia has been selected as sample nations following their positive rapport and shared vision in collective GCC development with ADB, including the CMGF of IMT-GT during the 2012CMGF IMT-GT conference. Approximately 40 cities among IMT has have attained GC status by 2036 [Centre for IMT-GT Subregional Cooperation (CIMT), 2017]. Melaka was positioned as a pilot GC-practicing state since 2010 (ADB, 2014; Krishnan et al., 2014; Mustaffa, 2016; Mustaffa et al., 2016; Y. Zhang, 2016) with emphasis on MBMB. As the capital state of Melaka, Melaka City is a UNESCO World Heritage Site strategically situated on the West coast of Peninsular Malaysia (Jamaludin & Sulaiman, 2018) for economic and tourism sector growth (Jamaludin & Sulaiman, 2018; Krishnan et al., 2014; Loo et al., 2018). The MBMB, which strives towards GOS development for a carbon-free city and GCD (Fam et al., 2018; Loo et al., 2018), such as Smart City programmes implementations (Krishnan et al., 2014; Loo et al., 2018), has been selected as the study scope.

Padang City on the West Coast of Sumatra, Indonesia (Giani et al., 2020; Pratiwi & Mulyana, 2015) has been selected to be compared against Melaka with focus on DPRD Kota, the City Regional House of Representatives, and 11 sub-districts (kecamatan) facilitated by 22 service departments or Dinas (Badan Pusat Statistik Kota

Padang, 2016; Pemerintah Kota Padang, 2017) akin to MBMB. Each department entails distinct tasks that overlap with one another. As the capital of the West Sumatran province and the most populous city on the West Coast of the Sumatran Island, Padang has been selected in this study (Giani et al., 2020) following its 18-time Adipura award-winning status as the greenest and cleanest city among other major counterparts (Faruqi, 2017). Padang is also a central hub for the economic, tourism, and education sectors. The LG has committed to achieving 30% of GOS in urban areas under written law: an indicator for GC status attainment (Fitriana et al., 2019; Koesoemawati & Sulistiyowati, 2018) following the introduction of GC in the 2011 Indonesian national mission (Indraprahasta, 2012). The Padang City LG attempts towards GCC implementation for urban development, such as government-based Smart City initiatives (Purnawan, 2019) were seriously regarded, particularly in spatial planning through more GOS (Sudiar, 2020).

1.6 Contribution of Knowledge

Five knowledge contribution types (theoretical, empirical, methodological, contextual, and practical) are elaborated in the following sub-section.

1.6.1 Theoretical Contribution

This study advances the theoretical understanding of Green Open Space (GOS) and its role in Green City Development (GCD) by introducing a comprehensive framework that addresses the intersection of social, economic, and environmental dimensions. Unlike previous works that often focused on isolated benefits of GOS, the framework integrates these dimensions, offering a holistic approach to GCD. The research sheds new light on how GOS performance can be optimized to enhance urban sustainability, particularly in the contexts of Malaysia and Indonesia. By doing so, it contributes a more robust theory of GOS implementation that local governments can adapt to various urbanization, financial, and community challenges, providing practical insights for policymakers.

1.6.2 Empirical Contribution

This study contributes empirically by providing rich, comparative data on GOS implementation between Malaysia and Indonesia. The research offers new insights into how local governance and community participation can influence the success of GOS initiatives in different socio-political and environmental contexts. By directly engaging with policymakers and urban park users in both countries, the study provides grounded, context-specific empirical evidence that highlights the distinct factors contributing to GCD in each setting. This cross-country comparison offers practical lessons that can be applied to other developing nations seeking to implement effective GOS strategies for urban sustainability.

1.6.3 Methodological Contribution

The research contributes methodologically by employing a cross-country comparative case study design, integrating qualitative data from interviews, archival records, and field observations. This approach provides a comprehensive, multi-dimensional analysis of GOS implementation in two distinct national contexts. The use of multiple data sources not only strengthens the validity of the findings but also offers a nuanced understanding of how different governance, financial, and community dynamics shape GOS outcomes. This methodology fills a gap in urban sustainability studies, where cross-national comparisons are often underrepresented.

1.6.4 Contextual Contribution

This study makes a crucial contextual contribution by examining the specific socio-economic, environmental, and governance factors influencing GOS implementation in Malaysia and Indonesia. By focusing on these two Southeast Asian nations, the research highlights how regional and local contexts shape the effectiveness of GOS policies. It provides insights into how local governance structures, financial challenges, and community engagement uniquely affect GCD efforts, offering a deeper understanding of the role that contextual factors play in sustainable urban development. The findings provide actionable recommendations that can be adapted to similar cities facing related challenges.

1.6.5 Practical Contribution

This research has practical implications for urban policymakers and practitioners involved in GCD initiatives. It highlights the importance of integrating GOS into broader urban planning strategies, offering a model that local governments can adopt to enhance the sustainability of their cities. The study emphasizes the need for effective governance, community participation, and financial management to optimize GOS performance, providing a practical framework for policymakers to improve urban green space management. These insights have the potential to influence urban policy and planning practices not only in Malaysia and Indonesia but also in other cities facing similar urbanization and sustainability challenges.

1.7 Significance of Study

From a governmental viewpoint, optimal policy implementations improve the quality level of GOS development and management (Levent & Nijkamp, 2004). This research is deemed pivotal to explore effective policy practices by evaluating the differentiation of GOS policy implementation effects and GCC development between Malaysia and Indonesia at the LG level. A critical evaluation of LG-implemented GOS policies, programmes, or initiatives is indispensable for a holistic and efficient GCC for the benefit of both nations. For example, highly crucial variables in relevant policies, programmes, and initiatives for novel values and optimal LG-implemented GOS. The empirical significance of GOS was established for (local) government policy-making as a local regulator. The identification of vital GOS components between Malaysia and Indonesia could optimise present LG management and confront and alleviate potential intricacies. Such efficient practices could enhance GC programme implementation performance towards GCC development (specifically in incorporating GOS formation) following citizens' requirements and how they could attain urban policy missions using GOS. Overall, this study has facilitated optimal policy implementations through holistic GOS research.

From a communal perspective, productive GOS improves phycological and psychological health (Faragallah, 2018) with positive impacts on the environment, culture, and society for high life quality (Malek & Nashar, 2018). The essentiality of GOS in citizens' mental and physical health began from the obtained oxygen quality

(Salih & Ismail, 2018b), thus demonstrating the necessity to implement 'green' and GOS for stress management, and problem-solving, and high mental and physical strength among local urban community members. Consequently, GOS must be frequently inspected rather than disregarded as the local community has avoid neglected green areas (Zaid, 2017) and undermine city dwellers' life quality. High-quality GOS must entail sufficient tools and fulfil user requirements, such as landscape structures and other natural aspects (Malek & Nashar, 2018). Hence, GOS development must be systematic for optimal implementation (Salih & Ismail, 2018). It is deemed crucial to empirically comprehend user needs on every GOS. Every GOS constitutes distinct usage criteria given its influence by cultural, social, and environmental variations. Such differences could be empirically evaluated in this study to develop high-quality GOS and fulfil local user and landscape layout requirements, including optimal natural components.

From an industrial perspective, a good GOS could elevate food security (Koesoemawati & Sulistiyowati, 2018; N. Othman et al., 2018; Ridwan et al., 2017), improve property values (Crompton, 2000; Hussain et al., 2016; Rostami et al., 2013), and promote the tourism industry (Chiesura, 2004; Hussain et al., 2016) for local community business development, specifically among lower-income groups (N. Othman et al., 2018; Ridwan et al., 2017). In Bandung City, Indonesia, Ridwan et al. (2017) implied that effective GOS implementation in Taman Sari has a high potential in food production, particularly for poor people who have become the primary catalyst in employing GOS as an urban farming land using urban agriculture. The urban agriculture concept could enhance food security (Ridwan et al., 2017) and complement GCD (Ramandhani et al., 2020; Ridwan et al., 2017). The urban agriculture project executed by the Malaysian LG since 2013 at several community gardens in GOS areas within Subang Jaya City, Selangor for lower-income groups proved to be successful towards economic sustainability (Othman et al. 2018).

Other empirical works denoted that GOS generated multiple business activities apart from food production. For example, open space or parks and recreation areas (GOS) have elevated property values (Crompton 2000; Hussain et al. 2016; Rostami et al. 2013) and the local economy (Rostami et al. 2013). Most individuals are prepared to pay more for residents with close proximity to parks and open-space areas (Crompton 2000), which function as urban landmarks and attractions and a marketing instrument that effectively catalyses the tourism and business industry (Hussain et al. 2016).

Following Chiesura (2004), one of the key determinants of urban parks is ‘the tree’ with high aesthetical and recreational values that make the city look appealing as a tourist attraction and create employment and revenues. Green spaces could interact with resident areas using business retail and recreational development and have promoted the accessibility and appeal of local facilities and employment centres (Baycan-Levent et al., 2002). In Kuala Lumpur City, Taman Tasik Perdana and Taman Tasik Titiwangsa have established the local urban identity, residential pride, and the financial capacity of communities (Hussain et al. 2016) with arts and food festivals, sports events, musicals, and theatricals that are frequently organised in gardens (Sherer 2006).

Regarding environmental viewpoints, GOS improves urban environmental resilience and sustainability (Hidayat, 2014; Pandiangan & Buono, 2019; Zakinan, 2019) in the wake of natural catastrophes: floods, air pollution (haze), and noise pollution. The GOS has render a city to be more resilient and sustainable in encountering natural disasters or unforeseen circumstances. This study could determine city-oriented complexities by mitigating flood disasters and reducing haze or air pollution. As previously mentioned, the cities of Melaka and Padang are prone to recurring floods (Hidayat, 2014; Pandiangan & Buono, 2019; Zakinan, 2019). Past literature has demonstrated that the presence of GOS could absorb excessive noise and alleviate noise pollution (Dzhambov & Dimitrova, 2015; Renterghem, 2013). This study could also assess the essentiality of GOS development amidst overspending and losses following the damages caused by constant flash floods owing to unrestrained urban development. In this vein, going green is perceived to be a countermeasure against such catastrophes.

Multiple positive contributions have been derived from cross-country comparative research, including the potential for robust theoretical or model development with a focus on GOS implementation for GCD. A more adequate GCC framework could be structured and incorporated into Malaysian and Indonesian settings with useful insight involving how Malaysia and Indonesia could collectively enhance GOS management quality by determining similarities and variations and recommendations for future studies. Besides that, there are several benefits of developing a framework, it can evaluate the project performance and policymakers also can establish proper guidelines to conduct their project well (Uys & Pather, 2010)by identifying the barriers and components that can be used for assessment (Crockett, 2017). Furthermore, developing a good framework can lead to the success of the

implementation because able to identify the best practices (Nilsen, 2015). So, it is not surprising that a framework, whether a theory, concept, or model, is very important in research, especially in studies related to the public interest and social development (Reed et al., 2021) that then later can solve social issue and increase quality of life. As such, it is pivotal for this study to address its significance and advantages to urban dwellers and biodiversity.

1.8 Alignment of Study with SDG 11 (Sustainable Cities and Communities)

The Sustainable Development Goals (SDGs) introduced by the United Nations provide a comprehensive framework to address global sustainability challenges. Among these, SDG 11: Sustainable Cities and Communities seeks to ensure that cities become inclusive, safe, resilient, and sustainable by integrating urban planning, environmental conservation, and social well-being into city development strategies. The Green City Concept (GCC) and Green Open Space (GOS), which form the foundation of this study, align with SDG 11 by promoting environmentally friendly urban growth. One of the critical urbanisation challenges identified in this research is the declining performance of GOS in cities, which has resulted in an unhealthy urban ecosystem that negatively impacts Green City Development (GCD) and overall urban sustainability. This issue is primarily driven by overurbanisation, financial constraints, and limited community participation, all of which weaken efforts to maintain and enhance GOS in highly urbanised areas. The degradation of GOS threatens not only ecological sustainability but also social and economic stability, which are fundamental to achieving SDG 11. By focusing on GOS implementation in Melaka, Malaysia, and Padang, Indonesia, this study contributes to Target 11.7 of SDG 11, which aims to "provide universal access to safe, inclusive, and accessible, green and public spaces, particularly for women, children, older persons, and persons with disabilities." Through an in-depth examination of GOS policies, governance structures, and strategic urban planning, this study highlights the importance of ensuring that urban green spaces remain accessible, functional, and sustainable for all city residents.

Furthermore, this study directly supports Target 11.3 of SDG 11, which promotes "inclusive and sustainable urbanisation and participatory, integrated, and sustainable human settlement planning and management in all countries." The research explores the role of local governments and community participation in shaping urban

sustainability policies, emphasising the need for participatory decision-making in GOS implementation. Engaging local communities in planning, maintaining, and managing GOS can strengthen social inclusivity and environmental stewardship, fostering a collective responsibility for urban sustainability. By analysing how Melaka and Padang address urbanisation pressures, financial limitations, and community involvement in GOS governance, this study provides insights into best practices for integrated urban planning approaches that enhance the resilience and adaptability of cities. The findings advocate for a policy-driven, community-inclusive framework that ensures long-term sustainability and aligns with broader SDG 11 objectives. The discussion throughout this study establishes how GOS can be leveraged as a key urban planning tool to bridge gaps between environmental conservation, social well-being, and economic resilience, ultimately contributing to the broader global sustainability agenda.

1.9 Definition of Key Term

1.9.1 Green City Concept

Green Open Space (GOS) has been referred to by various terms, including public spaces (Alfatih et al., 2018), urban greenery (Malek & Nashar, 2018), urban public open space (Salih & Ismail, 2018a), recreational parks (Aziz et al., 2018), and urban forests (Kanniah & Siong, 2017; Krishnan et al., 2014). In Malaysia, GOS is commonly associated with green neighbourhood parks and recreation parks, while in Indonesia, it is known as Ruang Terbuka Hijau (RTH).

For this study, GOS is operationalised as a designated public space within an urban area that supports social interaction, biodiversity conservation, and environmental sustainability. The study focuses on four GOS locations across two cities: Bukit Serindit Recreational Park and Bunga Merdeka Park in Melaka City, Malaysia, and RTH Imam Bonjol Park and Nanggalo Park in Padang City, Indonesia. These locations serve as case studies for analysing how GOS policies, urban planning, and community engagement contribute to Green City Development (GCD).

1.9.2 Urbanisation

Urbanisation refers to the expansion of cities due to industrial growth and migration from suburban and rural areas (Hussain & Imitiyaz, 2018). The process significantly alters urban landscapes, impacting the spatial distribution and availability of GOS.

In this study, urbanisation is operationalised by examining its effects on GOS distribution and functionality. Rapid urbanisation often leads to fragmentation of GOS, reducing green coverage in high-density areas (Li et al., 2019). The study evaluates how urban expansion patterns influence GOS development and whether existing policies effectively integrate green spaces into Melaka and Padang's urban growth strategies.

1.9.3 Local Government

Local Government (LG) plays a crucial role in urban governance and service provision. The structure of LG varies between countries. In Melaka City, Malaysia, the local administration consists of four municipal councils—Melaka Historic City Council (MBMB), Hang Tuah Jaya Municipal Council, Alor Gajah Municipal Council, and Jasin Municipal Council—each responsible for different districts (Jabatan Perancangan Bandar dan Desa Negeri Melaka, 2016). Meanwhile, Padang City, Indonesia, operates under one local council with 11 sub-districts and 22 service departments (Badan Pusat Statistik Kota Padang, 2016; Pemerintah Kota Padang, 2017).

For this study, LG is operationalised as the governing body responsible for GOS implementation and urban sustainability initiatives. The study examines policy frameworks, governance structures, and interdepartmental coordination in GOS management in Melaka and Padang, analysing how LG strategies influence GOS performance and GC initiatives.

1.9.4 Community Participation

Community participation refers to the involvement of local residents in urban decision-making and public space utilisation. A local resident is typically an individual who has lived in a city or region for an extended period (Sánchez-Fernández & Cardona,

2017; Potgieter, 2020) and actively engages in community life (Vargas-Sánchez & Riquel-Ligero, 2020).

In this study, community participation is operationalised through the engagement of urban residents in GOS activities and decision-making processes. The study includes individuals residing near the selected GOS locations in Melaka and Padang for over three years who frequently use park facilities and are familiar with GOS management and Green City initiatives. Their perspectives provide critical insights into public awareness, accessibility, and the effectiveness of GOS policies in both cities.

1.10 Organisation of Chapters

This thesis is organised into six chapters. Chapter one presented this study background, problem statement, research questions and objectives, study scope and significance, and the definition of terms parallel to the study title and scope. The cross-country comparative embedded multi-case study has been performed between two selected cities from Malaysia and Indonesia. The study has been performed based on the aforementioned objectives elicited from the problem statement. Chapter one was concluded with key term definitions pre-LR of GCC, GOS and LG in chapter two. Next, chapter two justifies this study using relevant LRs to recommend a robust study framework. This chapter also elaborates on the pertinence of secondary data in addressing the study question with an overview of GCC and GOS, pertinent theories that summarise the theoretical research framework, and hypothesis development as an empirical guideline. Follow by chapter three entails the study methodology with detailed descriptions of the recommended study method types, data evaluation, data gathering approaches, and vital information involving GOS implementation and GCC development. Qualitative strategies have been used to better understand and examine GOS implementation and GCC development. Meanwhile, chapter four presented research findings, the results of primary data collection from research activities in both countries, Malaysia and Indonesia. Chapter five will touch on the analysis and discussion. Ended with conclusion and some recommendations in chapter six.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

Chapter Two justifies the pertinence of secondary data parallel to the study questions, provides an overview of (i) Malaysian and Indonesian GCC and (ii) GOS policies and programmes, and (iii) thoroughly reviews some pertinent theories from empirical and non-empirical literature. Most references have been elicited from journal articles and organisational reports while others have been extracted from books, working papers, website pages, Ph.D. theses, and online newspapers. Meanwhile, indexed journal articles have been extracted from the SCIMAGO website as the primary information source. The chapter concludes with the conceptual framework and hypothesis development for testing and validation.

This section includes theoretical and empirical LRs. Theoretical LRs (the first step in research framework modelling) elaborates on the underpinning theories and models employed in GCC while the theoretical counterpart (begins with GCC determinants) comprehensively outlines how GOS, urbanisation and financial and community participation impact GCC development. The means by which urbanisation, LG financial constraints, community participation, and 'green planning and designation' explicitly influence their correlation to GC is also highlighted in this chapter.

2.2 Overview of Malaysia and Indonesia Local Government Administration Division

The administration division of the Malaysian and Indonesian governments have slightly significant differences. Malaysia is divided into 2 largest regions, Peninsular Malaysia, and East Malaysia (also known as Malaysia Borneo or Sabah, Sarawak and Labuan) (Johan, 2015). Peninsular Malaysia has 11 states and two federal territories and the other two states and one federal territory in East Malaysia (Johan, 2015). Each state is divided into districts (daerah), which are then divided into *mukim* (Johan, 2015). In Sabah and Sarawak districts are grouped into divisions that then divided by districts

(Law, 2013). Meanwhile, Indonesia is divided into 34 provinces (Adiputra et al., 2018; Krishnamohan, 2016; Rambe et al., 2020) with 514 regencies included cities as at year 2019 (Law, 2012). Their provinces are made up of regencies and cities and subdivided into districts which have several variations of terms *kecamatan, distrik, kapanewon* or *kemantren* (Law, 2012), then the districts are divided into villages (desa) or urban communities (kelurahan) (Law, 2012). Both *desa* and *kelurahan* are of a similar division level (Law, 2012). However, a bit different at Aceh Province, where districts are divided into *mukim* before being subdivided into *gampong* (Irham et al., 2017).

In Malaysia, local government makes up the third tier of government, after the federal and state levels of government (Ting et al., 2017). In the Malaysian system of government, the local government is at the lower-level and the head of local government is called the Mayor for the city and the Yang di-Pertua Majlis or President for municipalities and district councils (Khalid et al., 2017; Nurudin et al., 2020). Local government administration is managed by pihak berkuasa tempatan [(PBT) / local authorities] consisting of city councils, district councils, and municipal councils (Ministry of Finance Malaysia, 2010). According to Ministry of Finance Malaysia (2010) there are 154 local authorities in Malaysia that consisting of 14 city councils, 38 municipal councils and 97 district councils. Local governments in Peninsular Malaysia have the power to impose limited taxes such as gate taxes and can enforce by-laws on residents within their administrative areas (Khalid et al., 2017; Nurudin et al., 2020). However, a bit differs from Sabah and Sarawak when their local governments in these two states are administered directly by their respective state governments (Shair-Rosenfield, 2020). According to Jabatan Perangkaan Malaysia (2020), the LG of Melaka state encompasses four local councils.

Meanwhile, in Sumatra, Indonesia, where Padang City is located, there are total of 154 local governments and Padang City also has its own local government, they are not directly bound by law at the provincial level or at the regency level (Rambe et al., 2020). According to Law (2012), provinces (provinsi), regencies (kabupaten), and cities (kota) each have their own local governments and parliamentary bodies, with the head of local government called governors (gubernur) at the provincial level, regents (bupati) at the regency level, and mayors (wali kota) at the city level. The regency and city levels of governance are below the provincial level. They do, however, have more decentralisation of affairs than the provincial government, such as the provision of public schools and health services. Previously, the regency and city were known as

Daerah Tingkat II (Level II Region). Both a regency and a city are at the same level; the differences between them are in population, size, and economy. The regency, in general, has agricultural economic activities compare to the city.

2.3 Overview of Policies and Programmes on Green City Concept and Green Open Space in Malaysia and Indonesia

The challenges in GOS implementation appear as follow, the green space in Kuala Lumpur City Center only spans five km² following the rapid rise of brick development areas (Rasli et al., 2019). As one of the fastest developing East Asian nations (Rasli et al., 2019), Malaysia denotes the same implications on other cities nationwide without green area rejuvenation and conservation. The GOS development in the city centre potentially mitigates the aforementioned issues (Pandiangan & Buono, 2019) to balance climate stability (specifically in environmental temperature control) post-rapid development and alleviate extreme temperatures (Aram et al., 2019; Zain et al., 2015) following high CO^2 emission (Wartaman et al., 2018). Nonetheless, CO^2 reduction failed to attain the previously-mentioned targets following the paucity of GOS as a natural means of CO^2 absorption. The Indonesian government intends to develop urban GOS by 29% in 2030 with CO^2 gas absorption (Wartaman et al., 2018) compared to the current 20% (Wartaman et al., 2018). In this regard, Indonesia could attain its targets with optimal GOS utilisation (Wartaman et al., 2018).

Along the way Malaysia fully supported the Rio Summit by establishing the Malaysian Nature Environment in 1992 (Ramli et al., 2019). On another note, the Green Revolution has garnered much popularity in the 21st century owing to environmental climate shifts and Green City Concept Development (GCCD) through the Green Neighbourhood initiative. In this regard, energy conservation implies one of the Malaysian government predictors (Ramli et al., 2019). The term ‘GC’ in Malaysia was initially made public by the former Malaysian Prime Minister, Datuk Seri Mohd Najib, while tabling the 10th Malaysia Plan (2010-2015) in year 2010 (Azmi & Romlee, 2015). The GCC in Malaysia was incorporated into the Green Neighbourhood Initiative (Ahmad et al., 2017; Ramli et al., 2019) and Melaka Carbon Low Town Programme in 2010 (Ali et al., 2019) and enforced in the 2011 Low Carbon Cities Framework or LCCF (ICLEI, 2019). The ADB-GCAP was established to support the Malaysian GCC in 2013 (Ahmad et al., 2017; ADB, 2014; Ramli et al., 2019). In 2015, Malaysia developed the

Green Technology Master Plan (GTMP) launched by Kementerian Tenaga, Teknologi Hijau, dan Air or KeTTHA (KeTTHA, 2017) while tabling the 11th Malaysia Plan (2016-2020). On another note, the GOS implementation in Malaysia, which evolved from the Garden City Concept under the Garden Nation Policy since 2005 (Malek & Malek, 2013), depicted a government initiative towards a greener and sustainable development in 2010.

While, the GCC has been implemented in Indonesia by the Ministry of Public Works since 2011 following the rising population in major Indonesian cities. It is deemed pivotal to emphasise GCC implementation as the rapid urban development raises environmental questions in big Indonesian cities (Indraprahasta, 2012). For example, the Indonesian GC is classified into four stages (Indraprahasta, 2012). The first GCC stage (Initiation) was first implemented in 2011 (Indraprahasta, 2012), followed by the second stage in 2012 (Implementation), the third stage (Replication) in 2013, and the fourth stage in 2014 (Cross-sector Institutionalisation) (Indraprahasta, 2012). Every phase constitutes a set of gradually-applied targets (Indraprahasta, 2012). In other words, the Indonesian government emphasised Green Planning and Design, GOS, and Green Community from 2010 to 2014, Green Building, Green Waste, and Green Energy between the end of 2014 and 2020, and Green Water and Green Transportation between the end of 2020 and 2025 (Indraprahasta, 2012). The 2000 National Developments Plans on Environmental Protection serves to safeguard the Indonesian environment as a sustainable management guideline in natural resources and the environment (Fuwa et al., 2004). Efforts to establish the Indonesian GCC began with the 2011 GCD Programme (GCDP) implementation launched by the Ministry of Public Works (Indraprahasta, 2012; Kirmanto et al., 2012), which is presently known as the Ministry of Public Works and Housing (Hoff et al., 2016), for a liveable city and climate change management (Kirmanto et al., 2012). The ADB-GCAP was created in 2016 to complement the Indonesian GCC (ADB, 2016; Hoff et al., 2016) while GOS implementation was distinctly positioned as a fundamental Indonesian policy component under GCDP in 2011 (Kirmanto et al., 2012). Notably, GOS was initially implemented in 2010 (Indraprahasta, 2012) as a Smart City development initiative (Mahesa et al., 2019; Ratnawati, 2017) to attain the GC status (Fitriana et al., 2019; Koesoemawati & Sulistiyowati, 2018; Wahdaniyat, 2019). The summary of the overview of policies and programmes on GCC and GOS between two countries can be referred in historical timeline as Figure 2.1.

The historical timeline illustrated in Figure 2.1 demonstrates the evolution of policies and programmes related to the GCC and GOS implementation in Malaysia and Indonesia. Both countries have introduced various policy frameworks to enhance urban sustainability, aligning with global environmental commitments and national development goals. Malaysia has progressively developed its policies by integrating sustainability elements into its Low Carbon Cities Framework (LCCF), Sustainable Urban Development policies, and Green Technology Master Plan. The country has also benefited from international collaborations, particularly through the Asian Development Bank (ADB) Green City Action Plan (GCAP) under the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) initiative, which positioned Melaka as a pilot city for green development. Meanwhile, Indonesia has implemented a more nationally driven approach, primarily through its Green City Development Program (P2KH), which focuses on urban resilience, community-based green initiatives, and city-wide sustainability policies. Despite their differences, both countries have adopted progressive policies that prioritise environmental conservation, low-carbon development, and sustainable urban planning, demonstrating their shared commitment to SDG 11: Sustainable Cities and Communities.

The evolution of policies and programmes, as shown in Figure 2.1, highlights the growing recognition of GOS as a critical component in sustainable urban development. Over the years, both Malaysia and Indonesia have gradually expanded their policy frameworks to address urbanisation challenges, climate change adaptation, and green infrastructure planning. However, differences remain in terms of policy execution, institutional support, and local government involvement. Malaysia's policy approach is heavily structured, driven by federal and state-level planning agencies, whereas Indonesia's framework encourages greater local government and community participation. These distinctions reinforce the necessity for context-specific strategies that cater to each country's unique governance structure and urban development needs. The historical timeline further supports the rationale for developing tailored approaches for implementing GOS within urban sustainability frameworks, ensuring that policies remain adaptive, inclusive, and effective in addressing contemporary urban challenges.

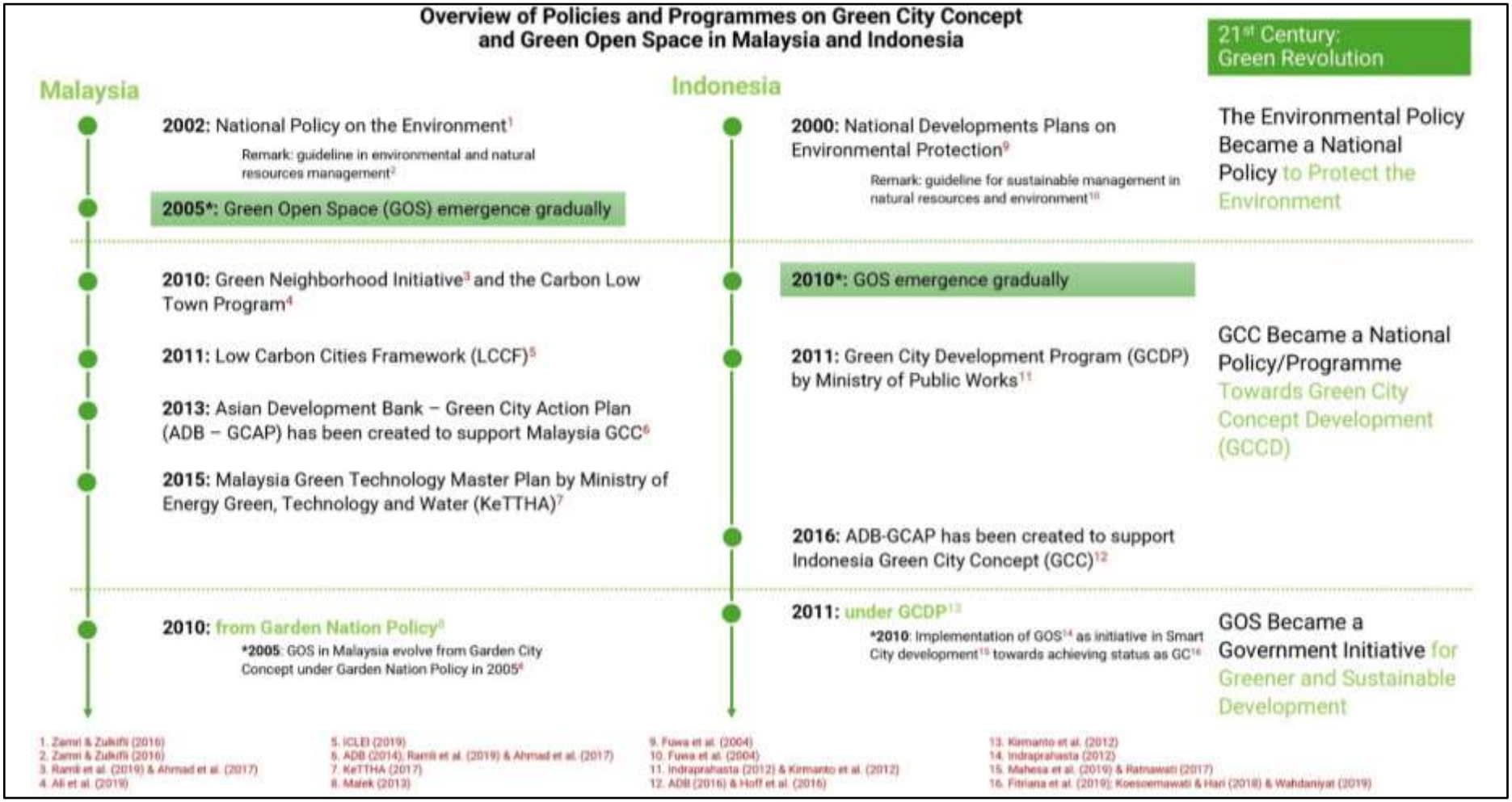

Figure 2.1 The Historical Timeline on Overview of Policies and Pogrammes on Green City Concept and Green Open Space in Malaysia and Indonesia.
Source: Researcher Analysis (2024)

On a global scale, low GOS performance in urban areas (Alfatih et al., 2018; Arsalina & Wilis, 2020; Astuti, 2018; Endangsih et al., 2020; Iqbal & Jumiati, 2019; Koesoemawati & Sulistiyowati, 2018; Lubis et al., 2019; Mansor et al., 2019; Mao et al., 2020; Murtini et al., 2020; Public Health England, 2020; Purnawan, 2019; Rasli et al., 2019) and forest degradation around the world is very worrying especially the total tree cover in cities and metropolitan areas, Mongabay (2020b, 2020a) found the total tree cover in Central Melaka District (Melaka City) over the past 20 years has lost as much as 57 hectares of green space. While Padang City has lost 1,398 hectares. Therefore, Malaysian and Indonesian GCC share the same primary objective (to become among the top 40 green cities and attain sustainable urban development by 2036) despite their distinct origins [CIMT, 2017; Local Governments for Sustainability (ICLEI), 2019]. Both nations have portrayed a strong commitment to determine and establish an appropriate Green City Conceptual Framework or GCCF as a guideline for national and local efforts towards GC creation post-Green Revolution in the 21st century. Some of the fruitful efforts involve the (i) collaboration of ADB with IMT-GT companies for a holistic and appropriate Green City Action Plan in Southeast Asian cities, (ii) development of the 2002 Malaysia National Policy on the Environment to conserve the environment and navigate environmental and natural resource management (Zamri & Zulkifli, 2016), and (iii) GCC and National policies and programmes for GCCD in 2010.

Specific GOS elements can be found in Malaysian public park design guidelines that have been prepared by National Landscape Department from Ministry of Housing and Local Government (JLN-KPKT). According to National Landscape Guidelines (2008, Edition 2) there are seven types of public park in Malaysia according to the total area, for example if it has a minimum area of 8.0 hectares it will be called a local park, if it has an area of 40.0 hectares it will be called an urban park, and so on (Jabatan Landskap Negara Kementerian Perumahan dan Kerajaan Tempatan (JLN-KPKT), 2010). In the 2020 Annual Report for the Public Park Development Program to achieve the National Vision of the ‘Most Beautiful Park 2020’, JLN has listed several elements that must be provided in every public park built, which must provide space for children's playground, toilets, signboards, parking areas, recreational sites, multipurpose courts, jogging tracks, outdoor gyms, etc. (refer to Figure 2.2) (JLN, 2020).

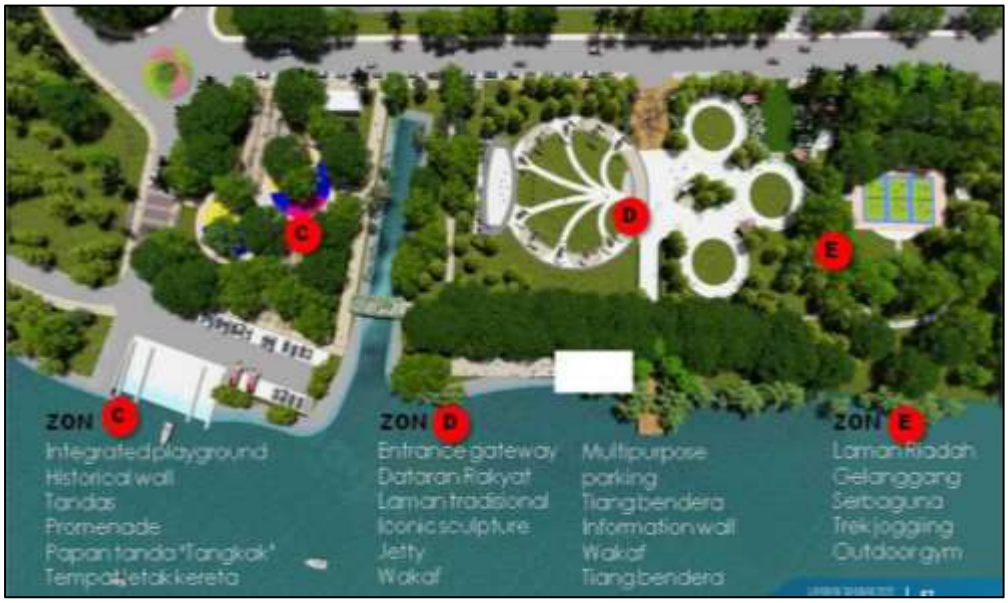

Figure 2.2 Muar Riverbanks Public Park Development Master Plan, Tanjung Agas, Tangkak, Johor
Source: (JLN, 2020)

The Indonesian GOS with 13 types (one of which is RTH Taman Kota or Urban Park GOS) has been meticulously recorded under the Guidelines for Provision and Utilisation of Green Open Space in Urban Areas from the Ministry of National Development Planning of the Republic of Indonesia or BAPPENAS (2008). Notably, a minimum of 30% urban GOS (20% public areas and 10% private areas) was equivalent to 144,000m2 for 480,000 individuals. Nearly 13 Indonesian GOS aspects (see Figure 2.3) encompassed open fields, basketball and volley courts, running tracks, restrooms, vehicle parking, kiosk facilities, open stages, children's play areas, specific infrastructure (retention ponds to control runoffs), chairs, medium and small trees, and shrub and ground cover.

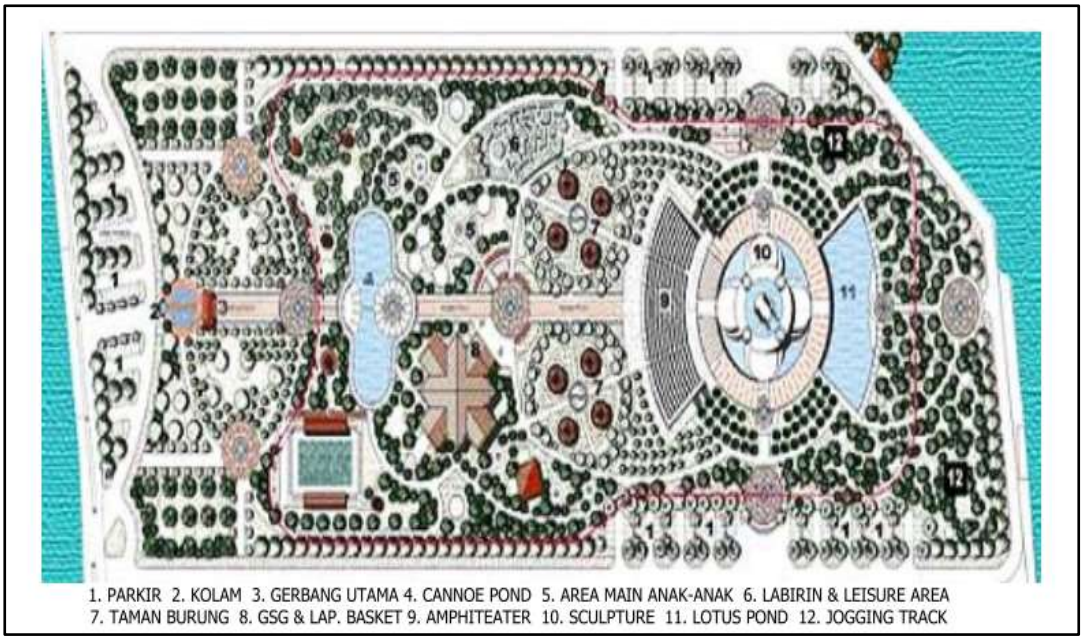

Figure 2.3 Pangkalan Bun City Park Plan, West Kotawaringin Regency of Indonesia
Source: BAPPENAS (2008)

The similarities between the two countries in the implementation of the GOS are overall touching on two main components of sustainability, namely social sustainability and environmental sustainability. However, based on the guidelines for the implementation plan of the public park, both countries do not clearly state the position of the business area for economic sustainability. As described in the process of creating GC through the implementation of GOS it is necessary to touch on these three components of sustainability because these three components are indicators of the preparation of perfect GC which will be described more in the next sub-topic.

2.4 Overview of Green City Theories

The term 'sustainable development' or SD was initially introduced in 1987 before the emergence of GC theories (El Ghorab & Shalaby, 2016). Following the Brundtland Report (1987), sustainable development was denoted by the World Commission on Environment and Development as follows:

> *"The SD is improving people's life-enabling habits to meet our needs in the present without compromising the ability of future generations to meet their needs".*

Multiple sustainability approaches have been created with distinct emphasis on sustainability issues, such as the Green City Approach (GCA) given the sustainability development incorporation into three sustainability pillars: economic, social, and environment (El Ghorab & Shalaby, 2016). Based on GCA, a city strives to alleviate their environmental impacts with emphasis on low or zero-waste, high recycling habits, reduced air-polluting emissions, and enhanced urban housing segmentation with structured GOS towards local business sustainability (El Ghorab & Shalaby, 2016). The aforementioned approach is initially discussed in this chapter to examine GCC theories. The GCD theories could be categorised into two phases from the IMT-GT sub-regions planned by ABD (Krishnan et al., 2014) from Brilhante and Klaas's (2018) global viewpoint. This section also elaborates on their contribution to the GCD theories and models based on recent research.

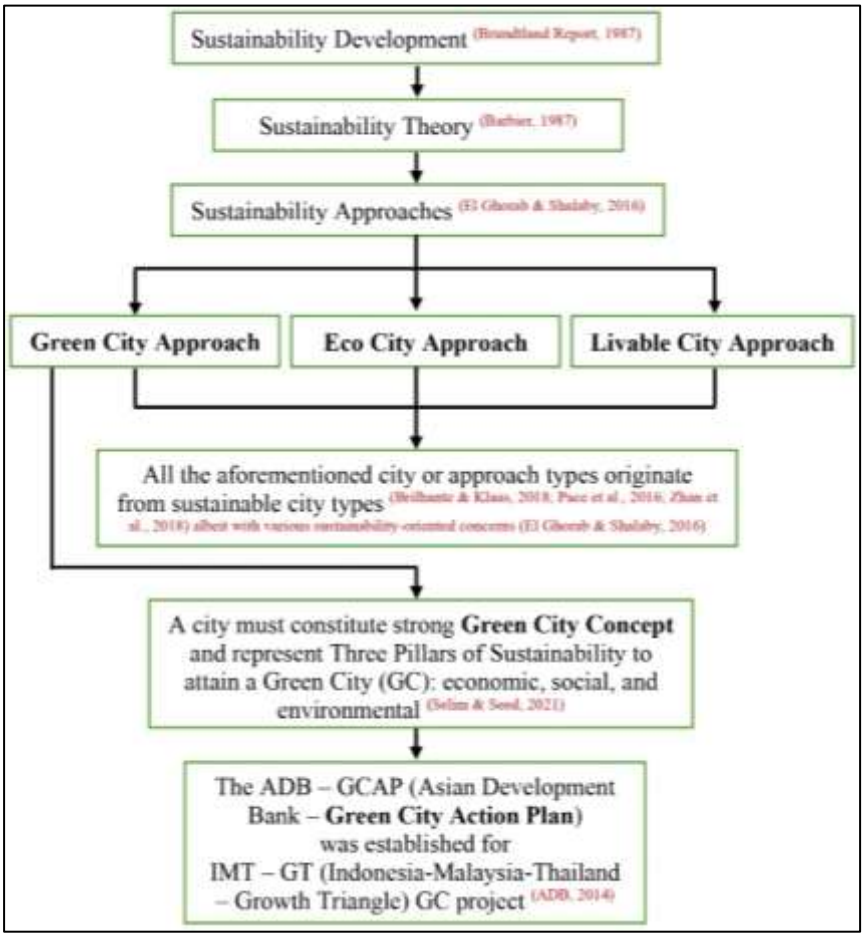

Figure 2.4 The Evolution of Green City Cocept Development (GCCD) in Southeast Asian City Planning and Practise

Source: Researcher Analysis (2024)

2.4.1 The Asian Development Bank-Green City Action Plan (ADB-GCAP)

On a global scale, countries that strive to develop green cities need to adopt Green City Approach (GCA), a primary catalyst of city sustainability by modernising conventional planning, such as greenery planning (Kirmanto et al., 2012). Following Olaniyan (2020), the GCA entailing six thematic, strategic, and appropriate action areas (low-carbon transport, green industry complex, energy-efficient buildings, city greening, 'green, resilient infrastructure', and last component is intelligent systems and smart cities) was recommended by ADB in 2015 to improve urban socio-ecological resilience towards GCD in Southeast Asian nations (ADB, 2015). The ADB intends to develop a liveable city for all dwellers through GCA implementation with a focus on 3Es (environment, economic competitiveness, and equity) to shift business-as-usual practices into green counterparts towards congruent growth (Krishnan et al., 2014). As a paradigm shift, GCA is perceived through its mechanism (an integrated urban planning approach) with each urban planning and design inextricably linked to urban nature elements for high urban sustainability and resilience to mitigate the adverse impacts of rapid urbanisation and urban threat by optimising land, water and air management, maintaining natural resource sustainability, promoting low-carbon and eco-friendly technology usage to limit and mitigate greenhouse gas emissions, and enhancing resilience and disaster risk management to minimise climate change impacts and any susceptibilities to natural hazards (Krishnan et al., 2014).

The Asian Development Bank (ADB) and the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) introduced the Green City (GC) operational framework in 2014, integrating the Green City Action (GCA) Plan, which emphasises the ADB 3Es approach: economic competitiveness, environmental sustainability, and equity (Krishnan et al., 2014). This framework underscores the importance of the three sustainability pillars—economic, social, and environmental—as fundamental drivers of sustainable development (El Ghorab & Shalaby, 2016). The sustainability theory, initially proposed by Barbier (1987), outlines these three pivotal pillars as essential for achieving green sustainability (Purvis et al., 2019). Sunny et al. (2025) further reinforces this perspective by demonstrating how economic theories play a significant role in shaping modern sustainability frameworks, particularly in balancing economic expansion with environmental conservation and social equity. As such, a city can attain

sustainability despite rapid economic growth, provided that development strategies align with integrated sustainability principles (Barbier, 1987; Sunny et al., 2025).

Malaysia launched LCCF in 2011 as a guideline for sustainable cities (ICLEI, 2019; KeTTHA, 2011) with eight components: governance, transportation and mobility, built environment, natural environment, service, economy, equality and diversity, and community well-being (KeTTHA, 2011). The Malaysian GCPA was created by ADB to complement the present-day GCCF (LCCF) in 2014 entailing six custom classifications: water management, energy efficiency and renewable energy, green transportation, zero waste, cultural heritage and tourism, and urban forestry and agriculture in establishing Melaka as a GC by 2036 (Krishnan et al., 2014; ICLEI, 2019). Furthermore, Malaysia established the Green Technology Master Plan (2017-2030) in 2015 from the 11th Malaysia Plan (2016-2020) parallel to the ADB 3E approach (KeTTHA, 2017), which emphasised six key green technology sectors: energy, manufacturing, transportation, building, waste, and water (KeTTHA, 2017). Melaka subsequently incorporated three additional categories into the present Carbon Low Town Programme in 2016 (Ali et al., 2019) to attain the Green Technology City state by optimising natural resource management, strengthening district centres involving local authorities, and emphasising new township development under the Transit-Oriented Development (TOD) and Compact City and Smart Growth concepts (Jabatan Perancangan Bandar dan Desa Negeri Melaka, 2016).

The Indonesian ADB established the GCAP in 2016 for selected Indonesia cities (Malang, Batam, Medan, and Kendari) for green development (ADB, 2016; Hoff et al., 2016) using 10 GC characteristics [green planning, finance and implementation management, GOS, green community, green transportation and urban mobility, green waste, green water, green building, green energy, green industry and commerce, and green air (blue-sky)] as a guideline that parallels the eight GC attributes under one of the Indonesian National Urban Development policies and strategies, which is the Green City Development Programme (GCDP) developed by the Indonesian Ministry of Public Works and Housing in 2011: green planning and design, GOS, green waste, green transportation, green water, green energy, green building, and green community (Hoff et al., 2016; Indonesia Ministry of Public Works, 2011; Kirmanto et al., 2012; Subadyo et al., 2019). Nevertheless, Padang City remains compliant with GCDP rather than ADB GCAP with eight GC characteristics as the fundamental components in their GCD for GC status (Sudiar, 2020; Thrisyanti, 2019).

Conclusively, many Southeast Asian nations have effectively established distinct GCCs at national and local levels (LCCF within Malaysia in 2011 and GCDP within Indonesia in 2011) pre-ADB GCC (ADB-GCAP within Malaysia and Indonesia in 2013 and 2016, respectively) by adopting the ADB-GCAP-supported GCA for optimal structuring. Notwithstanding, the GCC across Southeast Asian nations have been adapted to local settings through ADB support together with IMT-GT. Based on the empirical evaluation, the GCA between Malaysia and Indonesia depicts key GCC components with similarities and variations with national- and local-level ADB-GCA intervention (refer to Table 2.1 and Figure 2.1 for historical part of GCD between two countries, Malaysia and Indonesia). The Malaysian LCCF was omitted following the broadness of their sustainable city components, which hampered further discussions and substituted by GTMP. The GOS or Urban Forestry implies one of the fundamental GCC components (refer to Table 2.1).

The comparative analysis presented in Table 2.1 highlights the differences between Malaysia and Indonesia in implementing the Green City Action Plan (GCAP) under the Asian Development Bank (ADB) framework. These differences stem from variations in governance structures, policy frameworks, and urban sustainability strategies. Malaysia has taken a top-down, policy-driven approach, integrating initiatives such as the Low Carbon Cities Framework (LCCF) into national urban planning policies. The selection of Melaka as a pilot city under the ADB-GCAP initiative reflects Malaysia's institutionalised urban governance, where local governments adhere to national sustainability goals. In contrast, Indonesia has adopted a bottom-up approach through its Green City Development Program (P2KH), which promotes community participation and locally driven urban sustainability efforts. While both countries acknowledge the importance of Green Open Space (GOS) as a key element in sustainable urban development, Malaysia places greater emphasis on policy enforcement and institutional accountability, whereas Indonesia's approach is more adaptive and flexible, focusing on local initiatives. These differences indicate that while both nations strive to align with SDG 11: Sustainable Cities and Communities, the pathways taken to achieve urban sustainability vary, requiring context-specific strategies tailored to each city's governance and planning structure.

By examining these policy differences, this study establishes the need for a comprehensive and adaptable conceptual framework for Green Open Space implementation. The insights from Table 2.1 provide a deeper understanding of how

each country approaches urban sustainability, particularly in terms of policy execution, financial mechanisms, and public engagement models. Malaysia's structured, institutional-led model contrasts with Indonesia's community-driven, participatory approach, reinforcing the importance of localised adaptation in sustainability planning. This underscores the necessity of developing a framework that reflects each city's urban governance structure, financial stability, and public participation dynamics. The literature review, therefore, serves as a foundation for this study by bridging theoretical discussions with real-world policy applications, ensuring that the proposed strategies are not only contextually relevant but also practically implementable for long-term urban sustainability. Next, the GOS elements has been further elaborated in the following section.

Table 2.1
Similiraties and Differences in Core Green City Concept Elements in Malaysia-Indonesia-Asian Development Bank (ADB)

Malaysia National GCC Based on GTMP in 2015	**Indonesia National GCC Based on GCDP in 2011**	**Melaka City GCC Based on Melaka State's Strategic Direction Towards Green Technology City Development in 2016**	**Padang City GCC Based on Indonesia GCDP in 2011**	**ADB-Malaysia GCC Based on GCAP (Melaka City) in 2013**	**ADB-Indonesia GCC Based on GCAP (Cities of Malang, Batam, Medan & Kendari) in 2016**
KeTTHA (2017)	Indonesia Habitat National Team (2016); Indonesia Ministry of Public Works (2011); and Kirmanto et al. (2012)	Jabatan Perancangan Bandar dan Desa Negeri Melaka (2016)	Sudiar (2020); and Thrisyanti (2019)	ICLEI (2019); and Krishnan et al. (2014)	ADB (2016) and Hoff et al. (2016)
-	Green Planning & Design (1st Attribute)	-	Green Planning & Design (1st Attribute)	-	Green Planning, Finance, & Implementation Management (1st Attribute)
-	Green Open Space (2nd Attribute)	Strengthening of District Centres / Local Authorities (6th Strategy)	Green Open Space (2nd Attribute)	Urban Forestry & Agriculture – Protect Forest and areas with rich biodiversity, and improve agricultural practices (6th Theme)	Green Open Space (RTH) – Public Parks, Burial Grounds, Water Retention Areas, Greenbelts, etc. (2nd Attribute)

Energy – Renewable Energy & Energy Efficiency (1st Sector)	Green Energy (6th Attribute)	Energy Efficiency & Renewable Energy (2nd Strategy)	Green Energy (6th Attribute)	Energy Efficiency & Renewable Energy – Reduce GHG emissions through efficiency and increase in use of renewable in the generation and usage (2ndTheme)	Green Energy – Clean, Efficient & Renewable (8th Attribute)
Water – Integrated River Basin Management; Water Treatment & Distribution; Water Harvesting Technology & Wastewater Treatment (6th Sector)	Green Water (5th Attribute)	Water Management (1st Strategic)	Green Water (5th Attribute)	Water Management – Protect and enhance the quality of surface & groundwater in Melaka (1st Theme)	Green Water – Water Supply & 'Urban Drainage & Flood Control' (6th Attribute)
Waste – Waste Treatment & Disposal; & Resources Recovery (5th Sector)	Green Waste (3rd Attribute)	Zero Waste (4th Strategy)	Green Waste (3rd Attribute)	Zero Waste – Put Melaka on the path to become a 'zero-waste' state and reduce waste-related GHG emissions (4th Theme)	Green Waste – Sanitation & Solid Waste (5th Attribute)
Transportation – Public Transport; & Private Transport (3rd Sector)	Green Transportation (4th Attribute)	Green Transportation (3rd Strategy)	Green Transportation (4th Attribute)	Green Transportation – Increase opportunities for alternative modes of transportation and reduce	Green Transportation & Urban Mobility – Motorized & Non-Motorized (4th Attribute)

				GHG emissions resulting from vehicular use (3rd Theme)	
-	-	Natural Resource Management (5th Strategy)	-	-	-
-		-	-	Cultural Heritage & Tourism – Promote sustainable tourism to balance needs of visitors with those of residents while ensuring preservation of cultural heritage (5th Theme)	-
Building – Green Building (4th Sector)	Green Building (7th Attribute)	-	Green Building (7th Attribute)	-	Green Building – Energy Efficiency & Climate Resilience (7th Attribute)
-	-	New Urban Growth Based on the Concepts of TOD, Compact City, & Smart Growth (7th Strategy)	-	-	-
-	Green Community (8th Attribute)	-	Green Community (8th Attribute)	-	Green Community (Resilient Community) –

					Includes Health Care & Education (3rd Attribute)
Manufacturing – Green Industry (2nd Sector)	-	-	-	-	Green Industry & Commerce – Sound Environmental Management (9th Attribute)
-	-	-	-	-	Green Air (Blue Sky) – Emission Reduction & Control (10th Attribute)

Note: The highlighted colour denotes GOS implementation.
Source: Researcher Analysis (2024)

2.4.2 The Institute for Housing and Urban Development Studies-Green City Conceptual Framework (IHS-GCCF)

Scholars from the Institute for Housing and Urban Development Studies (IHS), the Netherlands presented a novel Green City Conceptual Framework (GCCF) in 2018 by adapting the GC Index Approach under the Economist Intelligence Unit (Brilhante & Klaas, 2018). The model focuses on four fundamental GC aspects that are associated with the three sustainability pillars (economic, social and environment) as an operational framework to enhance urban sustainability and attain GC status using GCP evaluation. Meanwhile, the GCCF introduced by the IHS of Erasmus University from Rotterdam, the Netherlands presents four key components that a GCCF should demonstrate [energy efficiency or renewable energy in all sectors (EERE); greenery extensive use in all sectors (GE); spatial planning with land compactness, mix-use, or social mix; green growth and equity principles] based on their evaluation outcome involving 50 cities worldwide. The core aspects proved to be reliable and valid as a predictor to assess GCP (Brilhante & Klaas, 2018). The aforementioned indicators must include seven thematic areas as follows: green transportation and TOD; greening urban agricultural-green vertical farms; environmental quality or water security; green technologies or smart ICT; green building; greening of public services with drinking water and sanitation; green infrastructure through the storm water system. All four GCCF components and seven thematic areas are interconnected towards GCD (Brilhante & Klass, 2018).

Based on Brilhante and Klass (2018), GE denotes the second fundamental element that impacts GCP the most compared to EERE despite being the first key aspect in HIS-GCCF. The GE could substantially improve urban air quality compared to EERE. Resultantly, the air quality sector in Institute for Housing and Urban Development Studies-Global Green City Performance Index (IHS-GGCPI) significantly affects GCP more than other counterparts, particularly EERE. The green infrastructure strategy under the core GE was created through IHS-GCCF to rejuvenate natural environments and improve the city air quality with urban GOS implementation (Khoshkar et al., 2018; Public Health England, 2020; Smith, 2010). The GOS proves increasingly essential as one of the primary predictors to calculate the total city greenery and optimal GCD (greenkeys.org, 2008a; Lehmann, 2011; Zheng et al., 2019). Notwithstanding, the key components and thematic area could not be applied across all

cities following their homogeneity and distinct urban requirements, determinants, and thematic area following Brilhante and Klass (2018). Overall, HIS-GCCF remains useful as the first step in establishing other GCCFs for selected cities worldwide (Brilhante & Klass, 2018).

2.4.3 Application of Green City Theories in Melaka and Padang

This section elaborates on how the two key green city theories, The Asian Development Bank-Green City Action Plan (ADB-GCAP) and the Institute for Housing and Urban Development Studies-Green City Conceptual Framework (IHS-GCCF), are applied in the contexts of Melaka, Malaysia, and Padang, Indonesia. By examining their implementation, this study illustrates how these theoretical frameworks guide the development of green open spaces and contribute to sustainable urban planning in both cities.

2.4.3.1 Implementation of ADB-GCAP in Melaka and Padang

The Asian Development Bank-Green City Action Plan (ADB-GCAP) has played a crucial role in shaping urban sustainability initiatives in both Melaka and Padang. In 2013, ADB-GCAP was introduced in Melaka, providing a structured approach to enhancing the city's green open spaces. This framework has been instrumental in guiding urban policy development, ensuring that parks, green corridors, and recreational zones are integrated into Melaka's broader urban planning strategies. By embedding green space development into city policy, Melaka aligns its environmental initiatives with broader economic and social sustainability goals.

In Melaka, community participation in green space management has been encouraged, reflecting ADB-GCAP's emphasis on local involvement in urban development. Residents actively contribute to green space projects, which ensures that these initiatives are not only top-down but also involve grassroots engagement. This alignment of ADB-GCAP with local urban policies and community action has strengthened the city's commitment to sustainability.

In Padang, the ADB-GCAP was adopted in 2016, as part of a national initiative implemented in four Indonesian cities: Malang, Batam, Medan, and Kendari. In Padang, ADB-GCAP has facilitated the development of green infrastructure, including eco-

friendly pedestrian walkways and cycling lanes, which contribute to the city's sustainable mobility objectives. The framework also guided Padang's adoption of sustainable resource management practices, such as efficient water and energy systems within public green spaces. These initiatives align with the city's goal to reduce its environmental footprint while enhancing the urban experience for its residents.

2.4.3.2 Integration of IHS-GCCF in Melaka and Padang

The Institute for Housing and Urban Development Studies-Green City Conceptual Framework (IHS-GCCF) offers a comprehensive approach to the integration of green spaces into urban planning. In both Melaka and Padang, this framework has provided critical guidance in several areas of green space development. In Melaka, the IHS-GCCF has informed a holistic approach to urban planning, ensuring that green spaces are seamlessly integrated into both residential and commercial zones. This approach promotes a balanced distribution of green areas throughout the city, enhancing accessibility and ensuring that green spaces are within reach for all residents.

The framework's emphasis on biodiversity conservation has also influenced the green space policies of both cities. In Melaka, urban planning projects have incorporated biodiversity corridors that support the movement of wildlife through the city, reflecting IHS-GCCF's focus on environmental sustainability. Similarly, Padang has prioritized the preservation of local plant species in its public parks, contributing to the city's efforts to maintain urban biodiversity.

The economic and social benefits of green spaces, which IHS-GCCF highlights, are evident in both cities. In Melaka, green spaces have boosted the local economy through increased tourism and higher property values. Meanwhile, in Padang, the development of multifunctional parks has had a positive impact on public health and social cohesion, demonstrating how IHS-GCCF principles can enhance the quality of life for urban residents.

2.4.3.3 Synergy Between ADB-GCAP and IHS-GCCF in Developing GOS-GCCF

The synergy between ADB-GCAP and IHS-GCCF has been central to the development of the Green Open Space-Green City Conceptual Framework (GOS-GCCF) for Melaka and Padang. By combining the strategic planning elements of ADB-

GCAP with the holistic, biodiversity-focused approaches of IHS-GCCF, the GOS-GCCF is able to address the unique challenges and opportunities in both cities while promoting long-term sustainability.

The GOS-GCCF adapts ADB-GCAP's strategic actions and combines them with the comprehensive environmental strategies of IHS-GCCF. This allows both cities to tailor their green space initiatives to their specific environmental, social, and economic contexts. Furthermore, the GOS-GCCF promotes collaborative governance, a concept inspired by both frameworks. By fostering partnerships between local government authorities, community members, and private stakeholders, the framework ensures that the development and management of green spaces are inclusive and sustainable.

Moreover, the GOS-GCCF incorporates robust monitoring and evaluation mechanisms, drawn from the IHS-GCCF's emphasis on continuous assessment and improvement. This ensures that green space projects in both cities are regularly evaluated to ensure their alignment with the sustainability objectives outlined in ADB-GCAP. The combined strengths of both frameworks have thus allowed Melaka and Padang to develop a comprehensive approach to urban green space management that is contextually relevant and forward-looking.

2.4.3.4 Case Examples from Melaka and Padang

The practical application of ADB-GCAP and IHS-GCCF is evident in several significant urban development projects in both Melaka and Padang, where green city frameworks have translated theoretical models into tangible outcomes. In Melaka, one prominent example is the redevelopment of the Malacca Riverfront. This project, which aligns with the goals of ADB-GCAP, has transformed the area into a vibrant urban space that integrates green open spaces with commercial and recreational facilities. The redevelopment showcases how the creation of green spaces can enhance both economic and environmental sustainability by increasing eco-tourism while conserving the natural environment. According to Harun, Yunos, and Nasir (2017), this type of urban regeneration significantly enhances the aesthetic and ecological value of the area, as it incorporates sustainable design principles such as riverside landscaping and the use of local vegetation. The project reflects the ADB-GCAP's focus on infrastructure development and economic sustainability, while also embodying the IHS-GCCF's

emphasis on integrating green spaces into the broader urban framework to ensure long-term environmental and social benefits.

In Padang, the transformation of Kampung Tematik [Thematic Village] or Taman Tematik [Thematic Park] provides a further example of how ADB-GCAP and IHS-GCCF have been successfully applied. This ark, redeveloped under the guidance of Indonesia's GCDP, serves multiple functions, including recreation, social interaction, and biodiversity conservation. It incorporates eco-friendly infrastructure, such as renewable energy-powered lighting and water-efficient landscaping systems. This transformation aligns with the principles of ADB-GCAP, which promotes the development of green spaces that contribute to the city's environmental resilience and quality of life (ADB, 2016). Furthermore, the project integrates IHS-GCCF's emphasis on urban biodiversity, with the park designed to preserve local plant species and provide habitats for urban wildlife. As Putra, Nurman, and Kusuma (2020) observe, such multifunctional parks not only enhance public health through increased access to green spaces but also promote social cohesion by serving as communal hubs for the local population.

Empirical studies support the positive impact of these developments on both cities' urban environments. For instance, Aris and Sulaiman (2018) noted that in Melaka, green spaces such as parks and riverside developments have contributed to urban cooling, reducing the heat island effect and improving air quality. Similarly, in Padang, research by Gunawan, Setiawan, and Wardhana (2021) shows that GOS like Thematic Village or Thematic Park have led to improvements in biodiversity levels and provide important ecosystem services, including carbon sequestration and flood mitigation. These empirical findings reinforce the idea that the theoretical frameworks of ADB-GCAP and IHS-GCCF have been effectively translated into practical, context-specific initiatives that benefit both the environment and the local communities.

In both Melaka and Padang, these case examples demonstrate how the integration of ADB-GCAP and IHS-GCCF principles into urban planning has resulted in green spaces that not only enhance the aesthetic appeal of the cities but also provide social, economic, and environmental benefits. These projects serve as practical illustrations of how green city theories can be adapted to specific urban contexts, with measurable impacts on urban sustainability and the well-being of residents.

2.4.4 Summary of Green City Concept Theories

The evaluation of green open spaces (GOS) in this study focuses primarily on their contribution to green city development (GCD), as outlined by the two selected Green City Conceptual frameworks: ADB-GCAP and IHS-GCCF. Existing literature has often assessed overall city greenery and its impact on urban sustainability, but there is a notable gap in thoroughly investigating the pivotal role of GOS in driving GCD specifically. This study addresses that gap by analysing the core elements of both theories in relation to GOS and their contributions to GCD. Table 2.2 provides a clear and simplified overview of these core elements, offering insights into the fundamental principles of ADB-GCAP and IHS-GCCF and their relevance to GOS development in Melaka and Padang.

Table 2.2
Similarities and Differences in Core Green City Concept Elements in Melaka, Padang, and The Netherlands

Melaka City GCC Based on ADB-Malaysia GCAP in 2013	**Padang City GCC Based on Indonesia National GCC, the GCDP in 2011**	**Institute for Housing and Urban Development Studies – Green City Conceptual Framework (HIS – GCCF) of The Netherlands: Worldwide (50 Selected Cities) in 2018**
ICLEI (2019); and Krishnan et al. (2014)	Sudiar (2020); and Thrisyanti (2019)	Brilhante and Klaas (2018)
▪ Energy Efficiency & Renewable Energy (2nd Thematic)	▪ Green Energy (6th Attribute)	▪ Energy Efficiency or Renewable Energy in All Sectors (**1st Core**)
▪ Urban Forestry & Agriculture (6th Thematic)	▪ Green Open Space (2nd Attribute)	▪ Greenery Extensive Use in All Sectors (**2nd Core**) ▪ Green Infrastructure: Storm Water System (7th Area) ▪ Greening Urban Agricultural: Green Vertical Farms (2nd Area)
-	▪ Green Planning & Design (1st Attribute)	▪ Spatial Planning with Land Compactness / Mix Use / Social Mix (**3rd Core**)
-	▪ Green Community (8th Attribute)	▪ Green Growth & Equity Principles (**4th Core**)
▪ Green Transportation (3rd Thematic)	▪ Green Transportation (4th Attribute)	▪ Green Transport & TOD (1st Area)
▪ Water Management (1st Thematic)	▪ Green Water (5th Attribute)	▪ Environmental Quality / Water Security (3rd Area)

		▪ Greening of Public Services: Drinking Water & Sanitation (6th Area)
-	-	▪ Green Technologies / Smart ICT (4th Area)
-	▪ Green Building (7th Attribute)	▪ Green Building (5th Area)
▪ Zero Waste (4th Thematic)	▪ Green Waste (3rd Attribute)	-
▪ Cultural Heritage & Tourism (5th Thematic)	-	-

Note: The highlighted color denotes GOS implementation.
Source: Researcher Analysis (2024)

2.5 Green Open Space

The GOS and GC perspectives could be observed through the theoretical LRs of Chiesura's (2004) urban parks and city sustainability. The theory emphasised urban park benefits through the three sustainability pillars for optimal human health, well-being, and life quality. In this vein, urban parks have become the primary catalyst of sustainable city development with a substantial effect on sustainable city development (Malek & Nashar, 2018). Likewise, Rakhshandehroo et al. (2017) identified the GOS implementation advantages on environmental health towards sustainable development. Regrettably, Chiesura only concentrated on the social benefits or sustainability of urban parks compared to its environmental and economic counterparts for sustainable urban development. Similar studies (see Table 2.3) also disregarded the aforementioned environmental and economic components (Amalia et al., 2020; Faragallah, 2018; Hajmirsadeghi, 2012; Y. Lee & Kim, 2015; Pakina & Batkalova, 2018; Rostami et al., 2015; Safrilia & Poerwoningsih, 2021).

In Pakzad and Osmond (2015), GC infrastructure implementation should employ a dual right-based approach by integrating two approaches: anthropocentric (to acknowledge human rights) and eco-centric (to respect nature-oriented rights and ascertain the congruence the urban-environmental development). Díaz et al.'s (2015) study on the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) implied the necessity of interconnecting nature and people to synchronise the urban life system and improve environmental health (biodiversity and ecosystem) and individuals' life quality and well-being. Although GOS could facilitate GCD (Brilhante & Klaas, 2018; Chiesura, 2004; Faragallah, 2018; Pakina & Batkalova, 2018), past literature essentially focused on urban dwellers' requirements (social component) and interests with little emphasis on nature-based values (environmental component) (Amalia et al., 2020; Chiesura, 2004; Dewi et al., 2018; El-khateeb, 2019; Faragallah, 2018). Nevertheless, some researchers have conceded the GOS impact on environmental and social sustainability for sustainable urban development (Ajrina & Kustiwan, 2019; Kruize et al., 2019). Amalia et al.'s (2020) and Faragallah's (2018) research, which only emphasised environmental sustainability, depicted the distinct evaluation of the three sustainability pillars on the GOS-GCD. Regarding the crucial role of GOS in GCD, relevant scholars suggested the incorporation of more sustainability indicator parameters (Chiesura, 2004; Hajmirsadeghi, 2012; Rostami et

al., 2013; Zakka et al., 2017) to assess the GOS benefits on the three sustainability pillars (economic, social and environmental) without distinct analysis for optimal GCD strategies (El-khateeb, 2019; Kruize et al., 2019). Keane et al.'s (2014) Urban Ecosystem Services Theory highlighted the GOS ability in establishing four ecosystem service types parallel to the three sustainability pillars for sustainable urban development. The GOS advantages on economic, social and environmental grounds for GCD could be assessed with urban ecosystem services. The integration of the Urban Parks and City Sustainability Theory and Urban Ecosystem Services Theory with this study could provide a holistic understanding of the sustainability predictor using the GOS advantages on the three sustainability pillars for optimal GCCD given the paucity of relevant research.

Table 2.3
Previous Studies on the Relationship between Green Open Space Implementation and Green City Development

No.	Author / Year / Journal's Rank	Title	Sample and Period	Research Objective	The Importance of the Study	Reason for the Study	Methodology	Theory/Model	Finding	Future Studies
1.	Chiesura (2004) Landscape and Urban Planning (Q1)	The role of urban parks for the sustainable city	• European cities • Focused on people's interactions with urban nature	To investigate the importance of urban parks for citizens' well-being and city sustainability.	The study highlights urban parks' roles in improving environmental quality, promoting mental well-being, and contributing to urban sustainability.	Addressing the underappreciation of urban green spaces in urban planning, arguing their significance for quality of life and sustainability.	Qualitative method (survey – open-ended questions)	The study draws on concepts of sustainability and urban well-being but does not seem to rely on a specific named model or theory.	Urban parks could offer multiple social functions and psychological needs for urban dwellers towards high life quality and city sustainability, which render such parks a key determinant of sustainable urban development.	Future urban planning should integrate more green spaces into cities, considering both ecological and social benefits. Further research should explore the specific emotional and psychological impacts of nature on urban residents.
2.	Hajmirsadeghi (2012) Elixir Sustainable	The influence of urban parks on	• 150 respondents (mostly female)	To examine the significance of urban parks on citizen welfare	Focuses on the psychological, social, and environmental	Exploring the significance of urban parks for enhancing the	Mixed-method approach (open-ended	Explores theories on psychological well-being and	Urban parks provided a variety of social and psychological	Suggests better planning for diverse age groups, incorporating public

	Architecture (ProQuest)	sustainable city via increased quality of life	• Mellat Park, Qazvin • In 2009	and city sustainability.	benefits of urban parks for urban sustainability.	quality of life in cities. It aimed to demonstrate the social, psychological, and environmental benefits of parks, which are essential for creating sustainable urban environments	and closed questionnaires)	urban sustainability.	needs for city people, contributing to excellent living quality and city sustainability, making them a crucial determinant of long-term urban growth.	feedback for sustainable urban spaces.
3.	Rostami, Lamit, Khoshnava and Rostami (2013) Asian Journal of Microbiology, Biotechnology and	Urban green spaces and city sustainability	• 152 respondents in Isfahan, Iran • Focused on a historical Persian garden	To exemplify the importance of urban green space for city sustainability.	The study emphasizes the role of urban green spaces, particularly historical gardens, in enhancing quality of life and	Exploring how urban green spaces can meet recreational, emotional, and social needs of city residents while contributing to the sustainability	• Mixed-method approach • Data collection: face-to-face interviews, behavioral observations, & self-	The study refers to the psychological and social benefits of nature, drawing from theories related to environmental psychology and urban	Urban green space fulfils residents' needs and psychologically induces satisfaction and positive emotions for urban sustainability.	• Sustainability indicators for urban development should incorporate more parameters for planning green spaces. • Preserving historical gardens due to their social, psychological, and cultural

	Environmental Sciences SCOPUS (1999 - 2018)			sustainability within cities, especially in light of rapid urbanization and the loss of natural green areas.	of urban environments.	administered questionnaires (survey) • Data analysis: descriptive statistics & content analysis	sustainability. The research highlights the significance of sense of place and emotional attachment to urban green spaces.		significance in urban sustainability.
4.	Lee and Kim (2015) Sustainability (Q2)	Attitudes of Citizens towards Urban Parks and green spaces for urban sustainability: The case of Gyeongsan City, Republic of Korea	• 800 respondents in Gyeongsan City, Republic of Korea, • In 2011	To analyse citizens' needs and attitudes towards urban parks and green space to provide information to navigate future urban sustainability and maximise life quality.	It addresses how urban parks, and green spaces contribute to urban sustainability by improving quality of life and fulfilling social, environmental, and	To understand citizens' attitudes and demands towards parks and green spaces, informing strategies for urban sustainability.	• Quantitative method • Data collection: questionnaire survey (demographic questions & multi-choice questions on park usage & preferences)	The study integrates sustainability theory, focusing on green infrastructure and its role in improving quality of life through urban planning.	Relaxation and walking, packet park, close to home, improper park management, and citizens' willingness to engage in urban park and green space development projects demonstrate Gyeongsan city dwellers'	• Expand research to other cities to generalize findings. • Focus on addressing senior citizens' needs in park planning as Korea's population ages. • Involve more citizen participation in park development through non-profit

				recreational needs.		• Data analysis: descriptive statistics & Likert scale analysis		requirements and attitudes.	organizations and volunteer work.
5.	Faragallah (2018) Alexandria Engineering Journal (SCOPUS – Elsevier)	The impact of productive open spaces on urban sustainability: The case of El Mansheya Square – Alexandria	• El Mansheya Square in Alexandria, Egypt • 2017–2018	To investigate if productive open space leads to sustainable city and examine the causes underlying reduced open spaces.	It emphasizes the need for productive urban spaces to counter the rapid urbanization and degradation of open spaces in Alexandria, aiming to improve urban sustainability and enhance the quality of life	The study seeks to address the loss of urban open spaces and the environmental and social deterioration in Alexandria due to rapid urbanization, proposing solutions for sustainable urban design	• Case study method (Analyzing international examples such as Superkilen in Copenhagen and proposing design strategies for the redevelopment of El Mansheya Square.)	The study discusses concepts related to sustainable urban spaces and productive urban open spaces, focusing on environmental, social, and economic benefits.	Productive UOS could improve the quality of urban nature and the environment.	• Explore different urban contexts to generalize findings. • Conduct long-term research on the impact of productive spaces. • Investigate effective public participation models in urban space design.

6.	Pakina and Batkalova (2018) Belgeo (WoS)	The green space as a driver of sustainability in post-socialist urban areas: The case of Almaty City (Kazakhstan)	• Green spaces in Almaty City, Kazakhstan • Field observations: 2016 – 2017	To understand urban green space design as the catalyst of city sustainability.	Investigates how green spaces improve sustainability in post-socialist cities, addressing urban environmental challenges.	Examine the negative impact of post-Soviet urbanization on green spaces and suggest improvements.	• Uses ArcGIS and satellite images (Analyzing green spaces, their types, and pollutant absorption capacity.)	• Total Ecological Potential (TEP) concept (Widely used in Russian environmental research. It evaluates the ecological functions of plant communities, which differ from the Ecosystem Services (ES) model that focuses on the economic valuation of ecosystem contributions.)	The urban planning connection with the ecological dimension of life quality could produce a strong basis for sustainable urban development.	• Further explore how urban planning can integrate the ecological functions of green spaces to support sustainable city development. • Study the spatial distribution of green spaces in relation to human pressure and pollution levels in different districts. • Conduct long-term studies to measure the effectiveness of green infrastructure in improving environmental quality and public health.

7.	Amalia et al. (2020) OP Conference Series: Earth and Environmental Science (SCOPUS)	The study of the smart city concept development, based on public open space elements (case study: Kambang Iwak and Opi Jakabaring Lake)	• 2 public open spaces in Palembang, Indonesia (Kambang Iwak & Opi Jakabaring Lake) • 2019	To determine the GOS character as one of the elements in smart city concept development.	To analyze the role of green open spaces in supporting the smart city concept and improving urban services in rapidly developing cities like Palembang.	The lack of green open spaces in Palembang negatively impacts environmental quality, and understanding their role can help develop smart city infrastructure.	• Descriptive qualitative method (field surveys & interviews to assess physical conditions of open spaces) • SWOT analysis	• Shirvani's Theory on Urban Design • Giffinger's Smart City Framework (Focusing on aspects such as smart living, smart environment, and smart infrastructure.)	Public open space or GOS could increase urban comfort and environmental life quality through three SCC elements (smart living, smart environment, and smart infrastructure).	Further explore how open spaces can enhance smart city concepts through technology and sustainable urban development.
8.	Safrilia and Poerwoningsih (2021) IOP Conference Series: Earth and	Green space as a potential for sustainable city development.	• Green open spaces in Malang City, Indonesia • 5 districts (Blimbing, Kedungkandang, Klojen,	To determine the extent of benefits and influence obtained for increased GOS and the components needed to	The study explores the critical role of green open spaces in improving urban environmental quality,	Malang City has only 9.5% green open space, much lower than the required 30%. The study aims to address the impacts of reduced green	• Descriptive qualitative method (surveys, field observations, & interviews) • Rationalistic approach	• Sustainable Development Concept (Focusing on ecological, economic, & social aspects.) It emphasizes safe, inclusive,	The GOS supports physical activity, human psychological well-being and general public health for a conducive, healthy, social,	• Further investigation into other cities facing similar issues with green space distribution and the unique challenges they face. • Use of more diverse methods like

Environmental Science (SCOPUS)	Lowokwaru, Sukun) • 2019	develop GOS towards a sustainable development concept.	promoting public health, and supporting sustainable development in Malang.	space, such as increased pollution and flooding.	(To understand and accessible the relationship green spaces. between green spaces & urban sustainability.)	natural, and urban environment. The GOS quantity and quality requires much improvement through community participation, effective design and planning, smart elements (solar system), and water and waste management.	quantitative analyses to measure the environmental or social impact of green spaces. • Expanding the theoretical framework by integrating newer sustainable development models or theories on urban resilience.

Source: Researcher Analysis (2024)

Based on the empirical LRs, Brilhante and Klaas (2018) revealed that green infrastructure or GOS significantly impacted GCP. The GOS is frequently presented in GCCF as one of the key sustainable urban development components (ADB, 2015; Hoff et al., 2016; Krishnan et al., 2014; Lindfield & Steinberg, 2012; BAPPENAS, 2015; Pace et al., 2016; Purnawan, 2019; Sudiar, 2020; Thrisyanti, 2019) given that a productive GOS could achieve social, environmental, and economic sustainability for individual and environmental life quality (Faragallah, 2018) following past studies. The GOS also generated four urban ecosystem service types under the three sustainability pillars: Supporting Ecosystem Services (SES), Regulating Ecosystems Services (RES), Cultural Ecosystem Services (CES), and Provisioning Ecosystem Services (PES) (Keane et al., 2014).

Given that GOS implementation serves to improve food security under economic sustainability (Hidayat & Ridwan, 2018; Othman et al., 2018), GOS could facilitate PES (Keane et al., 2014) by supplying 'products' to people (Lundh, 2017; Sinnett et al., 2016). For example, the GOS utilised for urban farming and agricultural development in specific nations or as community gardens (Hidayat & Ridwan, 2018; Othman et al., 2018) have produced much food and support for urban lower-income Malaysian and Indonesian communities (Hidayat & Ridwan, 2018; Othman et al., 2018) and enhanced property values (Crompton, 2000; Hussain et al., 2016; Rostami et al., 2013) and the tourism industry (Chiesura, 2004; Hussain et al., 2016).

Based on social sustainability by Ajrina and Kustiwan (2019), Dewi et al. (2018), Hajmirsadeghi (2012), Kruize et al. (2019), Lee and Kim (2015), Pakina and Batkalova (2018), Parker and Simpson (2018), and Rostami et al. (2013), GOS promotes individual happiness, positive emotions, physiological health, and engagement in recreational and social activities (Dewi et al., 2018; Hussain et al., 2016; Mansor & Harun, 2018; Shanahan et al., 2016; Sherer, 2006). The GOS capacity to produce CES (Keane et al., 2014) implies its ability to supply non-material advantages (Gonzales et al., 2018; Millennium Ecosystem Assessment, 2005; Sinnett et al., 2016) for urban dwellers.

Environmental sustainability entails two ecosystem service types: SES and RES (Keane et al., 2014). The GOS optimises urban biodiversity (Hussain, Kher Hussein & Li Thing, 2016; Karuppannan et al., 2014; Rakhshandehroo et al., 2017; Ratih & Febrianto, 2016) and the quality of soil fertility for agriculture development by filtering soil contaminants (Sinnett et al., 2016; Rakhshandehroo et al., 2017). Under RES, GOS

could also reduce urban noise pollution (Vety Jayanti et al., 2020), temperature (Elsayed, 2018; Rakhshandehroo et al., 2017; Razali et al., 2020), and flood issues (Schuch et al., 2017; Kim et al., 2016) and improve its air quality (Rakhshandehroo et al., 2017; Razali et al., 2020; Vety Jayanti, Priyo Purnomo & Nurkasiwi, 2020). The aforementioned GOS-induced advantages have led to healthy urban and natural environments for individual well-being and high urban sustainability towards GCD.

Table 2.4
Summary of Selected Empirical Studies on Urbanisation and Green City Development

No	Authors/Year/ Journal's Rank	Sample and Period	Research Objectives	The Importance of the Study	Reason for the Study	Methodology	Theory/Model	Findings	Future Studies
1.	Zhong, Li, Law and Sun (2020) Sustainability (Q2)	13 Cities / Towns	Examine the sustainable development of urbanisation	The highest urbanisation quality leads to a sustainable city	Massive urbanization and poor control might reduce city sustainability	LR with entropy method	Multi-channel Urbanisation Index System	The highest urbanisation quality is influenced by a high administrative level that fulfils all five urbanisation quality dimensions that induce sustainable development	Political, cultural, or spiritual aspects could be considered in evaluating urbanisation quality in cities as opposed to merely economic, social, and environmental elements. Other factors involving location, government policy support, and local community ideas could also be regarded.
2.	Rachmansyah, Halim and Soemarno (2019)	147 household developers	Compare the sustainability between the	High urbanisation increases the urban population and	Massive urbanisation and unplanned	Questionnaire survey and interview	Sustainable development approach	Sustainable residential development	-

	Geographia Technica (no index)		development of landed housing and flats in the same area.	land utilisation, which then influences city sustainability economically, socially, and environmentally	residential areas might reduce city sustainability			improves residential areas and increases human life and environmental quality	
3.	Han (2019) Environment and Planning C: Politics and Space (Q1)	Singapore's Green Building Certificate Scheme (2005 -2019)	How the Singaporean government has expanded its efforts to achieve urban environmental sustainability through GMS: a green building certification scheme.	Proper government policies or programmes and strong commitment towards high administrative level optimise urbanisation contexts that subsequently increase environmental sustainability	Low urban environmental sustainability following inefficient government administration in their urbanisation setting	Review from novel urban governance studies	-	High governmental commitment, various financial incentives, and national efforts in engaging multiple stakeholders to influence the effectiveness of policies or programmes (GMS) while establishing their urbanisation.	This Singaporean case serves as a heuristic model that generates empirical knowledge of how an effective governance mode could be forged to promote green urbanisation towards a continuous exploration of the nexus between urbanisation and sustainable development. More empirical studies

		should be performed to elucidate the hierarchy concept for operational usefulness.

Source: Researcher Analysis (2024)

2.5.1 The Important Roles of Green Open Space Implementation on Green City Development in Malaysia and Indonesia

Green Open Space (GOS) plays a multifunctional role in Green City Development (GCD) due to its comprehensive ability to conserve and sustain the urban ecosystem, particularly in relation to economic, social, and environmental sustainability. According to Mohamed et al. (2021), GOS contributions in Malaysia and Indonesia can be classified into 19 key functions under four urban ecosystem service categories, as introduced by Keane et al. (2014): supporting ecosystem services, regulating ecosystem services, cultural ecosystem services, and provisioning ecosystem services. These urban ecosystem services align with the Three Pillars of Sustainability Theory, initially proposed by Barbier (1987), which posits that all urban development must integrate economic, social, and environmental sustainability. This theory remains highly relevant in modern sustainability discussions, as supported by Sunny et al. (2025), who highlight how economic frameworks play a crucial role in shaping sustainability-driven policies and development models. In a recent study, Mohamed et al. (2023) employed a systematic literature review combining both Urban Ecosystem Services Theory and the Three Pillars of Sustainability Theory to assess the critical functions of GOS in GCD across Malaysia and Indonesia, further reinforcing the connection between urban sustainability and ecosystem-based strategies (Barbier, 1987; Sunny et al., 2025).

Mohamed et al. (2023) found that most GOS in both countries do not implement economic sustainability comprehensively, for example under the category of provisioning ecosystem services, GOS in Malaysia and Indonesia are unable to provide services in the aspects of freshwater, material, and energy. Even so, GOS is still able to provide services in the aspect of food production. GOS in Taman Sari in Bandung City, Indonesia has produced food and helped the poor population (Ridzwan et al., 2017). The implementation of this GOS has the concept of urban agriculture (Ridwan et al., 2017) which can be one of the alternative programs to achieve sustainable cities (Ramandhani et al., 2020) and at the same time can strengthen the urban food security system (Ridwan et al. et al., 2017). Meanwhile, in Malaysia, several urban agriculture programs have been implemented since 2013 in several GOS areas in Subang Jaya City to help low-income groups (Othman et al., 2018).

Some past studies have stated that GOS also has the ability to improve the city's economy through various other business sectors and not just food production. But Keane et al. (2014) did not include this aspect in the theory. According to Hussain et al. (2016) and Crompton (2000), with the existence of GOS the property value around it has increased greatly. Next, GOS under the provisioning ecosystem services category explains how green areas are able to supply products to urban dwellers (Lundh, 2017; Sinnett et al., 2016) through existing ecosystems such as edible crops, freshwater catch, flowers, and fibers (Lundh, 2017; Haines-Young & Potschin, 2012). Therefore, both GOS in Malaysia and Indonesia are able to improve economic sustainability in achieving GCD, especially for urban residents with low incomes through food production based on the concept of urban agriculture.

Next is social sustainability under the cultural ecosystem services category. GOS under cultural ecosystem services is capable of providing non-material services (Gonzales et al., 2018; MEA, 2005) through several aspects that can improve the physical and psychological health of urban citizens (Chan et al., 2019; Sinnett et al., 2016; Gonzales et al., 2018; and MEA. 2005) such as recreation activities, rest, relaxation, spiritual enhancement (Sinnett et al., 2016), cognitive development, reflection, and aesthetic experiences (MEA, 2005) included religious aspect (Gonzales et al., 2018) as well as other aspects that enhance human-ecological relations (Chan et al., 2019). Since 2010, Malaysia has made the GOS area one of the initiatives to promote a healthy lifestyle due to the increase in obesity and various worrisome diseases (Mansor & Harun, 2018 and Hussain et al., 2016). Likewise, with some GOS in Bogor Regency, Indonesia - GOS has become a community meeting center to do various types of activities such as sports and therapeutic activities (Dewi et al., 2018). The nature pedagogic program that focuses on urban children through the Child-Friendly City Program that has been carried out in selected GOS around Jakarta City has improved the quality of the GOS implementation itself when the GOS has been built using the child-friendly concept (Yuniastuti & Hasibuan, 2019a, 2019b).

The last element of sustainability is environmental sustainability. GOS is not only capable of providing various important roles in conserving and preserving the city's ecological system itself in terms of economic and social aspects, but GOS can also restore the city's environmental aspects. GOS capabilities can be seen under two types of ecosystem services, namely supporting ecosystem services, and regulating ecosystem services (Mohamed et al., 2021). Support ecosystem services provided by GOS is that

GOS functions as an attraction for the life of birds. According to Rakhshandehroo et al., (2017) and Karuppannan et al., (2014) the existence of GOS in the Kuala Lumpur metropolitan area has successfully increased the number of various species of birds into the city. Similarly, in Pontianak City, the effort to combine the ornamental and natural vegetation in GOS has enriched various species of urban flora and fauna (Ratih & Febrianto, 2016). Meanwhile, under the category of regulating ecosystems service refers to the ability of GOS to strengthen the urban ecological system with its ability to reduce pollution and natural disasters that occur in the city. In addition, the effects of the urban heat island were successfully controlled by the presence of a few green areas in Kuala Lumpur City (Razali et al., 2020; Elsayed, 2018) and in Jakarta City when green areas such as paddy fields and mangroves areas curb urban heat island occurs (Wirayuda et al. 2023). Urban air quality in Malaysia has also improved (Razali et al., 2020; Rakhshandehroo et al. 2017). In some GOS areas in Indonesia GOS has not only succeeded in reducing air pollution but has also successfully eliminated noise pollution (Jayanti et al., 2020). According to Watts et al. (2013) and Veisten et al. (2012) the soft walls of greenery and trees have the strength to absorb noise around it. In addition, the presence of trees can control excess water. Such as planting trees along coastlines in the East Flood Canal Revitalization Project in Padang City (Iqbal & Jumiati, 2019) and Jakarta City (Wahdaniyat, 2019) and just like in Malaysia when mangrove forest becomes a coastal bioshield to reduce the risk of flooding including natural disasters that others such as tsunamis and storms (Koh et al., 2018; Ghazali et al., 2016). Therefore, Indonesia has actively built more GOS to eradicate urban flooding (Ratnawati, 2017) such as in Mojokerto City, 50% of the existing GOS is very effective in reducing the problem of flooding in the city through high absorption of excess water (Krisnamurti et al., 2021). In Malaysia, a small part of GOS has reservoir ponds that function to control excess rainwater (Zainal, 2020; Halid, 2022). However, there is no scientific study on it.

It can be summarised here that GOS has a very important function on the development of green cities through its diverse capabilities (refer to Table 2.5) in conserving and preserving the urban ecological system in the aspect of comprehensive sustainability, namely economic, social and environmental sustainability which is the main condition which need to be met in a balanced way in every development in the city to achieve the status of sustainability - sustainable city or green city.

Table 2.5
The Important Roles of Green Open Space on Green City Development in Malaysia and Indonesia

No.	Urban Ecosystem Services Theory (Keane et al., 2014)	M	Journal Articles Cited in Previous Literature	I	Journal Articles Cited in Previous Literature	3 Pillars of Sustainability Theory (Barbier, 1987)
	Support Ecosystem Services					
1.	Biodiversity	√	Rakhshandehroo et al. (2017) & Karuppannan et al. (2014)	√	Ratih & Febrianto (2016)	Environmental Sustainability
2.	Ecological Interconnections	√	Rakhshandehroo et al. (2017) & Karuppannan et al. (2014)	√	Rakhshandehroo et al. (2017) & Karuppannan et al. (2014)	
3.	Soil Fertility	x	-	x	-	
4.	Habitat	√	Rakhshandehroo et al. (2017) & Karuppannan et al. (2014)	√	Rakhshandehroo et al. (2017) & Karuppannan et al. (2014)	
	Regulating Ecosystem Services					
5.	Air Quality	√	Rakhshandehroo et al. (2017) & Razali et al. (2020)	√	Jayanti et al. (2020)	
6.	Noise Regulation	x	-	√	Watts et al. (2013); Veisten et al. (2012)	
7.	Extreme Weather Protection	√	Elsayed (2018) & Razali et al. (2020)	√	Ratnawati (2017); Wahdaniyat (2019); Iqbal & Jumiati (2019)	
8.	Water Quality Regulation	x	-	x	-	
9.	Climate Adaptation	√	Razali et al. (2020) & Elsayed (2018)	√	Wirayuda et al. (2023)	
10.	Pollination	x	-	x	-	
	Cultural Ecosystem Services					Social Sustainability
11.	Health	√	Mansor & Harun (2018); Hussain et al. (2016)	√	Dewi et al. (2018)	

12.	Sensory Experience	x	-	√	Dewi et al. (2018)	
13.	Social Interactions	x	-	√	Dewi et al. (2018)	
14.	Nature Pedagogic	x	-	√	Yuniastuti & Hasibuan (2019a, 2019b)	
15.	Symbolic and Spiritual	x	-	x	-	
	Provisioning Ecosystem Services					Economic Sustainability
16.	Food Production	√	Othman et al. (2018)	√	Ridwan et al. (2017)	
17.	Freshwater	x	-	x	-	
18.	Material	x	-	x	-	
19.	Energy	x	-	x	-	

Note: M: Malaysia; I: Indonesia
Source: Adapted from Mohamed et al. (2021)

2.5.2 Relevance of Green Open Space Implementation Towards Green City Development in Melaka and Padang

The implementation of GOS plays a vital role in advancing GCD by addressing the three pillars of sustainability: economic, social, and environmental. A comprehensive understanding of GOS's importance across these dimensions is crucial for shaping effective urban sustainability frameworks in both Melaka and Padang. This understanding directly influences the formulation of the GOS-GCCF, which includes strategies such as urbanisation management, community participation, and addressing financial constraints.

Economic Sustainability is also a major consideration, as GOS can generate economic benefits through tourism, job creation, and increased property values. In Melaka, for example, green spaces near heritage sites can attract tourists, contributing to the local economy. In Padang, GOS can help boost local businesses and attract investment in urban areas with green infrastructure.

Environmental Sustainability is at the core of GOS implementation, as green spaces contribute to maintaining biodiversity, mitigating urban heat island effects, and improving air and water quality. The preservation and expansion of GOS help restore natural ecosystems that have been disrupted by rapid urbanisation. In Melaka and Padang, green open spaces act as "lungs" for the city, providing essential environmental services that combat pollution and enhance climate resilience. By integrating green spaces into urban planning, both cities can promote ecological balance and ensure that future development aligns with environmental conservation goals.

Social Sustainability is equally critical, as GOS offers social benefits such as enhancing public health, fostering social cohesion, and providing recreational opportunities. Well-maintained green spaces improve the quality of life for residents, encouraging physical activities, mental well-being, and social interactions. In Melaka and Padang, GOS can help build stronger communities by providing accessible spaces where residents can engage in outdoor activities and social gatherings. Community participation is a key strategy for achieving social sustainability in GOS implementation. When local residents are involved in the planning, maintenance, and use of green spaces, it fosters a sense of ownership and strengthens community bonds. This participatory approach not only ensures that GOS meets the needs of different social groups but also contributes to long-term stewardship of these spaces.

In addition to these pillars of sustainability, urbanisation management and community participation are integral strategies for successful GOS implementation. The rapid urbanisation in both Melaka and Padang demands strategic land-use policies that incorporate green spaces into densely populated areas. Effective urbanisation management can prevent urban sprawl, protect green belts, and ensure that urban growth does not compromise environmental integrity.

Community participation, as a key strategy, involves engaging local residents in GOS projects to foster a sense of shared responsibility. Governments in both cities must actively involve communities through public awareness campaigns, participatory design processes, and volunteer initiatives. In doing so, they can ensure that GOS aligns with the needs and preferences of the population, thereby enhancing social sustainability and long-term engagement.

Lastly, addressing the financial constraints through alternative funding mechanisms allows for the expansion and maintenance of GOS without relying solely on government resources. Public-private partnerships, corporate investment, and community-led funding initiatives provide practical solutions for overcoming financial limitations while enhancing collaboration between public, private, and community stakeholders. However, financial constraints remain a challenge for both cities. To overcome this, innovative financial strategies is needed. These strategies ensure that GOS projects are financially viable and contribute to long-term economic growth without burdening local government budgets.

Therefore, the implementation of GOS in Melaka and Padang is a critical component of their green city development, ensuring balanced progress across economic, social, and environmental dimensions. By integrating urbanisation management, active community participation, and innovative financial strategies into the GOS-GCCF framework, these cities can promote sustainable urban growth that benefits the environment, the people, and the economy.

2.6 Urbanisation

Concerning the urbanisation impact on city greenery from theoretical LRs of global urbanisation, specific nations resembling Singapore with high population density and limited land and natural resources depict a highly-organised urban green space

mapping (Curien, 2017; Han, 2019). Notwithstanding, other countries resembling Indonesia and Malaysia with similar attributes demonstrate unorganised counterparts and smaller green areas (Alfatih et al., 2018; Endangsih et al., 2020; Ibrahim et al., 2017; Mansor et al., 2019). On another note, sub-Saharan Africa denotes high population density with limited green space (Azagew & Worku, 2020). Although urbanisation has not influence urban greenery despite notable urbanisation issues, optimal green area management is necessary for sustainable development (Zhong et al., 2020). Zhong and colleagues aimed to establish novel strategies to substitute conventional counterparts in assessing urbanisation quality based on urbanisation rate data (only entail population urbanisation or land utilisation rates) and multiple viewpoints using a multi-channel urbanisation index system.

Zhong et al.'s (2020) sustainable urbanisation index theory, which asserts the essentiality of urbanisation quality for sustainable development, serves to evaluate urbanisation quality towards sustainable development and justify the urbanisation-GCD correlation. The five dimensions (economic development, basic public service quality, ecological environment development, urban-rural heterogeneity, and population urbanisation) under the three sustainability pillars act as indicators to assess urbanisation quality towards sustainable urban development. The aforementioned dimensions must be regarded in the urbanisation planning and construction process to actualise sustainable development (Zhong et al., 2020). Large-scale urbanisation, which shapes 360º of the urban structure, results in rapid urban development following the population growth and human activities that depict incongruent (negative and positive) impacts on the city ecosystem and disorganise the urban structure (Curien, 2017; Han, 2019; Rachmansyah et al., 2019; Zhong et al., 2020). In line with Zhong et al.'s theory, well-structured population urbanisation denotes one of the most significant factors under urbanisation quality that affects sustainable development and relevant outcomes. Overall, well-organised population urbanisation was impacted by optimal administrative engagement.

Most past reviews from empirical literature perspectives affirmed that rapid urban population growth can lower total urban greenery performance (Haaland & Bosch, 2015; Ibrahim et al., 2017; Lubis et al., 2019; Murtini et al., 2020; Purnawan, 2019; Rasli et al., 2019; Zain et al., 2015). Notwithstanding, Brilhante and Klaas (2018) demonstrated that population size did not impact GCP. An assessment involving the green performance of 50 cities worldwide implied that the greenest cities and highest

GCP ranking belonged to large-population cities resembling London, Tokyo, Los Angles, and New York. Notably, urban green areas could be sustained and optimised even in high-density areas with high gross domestic product (GDP) and good governance, such as effective management and social planning. The role of a high administrative level in urbanisation pattern organisation could not be disregarded (Han, 2019; Zhong et al., 2020).

Enhanced engagement with sustainable city development from urban stakeholders (enterprise, social organisation, and the public) facilitates smooth urban management (Han, 2019; Li et al., 2018; Ojha et al., 2019; Singh, 2014), high quality of residential area management, improved economy, enlarged GOS, and optimal city nature quality through a well-structured urbanisation population (Rachmansyah et al., 2019). Urban stakeholder involvement in sustainable city development is deemed challenging as it requires complete support from high administrative levels, specifically in easing urbanisation planning and construction processes (Han, 2019; Zhong et al., 2020), through efficient green education among urban stakeholders and a high awareness level on the essentiality of their engagement (Ali et al., 2019; Azmi et al., 2017) with urbanisation development for high urbanisation quality. Thus, Zhong et al. (2020) established a multi-channel urbanisation index system in place of conventional approaches for every city and town by determining specific variations in the urbanisation quality index scores to assess urbanisation quality.

Three index scores were identified: high, medium, and low degree of urbanisation. A high degree of urbanisation denotes the highest quality while the low counterpart reflects the weakest quality. Implicitly, the score which constitutes part of the sustainable development agenda for high urban sustainability (economic, social, and environment) implies one of the indicators to assess the urbanization quality in a city (Zhong et al., 2020). An extremely low score denotes the complexities in establishing sustainable urbanisation, which disrupts the present urban sustainability performance following incompetent city stakeholders (particularly at high administrative levels) to operate economic, social, and environmental sectors amidst large-scale urbanisation (Zhong et al., 2020). This situation proves detrimental for sustainable urban development owing to inadequate contributions by multi-level urban stakeholders (Han, 2019). Summarily, a city with high sustainable urbanisation development reflects the highest score following minimal administrative intricacies for sustainable city development and sustenance and SDG achievement.

2.6.1 Relevance of Urbanisation to Study

Urbanisation plays a pivotal role in shaping the dynamics of green open space (GOS) and its management, especially in developing green cities like Melaka and Padang. Both cities have experienced significant urban growth, driven by population increases, economic development, and infrastructural expansion. This rapid urbanisation, as reflected in global trends, directly impacts the availability, quality, and sustainability of green spaces. While cities such as Singapore have successfully managed their limited land resources to optimise urban greenery, cities like Melaka and Padang face distinct challenges due to less organised urbanisation processes.

In line with Zhong et al.'s (2020) multi-channel urbanisation index system, the cities in this study must address key indicators such as population urbanisation, ecological environment development, and urban-rural heterogeneity to enhance their green city development frameworks. This study aims to explore how urbanisation trends in both Melaka and Padang influence the formulation of the Green Open Space-Green City Conceptual Framework (GOS-GCCF), identifying areas where urban expansion has hindered GOS optimisation. Additionally, the research examines the role of local government engagement in urbanisation quality, recognising that effective governance, social planning, and administrative strategies are essential in maintaining urban greenery amidst growing urban populations.

As Melaka and Padang continue to urbanise, understanding the correlation between urbanisation quality and green open space sustainability becomes crucial. This study draws on urbanisation theories to evaluate how each city's green development aligns with sustainable urbanisation, and how local strategies can be enhanced to meet the growing demands of urban residents without compromising environmental sustainability.

2.7 Local Government Financial Constraints

From a theoretical perspective, finance plays a critical role as a catalyst for sustainability (Scholtens, 2006). Ziolo et al. (2021) examined the relationship between finance and sustainable development through the sustainable finance and development goal indicators, highlighting a strong connection with the three pillars of sustainability—economic, social, and environmental sustainability (Houda & Lamia,

2016; Ziolo et al., 2021). These three dimensions are widely recognised as fundamental components of sustainable development, initially conceptualised by Barbier (1987) and later reinforced by Sunny et al. (2025), who argue that economic theories have significantly shaped modern sustainability frameworks by integrating financial mechanisms into sustainability planning. Furthermore, the financial-sustainable development relationship is formalised under the Sustainable Finance and SDGs Achievement Theory, which evaluates the current financial landscape using the EU sustainability taxonomy regulation (Ziolo et al., 2021). This theory, developed by Ziolo et al. (2021), provides a comprehensive framework to assess the impact of sustainable finance on achieving SDG targets, particularly in ensuring long-term economic resilience and sustainability-driven financial policies (Sunny et al., 2025).

Four sustainable finance model types that affect SDG optimisation were emphasised. Past literature highlighted the influence of finance source types on SDG. In this vein, Ziola and colleagues believe to have pioneered this research following its novelty and originality (Ziolo et al., 2021). Regardless, both sustainable finance model and finance source types are associated with three sustainability pillars (economic, social, and environmental), which promotes sustainable development (Gambetta et al., 2019; Houda & Lamia, 2016; Lee, 2020; Mohd & Kaushal, 2018; World Bank, 2003; Zhan et al., 2018; Ziolo et al., 2021) and green finance with a significant impact on the three aforementioned pillars (particularly economic sustainability) (Lee, 2020; Mohd & Kaushal, 2018) and minimises greenhouse gas emissions (Mohd & Kaushal, 2018) for high social and environmental sustainability. Green finance is frequently positioned as an independent variable to evaluate its correlation to sustainable development performance (Lee, 2020; Mohd & Kaushal, 2018).

Green finance monitors urban projects to ascertain whether they are funded by green financing or otherwise for sustainable development with sustainable economic and financial advancement (Mohd & Kaushal, 2018). The SDGs could not be attained without an appropriate finance model (Ziolo et al., 2021) and determining the innovative finance sources types that require practice to facilitate sustainable city development following the LG financial constraints (Zhan et al., 2018) in Malaysia and Indonesia (Alfatih et al., 2018; Bakar et al., 2016; Endangsih et al., 2020; Eriawan & Setiawati, 2017; Harahap, 2015; Hegazy et al., 2017; Koesoemawati & Sulistiyowati, 2018; Mansor et al., 2019; Rusadi et al., 2016; Rusli & Ludin, 2009). Research on both finance model and green finance employed the EU sustainability taxonomy regulation

to identify the association with sustainable development (Lee, 2020; Zhan et al., 2018; Ziolo et al., 2021). This global regulation is an initiative towards sustainable finance created in March 2002 (European Commission, 2002) to determine green or sustainable projects. Overall, Ziolo and colleagues Sustainable Finance and SDGs Theory elaborated on and affirmed the financial-sustainable development link from a novel viewpoint.

Regarding empirical LRs, the public sector primarily contracts the financing framework to generate financial source diversity and source out the money for sustainable development (Gambetta et al., 2019). As such, government bodies could not depend on conventional financial sources for project funding given that most current projects must comply with green standards for SDG achievement (Gambetta et al., 2019; Lee, 2020; Ziolo et al., 2021). Relevant government agencies must practice innovative finance with minimal reliance on conventional counterparts entailing bank loans, corporate bonds, and public-private rapport given the inadequate funding for sustainable city projects (Gambetta et al., 2019; Zhan et al., 2018).

Zhan et al. (2018) disclosed the primary success factors of two big-scale Chinese projects in sustainable urban development, Sino-Singapore Eco-City (SSTEC) and Shenzhen International Low-Carbon City (ILCC). The stakeholders diversified their funding sources by issuing bonds in the global market and ‘metro plus property’ with low reliance on financial assistance from the China central government. Regrettably, most emerging nations encounter complexities in their financial system following the inability to diversify their financial sources to fund sustainable development projects (Houda & Lamia, 2016; Mohd & Kaushal, 2018). Furthermore, their financial development substantially impacts environmental sustainability with no effects on sectoral investments and financial progress for economic sustainable development (Houda & Lamia, 2016). Innovative financing in emerging nations requires thorough examination as an effective GC-developing government incorporates innovative financial systems that wisely perform financial source diversification.

Table 2.6
Summary of Selected Empirical Studies on Local Government Financial Constraints and Green City

No	Authors/Year/Journal's Rank	Sample and Period	Research Objectives	The Importance of the Study	Reason for the Study	Methodology	Theory/Model	Findings	Future Studies
1.	Ziolo, Bak and Cheba (2021) Technological and Economic Development of Economy (Q2)	EU countries	To examine the link between sustainable finance and SDGs based on the European Union countries belonging to OECD.	The achievement of the 17 SDGs requires improved financial development	Unstable national finances have thwart SDG attainment	Economical and mathematical computations	EU sustainability taxonomy regulation	1) A highly sustainable finance model depicts optimal SDG achievement. 2) A strong link was identified between the sustainable finance model and the pillars of sustainability.	1) Further research proves necessary for a broader time perspective and a larger number of variables. 2) Analyses should be developed based on fuzzy cognitive methods following the data elicited from in-depth interviews
2.	Gambetta, Azadian, Hourcade and Reyes (2019)	Published reports, policy documents, and academic literature on financing mechanisms for sustainable	Explore the financing framework for sustainable development	A good financial framework has optimally constructed financial sources	Limited financial sources have delayed SDG achievement	LR: Content analysis	The UN financial instrument and SDG	Primary financing sources for sustainable development are located within the public sector of Uruguay, which accounted for weak	1) The means by which resources are allocated in other developing economies within Latin America and the extent to which all emerging economies encounter the same challenges in

	Sustainability (Q1)	development (2018)					financing towards sustainable development	allocating scarce resources towards SDGs should be examined. 2) Future studies should be conducted in one or more developed countries. 3) Novel financing instruments that might be suitable for emerging economies and how the private sector could facilitate this endeavour could be analysed. 4) The effectiveness of sustainable development financing instruments and their social implications must be evaluated.
3.	Zhan, de Jong and de Bruijn (2018)	20 people whose tasks were closely	Identify the financial toolkits that	Successfulness of sustainable urban	Conventional financial practices	Qualitative interview	Not mentioned	ILCC and SSTEC practised a financial model with low central	1) Other intricate issues should be thoroughly explored, including the

Sustainability (Q1)	related to SSTEC and ILCC projects (2015 -2016)	could be employed to fund sustainable (eco- and low-carbon) city construction	construction is influenced by creative financial sources	have failed sustainable city construction	government financing and support	choice of discount rates and information disclosure. 2) Environmental impacts should be duly regarded in computing return of investment (ROI).

Source: Researcher Analysis (2024)

2.7.1 Relevance of Local Government Financial Constraints to the Study

The financial constraints faced by local governments, particularly in Melaka and Padang, directly impact the implementation of sustainable urban development projects, including green open spaces (GOS). While theories such as Ziolo et al.'s (2021) Sustainable Finance and SDGs Theory demonstrate the importance of diversified financial sources for sustainable development, the practical application of these models in both cities faces challenges. Local government agencies in Melaka and Padang often have limited financial resources, which hinders their ability to fully implement green finance strategies, thus impacting their ability to meet the Sustainable Development Goals (SDGs).

In this study, the financial constraints of both local governments are examined in the context of developing the Green Open Space-Green City Conceptual Framework (GOS-GCCF). Sustainable finance is critical for the successful planning, development, and management of urban green spaces, but the ability of local governments to diversify their financial resources—through innovative funding mechanisms such as green bonds or public-private partnerships—remains limited. Both cities need to address these financial challenges to achieve their green city objectives.

This research highlights how the lack of financial resources has constrained the local governments' efforts to maintain and expand GOS, thereby affecting their green city status. The study further explores alternative financial models that can be adopted by Melaka and Padang to overcome these limitations, looking at successful case studies from other cities, such as the Sino-Singapore Eco-City, which diversified funding through bonds and global market financing. By relating these financial challenges to the broader sustainability framework, the study emphasises the need for innovative financing to support green urban development in both cities.

2.8 Community Participation

Regarding the theoretical literature reviews, Hubley (1990) defined community participation as a collective involvement in decision-making for public development projects, particularly those in close proximity to residential areas, to enhance long-term well-being. Similarly, Haldane et al. (2019) emphasised that community participation in the development, implementation, and evaluation of projects leads to increased

empowerment, better health outcomes, and stronger community resilience. Their systematic review highlights how inclusive engagement in planning processes fosters a sense of ownership and accountability, ultimately improving project effectiveness and sustainability. The Participatory Theory, a novel interdisciplinary approach integrated into the sustainable development context, has been selected to justify the essentiality of community participation in influencing Green City Development (GCD) project performance. This theory further supports the notion that community involvement strengthens governance structures by fostering interactions between stakeholders and the three pillars of sustainability—economic, social, and environmental—ensuring more holistic and equitable urban development (Ghiasi et al., 2015). This theory was elicited from the evolvement of other counterparts, such as Sherry Arnstein's Citizen Participation Ladder (SACPL) in 1969: one of the earliest developed community participation theories. In Bednarska-olejniczak et al. (2019), not all SACPL elements apply to sustainable cities despite its correlation to the participation theory. Sustainable cities could apply to all participatory theory components in line with SACPL while smart counterparts only related to one of the aspects: participatory decision-making (budget) (Bednarska-olejniczak et al., 2019). The elements that could induce project sustainability in this theory are participatory need assessment, participatory design and planning, participatory implementation, participatory monitoring and evaluation (Noori, 2017), and participatory decision-making (budget) (Bednarska-olejniczak et al., 2019). Citizen or public participation in sustainable urban development also promotes project and social sustainability through the participatory theory (Bouzguenda et al., 2019; Mahdavinejad & Amini, 2011). Summarily, community participation denotes one of the pivotal GCD components for sustainable development mission attainment (Alyafei, 2017; Bednarska-olejniczak et al., 2019; Mutanguha & Kamuhanda, 2021; Noori, 2017).

Concerning the empirical LRs, community participation implies a pre-condition for sustainable city attainment (Ghiasi et al., 2015). The participatory method strengthens community participation in the GCD project process (Alyafei, 2017; Bednarska-olejniczak et al., 2019; Mutanguha & Kamuhanda, 2021; Noori, 2017) and the phase at which the community should optimally engage in decision-making (Samadi & Rafatshahmari, 2017). Participatory methods could facilitate urban developers to sustain project sustainable development and achieve the development target in mitigating local urban community issues (Noori, 2017). Based on Noori (2017), the

participatory planning and design approach in phase one of community participation significantly impacts project sustainability. Despite the importance of promoting community participation in each city project at the preliminary stage towards project sustainability (Mutanguha & Kamuhanda, 2021; Noori, 2017; Ofuoku, 2011), Mahdavinejad and Amini (2011) implied that community participation should begin at the operation level (maintenance and repair phase) for early-stage community participation. Conversely, Bednarska-olejniczak et al. (2019) disclosed the participatory approach to substantially impact participatory budgeting in smart city development. The community participation in participatory budgeting elevates city stakeholders' (LG or city developer) transparency in management (Yvonne, 2010). Corruption in local sustainable urban development management hampers project efficiency and alleviates current sustainable development performance (Yvonne, 2010), and adversely impacts successful and sustainable urban development. In line with the 11th SDG, Sustainable Cities and Communities, community participation in Chinese GCD projects successfully reduces air pollution (Li et al., 2018). Thus, community participation in China substantially impacts SDGs by efficiently monitoring polluted air emissions with support from LGs and enterprises (Li et al., 2018) following Mischen et al. (2019) to enhance community sustainability through multi-level governance. The public community also affects sustainable urban planning with the innovative notions generated by local communities with high pertinence to local developmental requirements (Amado et al., 2009). Likewise, Alyafei (2017) implied that sustainable urban development could not be attained through community participation without meeting local community needs or preferences. Summarily, community participation should participate in the whole project cycle to improve project sustainability and attain sustainable development (Mutanguha & Kamuhanda, 2021).

Although past studies indicated a strong and explicit community participation - GCD link (Amado et al., 2009; Bouzguenda et al., 2019; Li et al., 2018; Mahdavinejad & Amini, 2011; Mischen et al., 2019; Mutanguha & Kamuhanda, 2021; Noori, 2017; Ofuoku, 2011; Samadi & Rafatshahmari, 2017; Yvonne, 2010), further research proves necessary from multiple perspectives, such as community participation to gauge other variables for generalisation and comprehensive knowledge contribution (Bednarska-olejniczak et al., 2019).

Table 2.7
Total Tree Cover in Malaysia and Indonesia Summary of Selected Empirical Studies on Community Participation and Green City

No.	Authors/Year/ Journal's Rank	Sample and Period	Research Objective	The Importance of the Study	Reason for the Study	Methodology	Theory/ Model	Finding	Future Studies
1.	Mutanguha and Kamuhanda (2021) European Journal of Social Sciences (quartile yet to be assigned)	383 Gahanga sector WaterAid project beneficiaries, including four key informants: sales executives of Gahanga sector, Kicukiro district, Rwanda.	Assess the community participation effect on sustainable development	The community participation in city projects increases project sustainability and sustainable development	Minimal local community involvement in the project life cycle and project instability fails targeted beneficiaries	Mixed method: descriptive design, questionnaire, interview, and SPSS	Participatory approach	Community participation significantly influenced PS, which led to sustainable development. The community participation should begin at the initiation phase to ensure sustainability attainment and enrich people's understanding	Not mentioned

2.	Bednarska-olejniczak et al. (2019) Sustainability (Q1)	Local community participation in sustainable city development strategies in the smart city implementation area	Analyse the role of public participation in the context of smart and sustainable city development	Public participation is one of the important elements in the decision-making process that improves the life quality of local urban communities	The paucity of study on public participation, particularly through participatory budgeting, in smart and sustainable city development should be managed.	Qualitative – (single-case study) observations, interviews, analyses of archival manuscripts, and other similar sources	Sherry Arnstein's Citizen Participation Ladder (local community Participation Approach)	Public participation is vital towards sustainable and smart city development, which leads to sustainable development. Sustainable city development entailed all theoretical levels of participation while smart city development activities primarily emphasised participatory decision-making (budget)	Needs multiple variables to support comprehensive outcome generalisation
3.	Mischen et al. (2019) Sustainability (Q1)	Identified 36 articles and books	Understand the impact of individual communities on global sustainability	Community sustainability evaluation through individual communities is a must to understand its impact on the	Community sustainability reflects minimal support from a multi-level governance	The usage of SLR on existing sustainability assessment systems using the snowball method	Community Sustainability Assessment System	Community sustainability required multi-level governance approaches	Not mentioned

	three sustainability pillars

Sources: Researcher Analysis

2.8.1 Relevance of Community Participation to the Study

In the context of this research, community participation refers specifically to the involvement of local residents, particularly park users, in the implementation of GOS projects as part of GCD initiatives. This study investigates how different strategies employed by the LG—whether traditional or new approaches—can enhance the participation of these residents. The goal is to understand the degree to which their engagement influences the effectiveness and sustainability of GOS projects in both Melaka and Padang.

Historically, LG have employed various methods to engage residents in urban projects, but the success of these strategies in fostering consistent and meaningful participation has varied. This study explores whether newer strategies are more successful in promoting deeper involvement of park users compared to older, established methods. By focusing on the park users' role, this research aims to assess whether community participation can be enhanced through innovative, inclusive strategies that better align with the local needs and aspirations, ultimately contributing to the broader goals of green city development in the two cities.

This focus aligns with the broader theoretical context of participatory approaches in urban development, which emphasize that successful green city initiatives depend not only on governmental planning but also on active resident participation. The findings will shed light on which participation strategies are most effective in fostering sustainable urban environments through green open space initiatives.

2.9 Research Gaps

This this study varies from past counterparts in several aspects. The following paragraphs thoroughly justify the variations in terms of theoretical, empirical, methodological, contextual, and practical gaps.

2.9.1 Theoretical Gap

The GOS is not clearly depicted as one of the core Malaysian GCCF elements for GCD (Jabatan Perancangan Bandar dan Desa Negeri Melaka, 2016; Krishnan et al.,

2014; KeTTHA, 2011, 2017) compared to the Indonesian counterpart, which distinctly outlines as their national and local sustainable development mission towards GCD [ADB, 2016; Hoff et al., 2016; Indonesia Ministry of Public Works, 2011; Kirmanto et al., 2012; BAPPENAS, 2015; Purnawan, 2019; Sudiar, 2020; Thrisyanti, 2019]. Regrettably, both nations failed to optimise urban greenery (Alfatih et al., 2018; Bakar et al., 2016; Eriawan & Setiawati, 2017; Hakim & Endangsih, 2020; Harahap, 2015; Ibrahim et al., 2017; Koesoemawati & Sulistiyowati, 2018; Mansor et al., 2019; Rusadi et al., 2016; Rusli & Ludin, 2009). This study aims to encompass the loophole by improving both the Malaysian and Indonesian GCCF by assessing GOS implementation.

This assessment is deemed essential for the urban scope constituting LGs to resolve the lack of green areas. It is deemed challenging to expand such areas without essentially interpreting the role of GOS in LG GCCF. The LGs and other urban stakeholders could employ the study outcomes for GOS policy re-development and improvement as part of the GCCF in alleviating the risk of limited urban greenery. Most past studies investigated the GOS-GCD connection with emphasis on human life quality and little attention on environmental life quality, including economic elements (Ajrina & Kustiwan, 2019; Chiesura, 2004; Dewi et al., 2018; El-khateeb, 2019; Hajmirsadeghi, 2012; Kruize et al., 2019; Lee & Kim, 2015; Pakina & Batkalova, 2018; Parker & Simpson, 2018; Rostami et al., 2013). Dewi et al. (2018) revealed that most urban Indonesian dwellers are unaware of the essential role of GOS for environmental health rather than merely human health. For example, specific urban communities in India are cognizant that open dumping areas undermine environmental and physical health quality and urge the government to expedite GOS implementation by adding more green spaces near dumping areas to alleviate the air and water pollution issues arising from garbage dumping despite not knowing the essentiality of GOS towards environmental health (Jagadisan, 2019). Most individuals fail to holistically comprehend the GOS implementation effects on environmental sustainability towards GCD. Human life quality must also be incorporated into environmental quality given the interdependence between people and nature (Dı´az et al., 2015), which is crucial for SUD (World Bank, 2003). Overall, the this study intends to bridge the existing gap by incorporating more parameters into the sustainability indicator with the GOS advantages on economic, social, and environmental elements in high GCD (El-khateeb, 2019; Kruize et al., 2019).

Furthermore, existing literature on GOS and SUD offers a range of frameworks and models for understanding the role of GOS in fostering environmental sustainability, economic growth, and social cohesion (Pereira et al., 2021). However, much of this research is either generalized to developed countries or lacks specificity when applied to emerging urban centers in Southeast Asia, such as Melaka, Malaysia, and Padang, Indonesia (Doe, 2023). Studies such as those by Nguyen et al. (2022) and Khan (2021) have explored the integration of GOS into urban planning but have not developed a region-specific framework that addresses local needs, government structures, and socio-environmental contexts. This leaves a theoretical gap in understanding how GOS can be effectively integrated into green city development in cities with unique characteristics like Melaka and Padang. In addressing this gap, this research formulates the GOS-GCCF, tailored to the specific urban and environmental conditions of these cities. This framework not only fills the theoretical void but also provides a comprehensive model that can guide further research on region-specific GOS strategies.

2.9.2 Empirical Gap

Urbanisation primarily instigates the decline of total urban greenery or GOS, which leads to GCD complexities (Haaland & Bosch, 2015; Ibrahim et al., 2017; Lubis et al., 2019; Murtini et al., 2020; Purnawan, 2019; Rasli et al., 2019; Zain et al., 2015). Nevertheless, Brilhante and Klass (2018) contended that urbanisation does not limit urban green areas, which could be sustained and enhanced even in high-density areas if a nation has high GDP, governance, management, and social planning (Brilhante & Klass, 2018). This outcome depicts variable-based inconsistencies and a gap that requires bridging (Ramli et al., 2019). Emerging nations also fail to diversify their financial sources towards GCD (Houda & Lamia, 2016; Mohd & Kaushal, 2018) with inadequate financial systems that could not support economic sustainability despite positive implications on environmental sustainability (Houda & Lamia, 2016). Although much research reflected a significant and explicit community participation-GCD correlation (Mutanguha & Kamuhanda, 2021), the lack of community participation in other variables (Bednarska-olejniczak et al., 2019) has motivated this study to bridge the current gap by incorporating community participation as a fundamental element in GOS implementation towards GCCD.

2.9.3 Methodology Gap

Previous research on sustainable urban development (SUD) and green open space (GOS) has predominantly focused on single-country contexts, often generalizing findings without considering the unique differences between countries in terms of governance, socio-economic conditions, and environmental challenges (Amalia et al., 2020; Dewi et al., 2018). This singular focus limits the broader applicability of these studies to diverse urban contexts, especially when attempting to formulate strategies for cities with distinct governance structures, such as Melaka in Malaysia and Padang in Indonesia. For example, studies by Amalia et al. (2020) and Dewi et al. (2018) emphasize green infrastructure and planning within the borders of a single country, without comparing the strategies, outcomes, and obstacles that may arise from differing national policies or regional governance. This creates a methodology gap in the existing literature, as cross-country comparative studies, especially in the context of Southeast Asia, are scarce.

This study addresses this gap by employing a cross-country comparative approach between Melaka and Padang, offering a more nuanced understanding of how local governments implement GOS strategies within the framework of SUD. By analysing two distinct urban environments, this research provides insights into how national and local policies, cultural factors, and environmental challenges influence the effectiveness of GOS initiatives across different countries. This methodological advancement allows for a deeper exploration of how localized factors impact the success of sustainability strategies in green city development.

2.9.4 Contextual Gap

The whole GCC application is tedious given that different regions require distinct approaches and practices (Brilhante & Klaas, 2018; El Ghorab & Shalaby, 2016) owing to urban heterogeneity on a global scale (ADB, 2015; Brilhante & Klaas, 2018). Each city depicts unique urban development trends that entail multiple spatial, cultural, environmental, social, and economic elements (Brilhante & Klaas, 2018). A comprehensive understanding of current urban conditions and preferences is pivotal to ensure GCD success following the paucity of research on (i) GOS for GCCD across Asia (Brilhante & Klaas, 2018), particularly Malaysian cities (Aziz et al., 2018) as well

as in Indonesia (Dollah & Rasmawarni, 2019; Fitri & Invanni, 2020; Irham et al., 2017; Mao et al., 2020; Rachmawati et al., 2020; Rahman & Zhang, 2018; Ratih & Febrianto, 2016) and (ii) GC policy on environmental quality (Bush, 2020; OECD, 2011) including the evaluations derived from cross-country study perspectives (Ali, 2017; Lee & Kim, 2015; OECD, 2011). Such studies could identify the most optimal green policy practices (OECD, 2011). Zhenjiang and Puteri's (2018) empirical work on other Asian nations implied that GCA has also diversify idea novelty for GCD in distinct areas.

Furthermore, Green open space (GOS) development in the context of sustainable urban planning has been extensively studied in various geographic and cultural settings, particularly in developed nations. However, there is limited research that addresses the specific local contexts of mid-sized Southeast Asian cities, such as Melaka and Padang, where socio-cultural, political, and environmental factors differ significantly from global or regional trends (Lee et al., 2022). While studies by Chen et al. (2021) and Halim et al. (2023) have highlighted the importance of GOS in promoting sustainability in Asian megacities, these findings often fail to capture the unique urban dynamics, governance structures, and environmental challenges that characterize smaller, historically significant cities like Melaka and Padang. These cities face distinct challenges, including rapid urbanization, preservation of heritage sites, and the need for inclusive urban development that respects local customs and lifestyles.

This research addresses the contextual gap by developing the Green Open Space-Green City Conceptual Framework (GOS-GCCF), specifically tailored to the unique characteristics of Melaka and Padang. This framework integrates local environmental conditions, governance practices, and socio-cultural factors into the strategic planning of GOS, providing a more nuanced understanding of how green city initiatives can be implemented in these diverse urban environments.

Summarily, this study could be performed between Malaysia and Indonesia to complement the current population requirements or contextual (as cross-country studies) and methodological gaps (as a multi-case studies).

2.9.5 Practical Gap

While several theoretical frameworks for green open space management exist, there remains a significant gap in the practical application of these frameworks, particularly in developing urban centers in Southeast Asia (Lim & Tan, 2023; Ahmad

et al., 2022). Local governments and urban planners often lack the tools and localized strategies needed to implement green city initiatives that align with broader sustainability goals (Zhou et al., 2023). Recent studies, such as those by Rahman et al. (2023) and Farid et al. (2022), have shown that while cities like Singapore and Seoul have successfully implemented GOS strategies, such approaches are not directly transferable to cities like Melaka and Padang due to differences in governance, infrastructure, and socio-economic factors.

The GOS-GCCF fills this practical gap by offering a framework that not only incorporates theoretical insights but is also designed to be directly applied by local policymakers in Melaka and Padang. The framework bridges the gap between theory and practice, providing actionable strategies for enhancing green spaces and supporting the long-term sustainability of these cities.

2.10 Theoretical Framework and Hypotheses

The following framework summarises the correlations between several essential elements to develop the question to be examined following discussions on selected theories and models. This study framework could be elicited from the theories and research objectives as mentioned in Chapter One. Essentially, the framework has been extracted from the ADB GCA, Brilhante and Klaas's (2018) HIS-GC model, and Chiesura's (2004) Urban Parks and City Sustainability theory together with other models and theories. The GCCD through national GOS implementation relies on a sound understanding of the vital GOS roles for GCD, urbanisation sustainability, LG financial stability, and community sustenance in line with the previously-mentioned LRs.

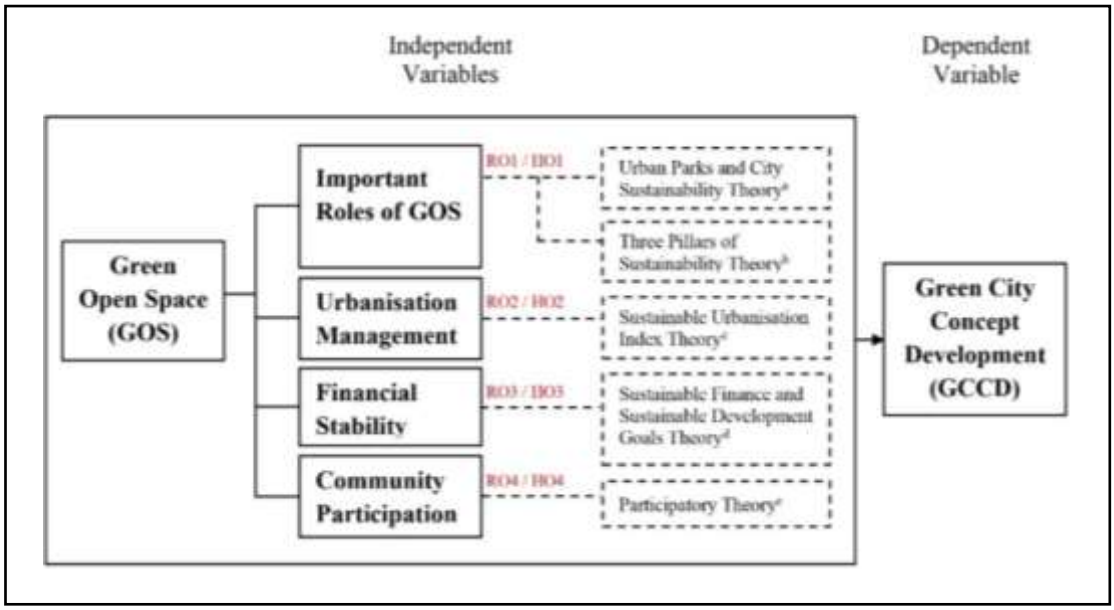

Figure 2.5 Theoretical Framework

Source: Adapted from Chiesura (2004)[a]; Barbier (1987)[b]; Zhong et al. (2020)[c]; Ziolo et al. (2021)[d]; and Bednarska-olejniczak et al. (2019)[d]

The first research objective or RO1 (refer to Figure 2.5) aims to examine the essentiality of GOS roles towards GCCD as inadequate GCCD was caused by low awareness of vital GOS roles (El-khateeb, 2019; Faragallah, 2018) for optimal human and ecological health. The GOS ability in generating four ecology service types enhances urban environmental health and sustainability towards GCD. As such, the first hypothesis is stated:

a) Hypothesis 1: A sound understanding of GOS important roles increases GCCD efficiency.

The second model framework (refer to RO2 in Figure 2.4) intends to determine LG management approaches to alleviate urbanisation intricacies as inadequate GCCD was caused by weak LG administration structuring in rapid urbanisation management. In Brilhante and Klass (2018), big-scale populations did not impact urban green performance, which resulted in minimal administration towards rapid urbanisation management and adverse implications on total urban greenery. As such, the second hypothesis is stated:

b) Hypothesis 2: Well-structured of urbanisation management based on current city urbanisation improves GOS towards GCCD.

The third research objective or RO3 aims to examine the reasons underlying financial complexities in GCD, such as inadequate GCCD owing to unstable financial sources for effective GOS implementation (Gambetta et al., 2019; Zhan et al., 2018). As Brilhante and Klass (2018) asserted that the greenest city in the world is located in developed nations, the third hypothesis is stated:

c) Hypothesis 3: Stable financial leads to total urban greenery through GOS implementation for GCCD.

Lastly, the fourth objective or RO4 aims to ascertain approaches that could increase community participation in GOS implementation as inadequate GCCD through GOS implementation was caused by low community sustainability (Bednarska-olejniczak et al., 2019; Mischen et al., 2019; Mutanguha & Kamuhanda, 2021). As such, the fourth hypothesis is stated:

d) Hypothesis 4: High community participation in the LG decision process improves GOS implementation efficiency towards GCCD.

Overall, four independent variables and one dependent counterpart have been incorporated into the theoretical framework parallel to past theories and models, that then has produced a very best practice to formulate the GOS-GCCF that suit for local context in both local governments as tackled the research objective number five, to formulate the GOS-GCCF based on local context of Melaka and Padang.

2.11 Theoretical and Practical Contributions to SDG 11

The literature review establishes a strong connection between Green Open Space (GOS) and Green City Concept Development (GCCD), reinforcing SDG 11: Sustainable Cities and Communities, which advocates for inclusive, safe, resilient, and sustainable urbanisation. The integration of theoretical frameworks and empirical studies in this chapter highlights the importance of GOS as a core component of sustainable urban development. Specifically, the ADB-GCAP framework and national green city programmes—such as P2KH in Indonesia and LCCF in Malaysia—

demonstrate how regional and global sustainability strategies align with SDG 11. These frameworks emphasise the necessity of strategic urban planning, environmental conservation, and community participation to enhance urban resilience. By analysing existing theoretical gaps, this study contributes to the refinement of urban sustainability models by integrating GOS management into city planning, directly addressing Target 11.6 of SDG 11, which seeks to "reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management." The analysis in this chapter further underscores the need for improved green infrastructure policies that support biodiversity conservation, pollution reduction, and climate resilience, ensuring that cities effectively implement sustainable practices in line with SDG 11's objectives.

Additionally, this study incorporates theoretical perspectives such as the Three Pillars of Sustainability and the Sustainable Urbanisation Index, which provide a comprehensive framework for evaluating GOS implementation within urban settings. The integration of these theories into GOS-GCCF (Green Open Space-Green City Conceptual Framework) strengthens its alignment with SDG 11, particularly in promoting equitable access to urban green spaces and fostering participatory urban governance. The empirical gaps identified in this chapter reveal the pressing need for financial stability strategies and participatory approaches in GOS implementation. This aligns with Target 11.a of SDG 11, which promotes "positive economic, social, and environmental links between urban, peri-urban, and rural areas by strengthening national and regional development planning." Addressing these gaps ensures that urban sustainability efforts are financially viable, socially inclusive, and environmentally sustainable. By critically examining policy gaps, governance challenges, and financial constraints in GOS implementation, this study offers practical recommendations for enhancing SDG 11's impact at both local and national levels. The findings presented in this chapter reinforce the necessity of integrated urban planning and cross-sectoral collaboration, ensuring that cities become more sustainable, livable, and resilient in the long term.

2.12 Contribution of the Study

This study contributes theoretically by developing a Green Open Space (GOS) implementation framework specific to the Malaysian and Indonesian contexts,

highlighting its role in Green City Development (GCD). Empirically, it provides valuable comparative insights into how local governance and urbanisation shape GOS effectiveness. Methodologically, the research employs rigorous qualitative analysis techniques, offering a replicable approach for future cross-country studies. Contextually, the study addresses unique socio-political and environmental conditions in both nations, filling a significant gap in the literature. Practically, it delivers actionable recommendations for local governments to enhance GOS implementation aligned with sustainable urban development goals.

2.12.1 Theoretical Contribution

This study offers a significant theoretical contribution by developing and refining the theory of GOS implementation in relation to Green City Development (GCD). By focusing on the Malaysian and Indonesian contexts, the study provides a framework that integrates localised needs and characteristics. It challenges the assumption that GOS primarily serves environmental purposes by demonstrating its importance across economic and social dimensions of sustainability. The GCC framework in this research enriches existing theoretical models by showing how urbanisation management, local policies, and public engagement can directly influence GOS optimisation. This theory contributes to both the global and regional body of knowledge on GOS implementation, creating a foundation for future studies to explore adaptive strategies in different contexts.

2.12.2 Empirical Contribution

The empirical contribution of this research lies in its cross-country comparative analysis between Malaysia and Indonesia. By investigating GOS implementation through the lens of local needs, the study provides empirical evidence on how GOS policies can be adapted to different urban and environmental conditions. This comparative approach offers valuable insights into the practicalities of applying GOS strategies in various socio-economic and political landscapes. The findings help policymakers to assess which strategies may be transferable and which require modifications. The study also empirically illustrates the role of local governance in

facilitating or hindering GOS effectiveness, filling an existing gap in the literature concerning the intersection of urban management and green infrastructure.

2.12.3 Methodology Contribution

Methodologically, this study contributes by applying a comprehensive combination of qualitative approaches, including thematic analysis, pattern matching, constant comparative analysis, and cross-country comparison. This mixed qualitative approach provides a rigorous methodology for analysing GOS implementation strategies, allowing for a more nuanced understanding of context-specific variations. Additionally, by focusing on both Malaysian and Indonesian cities, the study demonstrates how qualitative comparative analysis can be employed effectively in cross-country research. The development of a robust data collection and analysis framework that considers local government policies and public perspectives offers a replicable model for future research in other regions or countries, particularly those with similar socio-political and environmental contexts.

2.12.4 Contextual Contribution

This study offers a contextual contribution by providing insights into the unique socio-political and environmental contexts of Malaysia and Indonesia. The research fills a contextual gap by examining the localised impacts of GOS implementation in these countries, highlighting how cultural, governance, and environmental factors interact with GOS strategies. The study acknowledges that both countries face different governance challenges, financial constraints, and urban development patterns, which in turn shape the effectiveness of GOS implementation. By addressing these contextual elements, the research provides a framework that is adaptable to specific local circumstances, thus contributing to the ongoing discourse on how GOS can be leveraged for Green City Development in developing countries. This localised focus enables the study to provide more targeted recommendations and strategies that reflect the reality on the ground, offering a richer understanding of GOS challenges and opportunities in diverse settings.

2.12.5 Practical Contribution

On a practical level, this study provides concrete recommendations for improving GOS implementation in both Malaysia and Indonesia. The research highlights the need for policymakers to focus on locally relevant strategies that reflect the unique socio-economic and environmental conditions of each area. By identifying both the benefits and limitations of current GOS practices, the study offers practical guidelines for enhancing green space management and ensuring its alignment with GCD goals. The findings also stress the importance of urban population management and public engagement in accelerating GCD processes, offering actionable steps for local governments to optimise their financial and environmental resources. These practical contributions are expected to inform policy development and implementation, providing a reference for local governments seeking to enhance their green city initiatives.

2.13 Chapter Summary

This chapter examined relevant research on GCC and GOS, including both Malaysian and Indonesian government policy practices. Theories and models on GOS implementation for GCD through urbanisation, LG financing, and community participation were also outlined to establish a robust study framework and develop hypotheses. Additionally, diverse gaps important for the creation of the GOS-GCCF for Melaka and Padang were identified.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

Research methodology implies a structured mechanism that resolves specific intricacies with a sound understanding of on study methodology approaches (Rajasekar et al., 2013). This chapter outlines 10 sections, including the research method types and data evaluation, followed by descriptions of how different data collection methods could be employed to manage the GOS implementation-GCCD link. A cross-country comparative case study approach has been utilised to explore the GOS implementation-GCCD relationship with four components such as GOS role, urbanisation management, financial stability, and community participation to elicit a sound comprehension of qualitative approaches. Relevant issues and an overview of the research questions, including research design and study approach justifications, are duly reviewed.

3.2 Review of the Problem and Guiding Research Questions

This study is associated with GOS and GCCD in local Malaysian and Indonesian government settings given the lack of a concrete framework that complements local requirements following past research (see Chapter Two). A collection of methods or protocols has been offered to attain the primary study objective and acquire pivotal insights into ‘what is going on’ rather than ‘what caused this’ based-on LG GOS implementation using four main elements for GCCD: an understanding of GOS roles on GCCD, optimal administration of urbanisation management, financial stability, and active community participation. Essentially, the aforementioned components have been associated with the GOS-GCCD connection (see Chapter Two). The study outcomes could empirically facilitate robust framework and GOS implementation model development for GCCD to complement local requirements in the local Malaysian and Indonesian government contexts. In this vein, the study approach serves to derive information from meticulously-selected LG officers and residents to elicit pertinent notions and knowledge in addressing the previously-mentioned complexities.

3.3 Worldwide Philosophy

As a fundamental set of beliefs that motivate an individual's action performance, worldview philosophy is shaped by specific factors: student discipline, belief in supervision and faculty in past experience, and the field of students themselves (Creswell & Creswell, 2018). The four belief types employed by scholars worldwide (post-positivism, constructivism, advocacy, and pragmatism) has affect the empirical selection and prescription of relevant study techniques for qualitative, quantitative, or mixed-method approaches (Creswell & Creswell, 2018). A qualitative study approach, which entails the nature of social constructivism, and a constructivist view has been incorporated into this research. In Grix (2002, p. 177), constructionism denotes *"an ontological position which asserts that social phenomena and their meaning are continually being accomplished by social actors".* This proposal emphasises the interaction between GOS implementation by the LG towards GCCD following past literature. Urban stakeholders' (LG and residents) engagement with the environment functions to rejuvenate natural environments within urban areas (a social constructivism component). Hence, this research has explore constructivist notions where reality implies a social construction that could acknowledge multiple viewpoints and interpretations from distinct individuals and groups (McQueen, 2002; Willis, 2007). Perceivably, the philosophy traits denote an excellent fit for the study given its intention to understand a specific context: urban dwellers' backgrounds and life experiences (Creswell & Creswell, 2018).

3.3.1 Social Constructivism

Social constructivism depicts an occurrence through an individual's life experience and works in comprehending reality (a specific object or entity) through subjective connotations (Creswell & Creswell, 2018). In Creswell and Creswell (2018), the diversity of subjective meanings enables the researcher to observe the intricacies entailing a viewpoint. The issues that have been evoked in this study context remain underexplored (see Chapter Two) to justify the study performance. Hence, this research proves essential in deriving responses from the participants engaged in GOS implementation for GCD. From a global philosophical viewpoint, every perception of human knowledge has been rejected as social constructivism believes that people's

interaction with the world has create truth and meaning, which do not exist arbitrarily in the outside world (Gray, 2017). Truth and meaning are not discovered but constructed through a selected subject where people has developed distinct truths and connotations despite experiencing the same phenomenon. Based on the aforementioned elements, constructivism could be adequately incorporated into the study as each subject (individual) varies based on different experiences which are impacted by various internal and external aspects, such as satisfaction level based on provided service. The researcher has observed the nature of this study setting through LG GOS implementation for GC status attainment and local residents as consumers. Both parties have subsequently collaborated towards optimal GCCD. Thus, a sound understanding of their awareness, opinions, and experiences of GOS implementation for GCCD impacts GCD in their city.

3.4 Research Design

Research design encompasses a structured study protocol that navigates data collection and analysis (Bryman, 2012). A case study design, which is typically employed in qualitative research and permits the researcher to draw connections between multiple variables (Abidin, 2016), has facilitate data gathering using multiple sources: documents, archival records, interviews, observations, and artefacts (Othman, 2018). The qualitative technique has been selected to examine the important roles of the GOS implementation by LGs of Melaka and Padang towards GCCD together with the identification of local government's strategies manage GOS based on current city urbanisation condition followed by local government's strategies to stabilize their financial in finance their GOS management and maintenance expenses, their strategies to engage the community in GOS implementation and with the all integration (important roles of GOS, urbanisation management, financial stability and community participation) GOS-GCCF has been formulated at the end of the study. The interviews conducted in this study serve to outline the GCCD phenomenon through the implementation of GOS. The relationship between GOS and GCCD has been examined by assessing the roles of GOS, urbanisation management, financial stability, and community participation. A comparative case study approach was employed to provide a comprehensive and context-specific understanding of these dynamics, ensuring that

findings reflect the complexities of urban sustainability across different national contexts.

This research approach has yielded concrete empirical evidence, producing robust and generalizable insights, as highlighted in case study research (Yin, 1989). More recently, Viera (2023) reinforced the significance of comparative case study methodology, particularly in urban studies, by emphasising its capacity to provide a holistic understanding of complex urban systems and their interrelated factors. The multi-dimensional analysis offered by comparative case studies further enhances theoretical contributions, allowing researchers to identify patterns and generate practical recommendations applicable to different cities. As noted by Berg (2001), case study research enables a deeper theoretical analysis by integrating qualitative insights from different sources, which strengthens the interpretation of findings in a broader research context. This approach ensures that findings are not only empirically grounded but also applicable across various policy and governance contexts, strengthening urban sustainability frameworks.

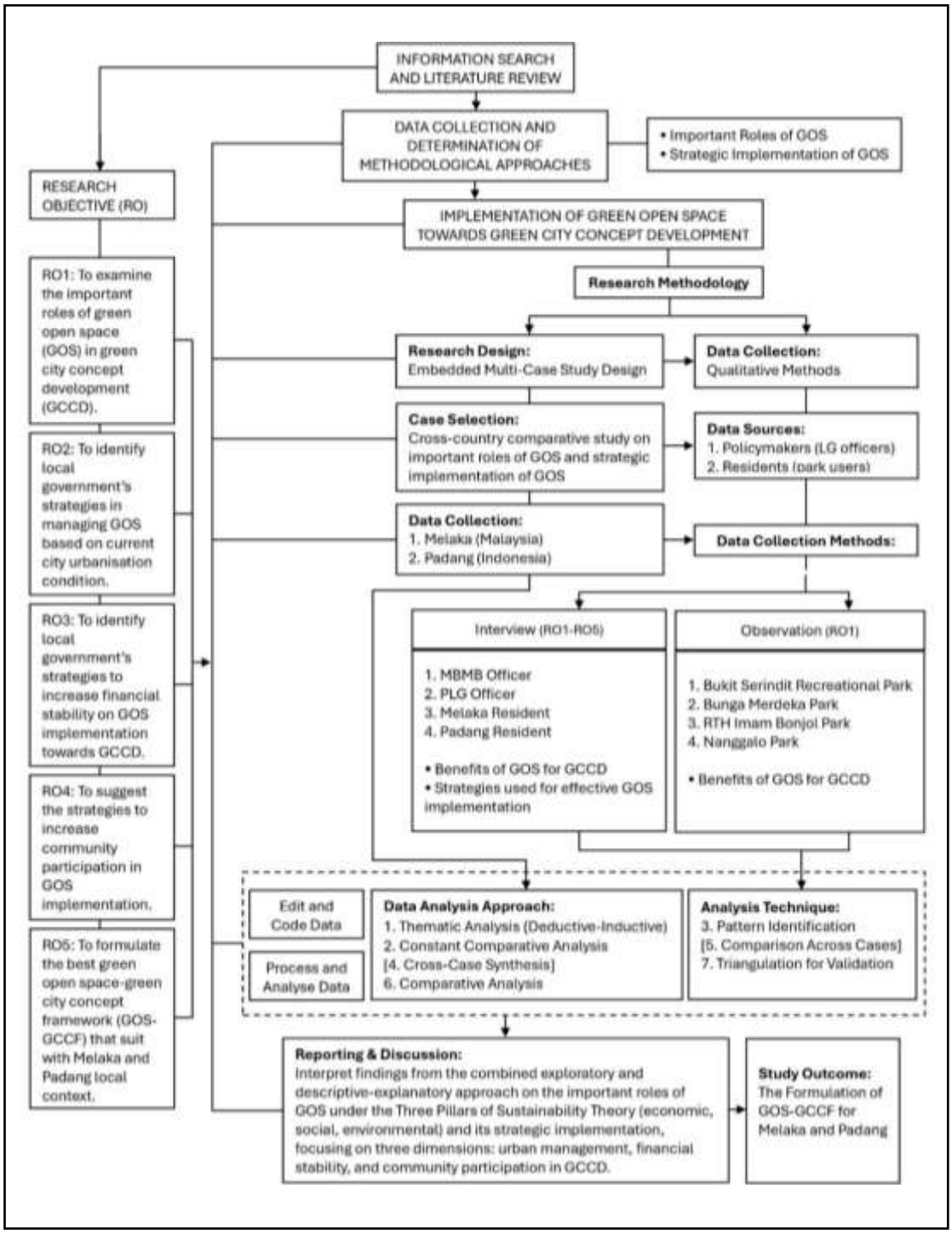

Figure 3.1 Flowchart of Research Design

In addition the interpretation of the data for this study has used combined of exploratory and descriptive-explanatory approach in order to explore the important role of GOS and the local government old strategies or new strategies in implementing GOS towards GCD together with in-depth description and explanation on ability of GOS bring benefits to GCD as well as in-depth description-explanatory of strategies on urban

management of GOS in urban areas, strategies on stabilize the local government financial follow by strategies to increase community participation in GOS implementation that then can support the hypotheses of the study. Although this study is not about testing the relationship quantitatively but more to assisted and supported the researcher in creating an assumption on findings and well understanding the theories that related with the important roles of GOS and strategies of local government in well implement GOS towards GCCD. The more explanation of research design as per below with the attachment of flowchart of research design (Refer to Figure 3.1) for expedite reading in understanding the overall of this research strategies.

3.4.1 Rationale for Incorporating Hypotheses in Qualitative Methodologies

Although qualitative research traditionally leans toward inductive approaches—building theories from data rather than testing predefined hypotheses—there are growing arguments supporting the use of hypotheses in specific qualitative contexts. This incorporation can guide exploratory investigations, especially when dealing with complex social phenomena that require some prior theoretical framing.

The rationale for incorporating hypotheses in qualitative methodologies stems from the need to focus the inquiry and provide a structured lens through which to explore data. In exploratory sequential designs, for instance, hypotheses can evolve as tentative statements derived from initial qualitative findings, which are later tested or elaborated through further qualitative or quantitative investigation (Creswell, 2014). The hypotheses in this context serve to explore connections, trends, or themes, functioning more as ‘guiding propositions’ rather than rigid, testable predictions as used in quantitative studies (Pilcher & Cortazzi, 2024; Yadav, 2022).

Recent studies also highlight how qualitative researchers can use hypotheses to enhance the clarity of their research questions. Hypotheses offer a targeted inquiry that encourages the researcher to examine specific phenomena within established theoretical frameworks, which can be especially useful in fields like social sciences or mixed-methods research (Pilcher & Cortazzi, 2023). This approach aligns with practices in some disciplines where qualitative and quantitative methods are seen as complementary rather than opposing forces, fostering a more holistic view of the research subject (Guba & Lincoln, 1994; Chafe, 2024). As Chafe (2024) argues, the evolution of qualitative research paradigms has led to more fluid methodological approaches, where the rigid

distinctions between positivist and constructivist frameworks have become less pronounced. This shift enables qualitative researchers to incorporate structured elements like hypotheses without compromising the depth and interpretive nature of their inquiries, ultimately contributing to a richer understanding of complex social phenomena.

However, incorporating hypotheses in qualitative methodologies requires careful consideration to avoid restricting the openness of qualitative inquiry. Rather than verifying a hypothesis, qualitative studies with hypotheses aim to explore its nuances, enriching the theoretical understanding of the phenomenon under investigation (Pilcher & Cortazzi, 2023).

3.4.2 Perspective of Cross-Country Comparative Multi-Case Studies

Goodrick (2014, p. 1) denotes that *"a case study is an in-depth examination, often undertaken over time, of a single case – such as a policy, programme, intervention site, implementation process or participant. Comparative case studies cover two or more cases in a way that produces more generalisable knowledge about causal questions: how and why particular programmes or policies work or fail to work"*. The researcher's selection of a cross-country comparative multi-case studies is briefly explained in this section. Several studies have supported the reason underlying this method selection (Goodrick, 2014; Hantrais, 2000; Kantor & Savitch, 2005; Krehl & Weck, 2020; Nadin & Stead, 2013; Pierre, 2005). The researcher has divided the approach into 'comparative research' and 'multi-case study' for further elaboration and readers' convenience.

3.4.2.1 Embedded Multi-Case Study Research Design

The case study approach has been selected in this cross-country comparative analysis given its adequacy in the sociological field, including urbanisation-oriented disciplines following (Othman, 2018). Case studies imply a small number of subjects selected by the researcher as target study scopes. The GOS located within the LG administrative areas in the cities of Melaka and Padang has been selected as the research subject. As such, the research scope has been the GOS implementation by LGs to be comparatively analysed based on two distinct countries: Malaysia and Indonesia. A case

study denotes an inquiry strategy: a design or model that consists of qualitative, quantitative, or mixed-method methods (Creswell & Creswell, 2018). Specifically, this approach has listed the particular protocols required by the researcher based on the specified study design. Inquiry strategies also constitute multiple approaches and methods. In qualitative research methods, the employed techniques involve narrative study, case study, phenomenological study, ethnography, and basic theory (Creswell & Creswell, 2018). The researcher utilises a case study approach in this research, which has been thoroughly outlined in the following sections.

A case study is deemed appropriate for qualitative scholars who intend to examine real-life cases over time through various information sources using in-depth data gathering (Baškarada, 2014; Baxter & Jack, 2015). In Baxter and Jack (2015), a case study design is selected as it emphasises the research question forms ('how' and 'why') employed by scholars. Furthermore, case studies are selected when exploring non-manipulative behaviours. Baxter and Jack (2015) implied that the case study method is utilised following the phenomenon type or in the presence of ambiguities in the phenomenon-context boundary.

In Baškarada (2014), researchers who empirically employ the case study method must first regard what is common and otherwise concerning the case from several elements: nature of the case, historical background, physical setting, and institutional and political contextual factors. A case has been developed through the researcher's interaction with the respondent, presented to the readers, and collaborate in disclosing the outcomes. This study has employed the case study method to examine the issues associated with GOS implementation and GCCD through different and similar perspectives and experiences from two LGs and four Malaysian and Indonesian GOS. In this vein, the researcher could draw connections between GOS implementation and GCCD using four determinants:

a) Important roles of GOS in GCCD based on Three Pillars of Sustainability Theory (economic, social, and environmental)
b) Urbanisation management based on current city urbanisation in implementing GOS
c) Local government financial stability
d) Community participation

At the end of the study, the researcher formulated the Green Open Space-Green City Conceptual Framework (GOS-GCCF) based on the local contexts of both cities, fulfilling the fifth research objective. Creswell and Creswell (2018) categorised case studies into single instrumental, multiple or collective, and intrinsic case studies, while Yin (1984) highlighted the use of both multiple and single case study approaches. More recently, Viera (2023) has reinforced the significance of case study methodology, particularly in capturing complex real-world phenomena within different contextual settings. In this study, a multi-case study approach involving two local governments and four GOS areas in Malaysia and Indonesia was selected to address the research objective effectively.

This research design was chosen due to its ability to reveal both differences and similarities between two distinct national contexts while ensuring a high level of generalisability (Sun, 2015). A multi-case study approach enables researchers to conduct broader analyses, facilitating a deeper understanding of the phenomenon under investigation by identifying key patterns, similarities, and differences across various settings. According to Viera (2023), employing multiple case studies strengthens the research process by allowing cross-case comparisons, thereby improving the robustness of findings and contributing to theory development. This approach is particularly valuable in exploring complex issues, where a single case study may not provide sufficient empirical evidence for comprehensive conclusions. As supported by Hunziker and Blankenagel (2021), multiple case studies offer a structured way to conduct comparative analyses, leading to theoretical advancements through systematic cross-case exploration.

Both Malaysian and Indonesian contexts function as a pair of novel cases that significantly vary from one another. As the current GCCD policies and practices are extensively developed by contextual factors and with multiple appearances in both nations, it is deemed favourable to employ case studies as a means of examining the different GOS implementation forms depicted in the GCCD and Malaysian and Indonesian policies and practices. Likewise, Berg (2001) conceded that the collective or comparative case study design could enhance the understanding and ability to broadly observe the theoretical setting. The four GOS areas managed by the LGs of Malaysia (Melaka City) and Indonesia (Padang City) has been collectively compared for the researcher to comprehend the GOS implementation-GCCD connection in both countries with more confidence compared to only examining one country or region.

A comparative case study has been selected to enhance the researcher's understanding involving the key determinants of GOS implementation for GCCD at the local (Malaysian and Indonesian) government level given the nature of the comparative case study design that promotes richness, depth, and complexity in outlining the research objective. This study emphasises four primary components: the GOS role on GCCD, urbanisation management, financial stability, and active community participation. Several GOS implementation frameworks have been examined in existing GCCD across Malaysia and Indonesia to understand the four aforementioned components. To the researcher could also strengthen all the empirical arguments provided in the previous LR.

Four GOS areas (two in Malaysia encompassing Bukit Serindit Recreational Park and Bunga Merdeka Park and two in Indonesia encompassing RTH Imam Bonjol Park and Nanggalo Park) under the LG supervision in Melaka and Padang has been selected to holistically comprehend the GOS implementation framework in local contexts as each area is unique and must be cautiously regarded for successful urban project implementation based on local tastes and attributes. The researcher could determine the most optimal practices to be applied with comparative analysis. Four GOS areas has been chosen as case studies to justify specific attributes, such as the differences, similarities, weaknesses, strengths, or uniqueness of local aspects when compared between two different nations. Such elements have subsequently be employed to structure a local framework to guide and ensure that the GOS implementation parallels the local GCC. In this vein, a GC could be developed through GOS implementation based on local tastes and needs. The four GOS areas are situated amidst busy urban areas and surrounded by dense urban settlements that influence and are impacted by the four aforementioned components, particularly in understanding the GOS role towards GCCD, urbanisation management, financial stability, and active community participation.

3.4.2.2 Cross-Country Comparative Case Studies

In Goodrick (2014, p. 1), *"comparative case studies involve the analysis and synthesis of the similarities, differences and patterns across two or more cases that share a common focus or goal"*. Thus, the researcher has utilise the cross-country comparative case study analysis to examine the differences and similarities in GOS

implementation in city centres or urban areas for GCCD in Malaysia and Indonesia. Hantrais (2000) affirmed that cross-country comparative research is typically employed by social science scholars to perceive and comprehend social process operations across various nations by seeking optimal practices in various countries. Comparative studies could be adequately practised as an empirical approach in urban and regional research (Krehl & Weck, 2020) parallel to Pierre (2005, p. 449) where this research type is the *"most rewarding research strategy…for uncovering causal patterns of explanation"*. Comparative research has enable researchers to observe the 'routes' of different regions or nations to be internalised using the convergence and divergence patterns identified along the aforementioned 'routes' (Kantor & Savitch, 2005; Nadin & Stead, 2013). This research type is rendered necessary with importance in policy implementation so that policymakers could obtain feedback on alternative policy approaches from scholars amidst repeated social intricacies (Krehl & Weck, 2020). Regional or national policies are established based on novel variances and similarities. Such areas must be comparatively assessed following the essentiality of a policy itself (Krehl & Weck, 2020).

British philosopher J.S. Mill identified two fundamental design strategies ['Most Similar Systems Design' (MSSD) and 'Most Different Systems Design' (MDSD)] to compare sample countries in his book published in 1843 entitled "A System of Logic" (Lor, 2011). The MDSD strategy has been incorporated in this study as both Malaysia and Indonesia share the same mission (GC status attainment by 2036) and collectively establish a GCC master plan, including the GOS green programme through the CMGF of the 2012 IMT-GT meeting despite substantial variances in terms of economic levels and national governance system types. Notably, Malaysia and Indonesia have been chosen through MDSD for cross-country comparative assessment.

In (Saei, 2013), a comparative analysis could be performed in three ways: quantitative or variable-oriented, qualitative or case-oriented, or fuzzy comparative analysis or collection-oriented. Quantitative research significantly differs from qualitative studies on a global scale where only one nation or a small number of countries are studied in recent comparative works (Lor, 2011). This study has employed case-oriented qualitative comparative analysis with semi-structured interviews as primary data collection to understand the GOS implementation for GCCD in local Malaysian and Indonesian governments. This comparison has been classified into three primary sections. First, the context of both nations is introduced and compared at the

national level in terms of geographical and demographical features, LG setup, and social and economic aspects as a brief overview through the LRs in Chapters One and Two. The study focus has then been shifted to the state level. Presenting the history of the GCCD involving both cities (including GOS implementation) depicts how GCCD and GOS master plans or policies, including the justification of several GCCD and GOS theories from past literature, have been established by authorities (see Chapter Two). In the third part, the comparison has been performed by exploring the occurrence of two GOS implementations at the city level through primary data analysis through semi-structured interviews.

3.4.3 Exploratory and Descriptive-Explanatory Approaches

In this research, a combination of exploratory and descriptive-explanatory approaches was employed to examine the roles of green open spaces (GOS) in green city development, particularly across two case study cities: Melaka (Malaysia) and Padang (Indonesia). These approaches were necessary due to the complexity and multifaceted nature of the research, which involved both discovering new insights and explaining the relationships between existing patterns in data.

3.4.3.1 Exploratory Approach

The exploratory approach was essential in the early stages of this research, particularly when seeking to identify the critical roles of GOS in green city development. As this area of study has limited literature, the exploratory method allowed for flexibility in the research design and the discovery of new themes during the data collection process. Semi-structured interviews with local government officials and residents who use urban parks enabled the identification of various themes related to sustainability.

For instance, during the fieldwork, exploratory interviews revealed 13 key themes that shed light on the importance of GOS, which had not been fully explored in previous studies. These included economic themes such as generating resident income, social aspects like strengthening physical fitness, and environmental roles such as restoring urban biodiversity. The exploratory approach was vital in uncovering these roles, which are crucial for developing sustainable urban policies.

Supported by Robson (2002), he argues that exploratory approaches are most suitable when research areas are underdeveloped or when existing knowledge is insufficient to form clear hypotheses at the outset. This was especially relevant to the GOS and sustainability nexus, where prior research had not comprehensively covered these emerging patterns.

3.4.3.2 Descriptive-Explanatory Approach

As the research progressed, a descriptive-explanatory approach was applied to provide deeper insights into the identified themes and to explain the relationships between various roles of GOS and the pillars of sustainability. This approach was particularly relevant in testing the hypotheses formulated for Research Objective 1, which sought to understand how green open spaces contribute to economic, social, and environmental sustainability. For example, after identifying the theme of generating resident income under economic sustainability, descriptive analysis further explained the mechanisms through which local residents economically benefit from green open spaces, such as small-scale businesses operating within park areas. The explanatory aspect was utilised to understand how these economic activities contribute to the broader green city development agenda.

Similarly, the theme of strengthening physical fitness was explained in the context of social sustainability. This theme highlighted how urban parks serve as community hubs, where physical activities like jogging and group exercises promote health and well-being. The data from both Melaka and Padang revealed a significant social impact of GOS, particularly in improving residents' physical health, which aligns with the findings of previous studies (Chiesura, 2004). Yin (2018) emphasises that descriptive-explanatory approaches are particularly useful in case study research where patterns must not only be identified but also explained within their contextual settings. In this study, the explanatory approach was key to linking GOS roles to green city development under the sustainability framework.

This combination of exploratory and descriptive-explanatory approaches allowed for a robust understanding of the roles of green open spaces in urban sustainability. The flexibility of the exploratory approach provided a foundation for discovering themes, while the descriptive-explanatory method helped to explain the

intricate relationships between GOS roles and sustainability pillars in the context of Melaka and Padang.

3.4.4 Qualitative Research

Qualitative research excludes counting or quantifying empirical material components. Snape and Spencer (2003) asserted that qualitative studies aim to acquire a holistic and in-depth comprehension of the social reality from the study informants' participation by internalising their experiences, perspectives, and background through social and material circumstances. In this vein, qualitative research could address the this study questions (Cohen et al., 2017; Dawson, 2002) with cautiously-examined justifications and elaborations (Dawson, 2002; Silverman, 2017) to comprehensively explore individual attitudes, behaviours, and experiences with a small number of informants (Dawson, 2002). Creswell and Creswell (2018) denotes qualitative research as a process of in-depth inquiry to elicit informants' viewpoints of social complexities based on their immediate surroundings. This study approach proves adequate to holistically examine personal attitudes, behaviours, and experiences through in-depth interviews and observational techniques analysis to meticulously gather informants' viewpoints. This study has derived empirical data from informants' perspectives, opinions, and experiences. Notably, such data are highly necessary for qualitative research.

The researcher has gathered qualitative data using in-person interviews as well as online platforms, such as Zoom meetings has been considered following the Covid-19 pandemic) to comprehend the explored phenomenon by engaging informants' experiences and opinions. Such enriched data could be elicited by conducting interviews. Furthermore, the observation method also will be applied in order to compare the current GOS appearance at both cities, Melaka City and Padang City. Following Mason (2010), qualitative research is defined as how the social world could be interpreted, comprehended, experienced, generated, and constituted to study individuals and their social world. Based on the LR in Chapter Two, a robust framework that facilitates GCD is structured based on local people's life experiences in resolving specific complexities. As such, the researcher has qualitatively internalised the factors impacting GCC development through GOS implementation based on four primary

components: GOS roles, urbanisation management, financial stability, and active community participation.

Qualitative research does not enforce a specific study protocol following its reliance on multiple aspects: the researcher's beliefs on social world traits, relevant perspectives, knowledge traits and how the researcher could acquire the knowledge, study aims and goals, respondent features, research audience, study funding, and researcher's current position and environment (Snape & Spencer, 2003). Thus, the selection of an appropriate research method must rely on the study question (Creswell, 2007). This research context proves to be appropriate as it encompasses urban dwellers (LG officers and residents) in GOS implementation for GCCD. For example, Silverman (2017) denoted qualitative research to be a highly appropriate methodology if it entails in-depth exploratory affairs in social processes.

Essential phenomena could be qualitatively examined through problem descriptions and in-depth knowledge construction (Creswell, 2012). As such, this study is qualitative in nature following its appropriateness in comprehending a process constituting study informants' real-life circumstantial experiences (Creswell, 2007) and its ability to comprehend subjective matters, such as understanding the interpretation of people's experiences and behaviours (Cohen, Manion & Morrison 2017). Qualitative research, which entails inductive processes (Merriam & Tisdell, 2015), could also be applied to develop thorough explorations (Merriam & Tisdell, 2015; Silverman, 2017) and outcomes that could address and justify the study questions (Silverman, 2013). Merriam (2009, p. 15) elaborates as follows:

> *"…important characteristics of qualitative research is that the process is inductive, that is, researchers gather data to build concepts, hypotheses, or theories rather than deductively testing hypotheses as positivist research. Qualitative researchers build toward theory from observations and intuitive understandings gleaned from being in the field…findings inductively derived from the data in a qualitative study are in the form of themes, categories, typologies, concepts, tentative hypotheses and even theory about a particular aspect of practice".*

As qualitative studies could outline problem descriptions for in-depth comprehension (Creswell & Creswell, 2018), it is deemed pivotal to internalise study informants' situational experiences. This research is qualitative following the nature of

its appropriateness (Creswell, 2007), including its capacity to comprehend subjective matters and interpret personal experiences and behaviours (Cohen et al., 2017). The research aims to understand a phenomenon from informants' perspectives through their descriptions and justifications, as emphasized by qualitative research scholars (Bogdan & Biklen, 1998; Mantula et al., 2024; Merriam, 1998; Miles & Huberman, 1994; Silverman, 2017).

The researcher has emphasised the study questions, extraction accuracy, and informants' clarity of information to obtain enriched study data. This data gathering process has also undergone a researcher-selected method based on contextual suitability. This approach facilitates researchers' understanding of a phenomenon through various qualitative methodologies, including narratives, phenomenology, grounded theory, ethnography, and case studies (Creswell & Creswell, 2018). Specific study needs must be highlighted based on the informants' nature and pre-research performance (Creswell, 2007). For example, obtaining informants' informed consent and permission to gather relevant supporting materials denotes vital study prerequisites. The transparent nature of qualitative studies enables researchers to internalise intricate social circumstances (Glesne & Peshkin, 1991; Bhangu et al., 2023) and enhance their understanding and perspectives through in-depth study data derivation (Yin, 2014). Bhangu et al. (2023) further argue that qualitative research requires researchers to remain reflexive and adaptable throughout the study, ensuring that emerging themes and contextual variations are captured accurately. This flexibility allows for richer, more nuanced interpretations of data, strengthening the reliability and validity of qualitative findings. The capacity of qualitative studies to determine the pertinent factors through informants' experiences is undeniably impressive (Creswell, 2007).

The GOS implementation for GCCD has been explored to derive textual meaning by comprehending four GOS elements, such as the GOS role in GCCD and 'subjective' connotations (LGs GOS management following their current urbanisation management condition) and how LGs increase their financial stability and community participation in GOS implementation. In this vein, the researcher must thoroughly examine the this study questions for a sound comprehension of the aforementioned issues (Creswell, 2012). Yin (2011) opined that researcher could demonstrate their creativity in presenting the elicited study findings through qualitative research. Ontological, epistemological, and methodological study aspects must also be examined so that the researcher could be accountable for all the information contributed. Such a

high understanding level potentially affects the appropriateness of future study outcomes. Natural exploration has been selected to assess GOS implementation for GCCD based on the study gaps and questions highlighted in the LR, which influences optimal study approaches (qualitative research techniques), such as case studies and comparative analyses. This study primarily aims to textually and subjectively examine GOS implementation by ascertaining its GCCD implications at the LG level between two nations.

In line with the aforementioned attributes, the qualitative approach constitutes a suitable exploratory nature to comprehensively address the research questions and explore a qualitative research method that complements the study traits for accurate selection. The use of semi-structured qualitative interviews in this study has been duly justified and elaborated pre-selection.

3.4.4.1 Semi-Structured Interview

It is deemed necessary to select the most effective means of comprehending individual experiences and perspectives of GOS implementation using the four aforementioned GOS elements to elicit crucial information. This task is deemed to be challenging given its subjective, tacit, and implicit nature. Informants' experiences and perspectives has been extracted by emphasising exploration and elaboration styles with qualitative interviews. In this regard, researchers could effectively outline the GOS implementation process for GCCD through informants' experiences and perspectives to gather the following information:

a) Understanding the important roles of GOS based on Three Pillars of Sustainability Theory (economic, social, and environmental) increases GCCD efficiency;
b) Well-structured of urbanisation management based on current city urbanisation condition improves GOS implementation for GCCD;
c) Stable financial increases overall urban greenery through GOS implementation towards GCCD;
d) High community participation in the LG decision process improves the efficiency of GOS implementation towards GCCD.

Then,

e) The best GOS-GCCF has been formulated suit with Melaka and Padang urban local context in implementing the GOS towards GCCD.

Such elements enable study informants to elaborate on their experiences and viewpoints based on the structured guidelines. In this study, the aforementioned components have been employed by the researcher to create themes that pertain to the research setting. An in-depth interview method has been selected in the study to comprehend informants' perceptions and opinions on GOS implementation towards GCCD using four primary elements: GOS role, urbanisation management, financial stability, and community participation. Merriam (1998) and Merriam and Tisdell (2015) stated that data collection through interviews is frequently employed by most qualitative research scholars compared to other techniques. In Baškarada (2014), the events occurring between the phenomenon and reality indicate information extraction from study informants through the case study method. Specifically, semi-structured interviews could facilitate information elicitation on GOS implementation towards GCCD from LG officers and residents with the four previously-mentioned elements. The researcher aims to conduct interviews on GOS implementation for GCCD to depict the GOS aspects that could optimise the theoretical framework on GOS implementation towards successful GCCD.

The in-depth interview technique has been selected to thoroughly explain informants' information and background to further optimise the research assessment. The informants' perspectives have been conveniently determined by comprehending vital GOS functions towards GCCD, effective urbanisation, financial stability, and active community participation for subsequent actualisation parallel to local requirements. Direct interviews with LG officers could provide an overview of how local enforcers manage GOS implementation with clear feedback to internalise GOS functions, optimal urbanisation management, financial stability, and active community participation. Information has also been elicited from the experiences and perceptions of residents who benefit from all LG programme implementation through in-depth interviews. For example, the researcher could determine how to obtain impromptu information from the respondent. Although interpersonal interaction by actively

listening to a respondent's story is a highly effective approach, the researcher must possess effective social skills to strengthen the researcher-respondent rapport in the form of obtaining informants' consent pre-interview. The examiner's appearance and language also serve to this relationship and should not be undermined by the researcher during physical interviews.

Furthermore, the researcher has selected a semi-structured interview to derive enriched information from the study informants through versatile interviews for theory development. Based on Kellett (2005), an interview constitutes three structure types: structured, unstructured, and semi-structured. Semi-structured interviews are more convenient to perform with more flexibility compared to the remaining counterparts as the researcher could autonomously elicit information following informants' answers with different questions based on the current suitability (Kellett, 2005). Recent research continues to support the idea that semi-structured interviews provide greater flexibility compared to structured and unstructured formats, making them a popular choice in qualitative studies. For instance, researchers like Roulston and Choi (2018) emphasize that semi-structured interviews allow interviewers to follow up on participant responses with tailored questions, which enables the exploration of topics in more depth based on informants' answers. Similarly, Sipes et al. (2022) highlight the benefits of semi-structured formats in enabling researchers to probe deeper into issues that arise spontaneously during the interview, making this method highly adaptable to different contexts. This flexible approach fosters richer data collection compared to more rigid structured interviews, where questions are predetermined and cannot be adjusted, and unstructured interviews, which may lack sufficient focus. The semi-structured method balances flexibility with direction, allowing researchers to adapt based on the flow of conversation, which is crucial for gathering detailed and context-specific information. These findings reinforce Kellett's (2005) earlier assertion about the utility of semi-structured interviews in qualitative research. They remain a versatile tool for eliciting in-depth information while maintaining structure where necessary.

Structured interviews, which are standard and inflexible, require informants to provide answers based on uniform questions developed by the researcher (Kellett, 2005). This interview type is typically employed in oral interviews instead of written questionnaires (Kellett, 2005). Meanwhile, unstructured interviews (often employed in in-depth interviews) entail questions that are not structured in advance and necessitate open-ended responses that could be complex and expansive (Kellett, 2005). Semi-

structured interviews (positioned between structured and unstructured approaches) are widely used in qualitative research, particularly in in-depth interviews, to capture subjective data such as emotions, opinions, and perceptions (Patton, 1990). This method provides flexibility for researchers to explore unexpected themes while maintaining a structured set of questions, ensuring consistency across interviews (Tomaszewski et al., 2020). Furthermore, semi-structured interviews facilitate a deeper engagement with participants, allowing them to articulate their perspectives in their own words, which enhances the richness and depth of qualitative data (Tomaszewski et al., 2020). Recent research by Banha et al. (2022) further highlights the flexibility of semi-structured interviews in capturing nuanced qualitative data, particularly in complex decision-making contexts. It is deemed convenient for the researcher to alter the interview questions for suitability through clearly established demarcations and standards and balance the desired information in line with the developed theme. Its versatile nature parallels Choak's (2012, p. 92) elaboration as follows:

> *"The semi-standardise interview follows a set of main questions whose order can be changed by the researcher in order to probe for the most relevant information as often questions from the schedule have already been answered during a response to previous questions. Interviews may also ask participants to develop or expand answer for clarity".*

Overall, semi-structured interviews have been employed in this following their versatile nature.

3.4.4.2 Direct Non-participant Observation (Convert Mode) with Structured Observation

In this study, Direct Non-participant Observation (Covert Mode) with structured observation was employed to systematically gather data on the implementation of Green Open Spaces (GOS) across specific urban parks in Melaka City, Malaysia, and Padang City, Indonesia. The parks selected for observation were Bunga Merdeka Park and Bukit Serindit Recreational Park in Melaka City, and Nanggalo Park and RTH Imam Bonjol Park in Padang City. As a covert observer, the researcher observed each park without interacting with or revealing the study's purpose to the participants, thus

minimizing potential observer effects and preserving the authenticity of behaviours and interactions within the parks. The Three Pillars of Sustainability Theory (Barbier, 1987)—encompassing economic, social, and environmental dimensions—served as the guiding framework for structuring the observation process (Refer to Appendix 11 of Observational Protocol). Each dimension was represented by specific elements observed in the parks, providing a comprehensive view of how GOS contribute to sustainable urban development. Observations were structured to systematically capture data across these three dimensions:

a) Economic Dimension

This included documenting evidence of economic activities, such as local vendors, recreational rentals, and other income-generating practices within and around the parks. Additionally, attention was given to signs of economic benefits, such as well-maintained facilities that may increase property values and attract tourism. The observation considered how each park might contribute to local economies, especially for low-income communities, through accessible resources or employment opportunities.

b) Social Dimension

Observations in this dimension focused on patterns of community interaction, inclusivity, and accessibility of park facilities. This included assessing the presence of social gatherings, recreational activities, and facilities supporting family and group usage. The structured observation guide included aspects such as the diversity of park users, their engagement with available amenities, and the role of the parks in fostering community cohesion and wellbeing.

c) Environmental Dimension

Observations for this dimension focused on ecological features and environmental management practices, such as the presence of native vegetation, cleanliness, waste management, and conservation efforts within each park. This also

included assessing the maintenance of green infrastructure, biodiversity, and sustainability practices that support the ecological health of the parks.

The structured observation approach allowed for uniform data collection across the four GOS sites, enabling a comparative analysis of the parks' alignment with sustainability goals under the Three Pillars of Sustainability. Each observation session was guided by a pre-designed checklist that included the economic, social, and environmental elements relevant to the parks' role in green city development. By using structured criteria across all parks, the study ensured a consistent and unbiased assessment, enhancing the objectivity of findings.

This method of non-participant, covert observation was instrumental in identifying unique elements of GOS located at Melaka and Padang. The insights gained from observing Bunga Merdeka Park, Bukit Serindit Recreational Park, Nanggalo Park, and RTH Imam Bonjol Park contributed to a deeper understanding of how GOS in these cities support urban sustainability, offering practical data for informing future improvements to urban green spaces implementation towards GCD.

3.4.4.3 Research Instrument

a) Researcher as a Research Instrument

Qualitative scholars function as a study tool given their complete involvement in data collection and evaluation (Silverman, 2017). Following their diverse capacities, researchers could establish a sound understanding through verbal and non-verbal communication, data processing, source justification and formulation, perform cross-checks with informants to improve interpretation accuracy, and examine novel notions (Merriam & Tisdell, 2015). Seidman (2013) stated that a qualitative researcher must be tactful with study informants in non-verbal communication when interpreting their styles and expressions for ethical data management. Qualitative studies position researchers as a research instrument (Patton, 2014) where the outcome credibility relies on the researcher's competence and efforts (Golafshani, 2015) compared to quantitative counterparts with emphasis on instrument development (valid questionnaires) for credible outcomes (Patton, 2014). Patton's (1990, 2014) statement that the researcher is a key instrument in qualitative studies continues to be supported by more recent

literature. For example, an article by Yadav (2022) emphasizes the importance of the researcher's role in ensuring credibility through their competence and reflexivity, highlighting that qualitative research relies heavily on the researcher's active engagement with the data, contrasting with quantitative approaches that depend on validated instruments like questionnaires. Summarily, qualitative scholars must know the most optimal means of study context selection to ascertain appropriate data collection methods.

b) The Use of Interview Question as Research Instrument

In qualitative research, interview questions serve as a crucial tool for gathering in-depth insights. The development of effective interview questions requires careful consideration of the study's objectives, with attention to the relevance and coherence of the questions to ensure meaningful data collection (Turner, 2010). There for semi-structured interview questions for this study have been validate by selected expert (refer to Appendix 1). The role of the researcher is not only to ask questions but to facilitate the conversation by using open-ended questions that encourage respondents to share their experiences in detail. Open-ended questions are essential in qualitative research, as they provide nuanced and rich data by allowing participants to express themselves freely. Recent studies highlight that these questions uncover deeper insights, often reaching thematic saturation with fewer interviews, making them valuable for exploring complex social phenomena (Weller et al., 2018). Moreover, their flexibility facilitates thorough content and thematic analysis, whether through manual or automated methods, enhancing the overall understanding of participant experiences.

Moreover, effective interview guides must be adaptable to different situations and respondents, often requiring follow-up or probing questions. These are essential for eliciting more in-depth information, especially when dealing with complex or sensitive topics (Jacob & Furgerson, 2012). Qualitative interviews benefit from iterative designs, allowing researchers to adapt questions as new information emerges. This flexibility enables adjustments in both the sample and interview guide, refining the research based on real-time data. Iteration helps achieve thematic saturation by ensuring no new significant themes arise during data collection, marking a comprehensive understanding of the studied phenomenon (Guest et al., 2020). Saturation, whether data-driven or

theoretical, ensures the research captures all relevant insights while preventing redundant data collection (Saunders et al., 2018).

A well-prepared interviewer enhances the quality of qualitative interview data through active listening, empathy, and rapport-building techniques (Horsfall et al., 2021). These strategies help participants feel understood and at ease, encouraging them to share more detailed and honest responses. For instance, empathic rapport allows for deeper engagement, fostering a sense of trust that leads to richer insights (Prior, 2018). Effective listening further enables interviewers to respond thoughtfully to participants, promoting an open, supportive dialogue.

c) Photo and Video as Research Instruments in Observational Studies

In recent years, visual methodologies like the use of photos and videos have gained popularity in qualitative research, particularly for capturing data that may not be easily articulated through words alone. This method allows researchers to analyze non-verbal cues, settings, and the emotional context in which behaviors and interactions take place (Rose, 2016).

Photo and video data in observational studies are powerful tools for capturing nuanced, contextual information that might be missed in verbal or written accounts. Recent studies emphasize their ability to document interactions, environments, and behaviors in a non-intrusive manner, providing rich visual and contextual data (Pink, 2021). This form of data collection is especially useful in ethnographic and qualitative research, where researchers aim to understand complex social dynamics and interactions. Moreover, the iterative review of video recordings allows for in-depth analysis, revealing patterns and themes over time (Banks & Zeitlyn, 2022). These visual methods complement traditional interviews and surveys by capturing non-verbal cues, spatial contexts, and temporality, enriching the overall dataset and facilitating a more comprehensive analysis.

Photos and videos provide an additional layer of evidence, enriching the data by offering a tangible record of the context and activities being studied. In fields such as education, social work, and anthropology, the use of these tools helps capture dynamic processes and complex environments. For instance, in ethnographic studies, visual data

often complement interviews and observations, offering a more holistic view of the subject (Pink, 2020).

Visual data also facilitates participatory approaches, where participants are involved in the data collection by creating their own images or videos. This enhances the depth of the study by allowing participants to express themselves in ways that go beyond verbal communication, contributing to the richness of the research findings (Gubrium & Harper, 2019). Researchers need to be mindful, however, of ethical considerations surrounding the use of visual data, including the consent of subjects and the potential sensitivity of the content being recorded.

3.5 Pre-Field Activities

Pre-field activities relate to appropriate respondent selection as not all individuals have been chosen in qualitative research. As specific criteria development proves necessary in respondent selection, this section elaborates on respondent selection, its essentiality, and the arguments underpinning this selection following the researcher-established criteria in line with the research context. Chapters on the target population, sample size, and sampling technique are also highlighted.

3.5.1 Justification of Choosing the Key Informant Interviews

Key respondent interviews determine the success of a case study owing to its nature of entailing ‘human affairs’. Such informants possess a high level of knowledge, a powerful mechanism to justify the reality of ‘human affairs’ (Yin, 2018). Likewise, Richards and Morse (2012) and Silverman (2017) affirmed that researchers must ensure that the selected respondent can provide the necessary information to comprehend a case or phenomenon. Thus, all the selected informants have been directly involved in and aware of GOS implementation towards GCCD. Subsequent interviews encompassing LG officers as policymakers and residents as park users in this GOS has induce data accuracy given their explicit involvement in GCCD with GOS implementation. The interviews have provided the researcher with a sound understanding of the GOS-GCCD relationship with four components: the GOS role on GCCD, urbanisation management, financial stability, and community participation.

Various types of key informant interviews could be obtained from two different countries through a comparative case research design. Such interviews could promote an overall understanding through relevant perspectives based on the experiences between multiple communities. The comparisons and variances has proven insightful for the researcher to observe the crucial elements emerging from multiple sources, acknowledge the differences in terms of how the experience occurs (Polkinghorne, 2005), and comprehend specific experiences or viewpoints. Every interview must contribute to this study by justifying the experience structure, attributes, or viewpoints assessed by the researcher.

The key informant interviews for this study have constitute LG officers (as regulatory bodies) and residents (as beneficiaries) who utilise GOS facilities and acknowledge the LG mission to develop GC with GOS implementation. On another note, the unit of analysis for this qualitative research has denote the informants' perspective of GOS implementation by the LG towards GCCD with four aspects such as GOS roles on GCCD, urbanisation management, financial stability, and community participation rather than individuals or groups. This study explores the LG officers' and residents' perspectives of GCCD in their urban areas through GOS implementation, which is influenced by the four aforementioned elements.

3.5.1.1 Justification of Choosing the Key Informant Based on Year of Residential

The selection of key informants based on their duration of residence in a new city is grounded in the understanding that the process of familiarisation with urban spaces requires time. The adaptation period varies depending on several factors such as age, cultural background, social integration, and individual adaptability. However, insights from existing studies provide a framework to justify the inclusion of individuals who have lived in the city for a certain number of years, ensuring that they have sufficient experience and knowledge of their new environment. Research by Heine et al. (2020) suggests that age plays a significant role in the speed of adaptation, with younger immigrants (below age 15) typically becoming familiar with their surroundings within 1 to 3 years. On the other hand, older immigrants (above age 25) often take longer, with some showing limited adaptation even after several years. This demonstrates the importance of accounting for the duration of residence in determining the suitability of key informants.

Furthermore, social integration is a crucial factor in developing a sense of familiarity with a new city. Wilson (2000) found that immigrants generally require 2 to 3 years to establish social networks and gain an understanding of local infrastructure and customs, facilitating their integration into urban life. This indicates that key informants should have resided in the city long enough to have built meaningful social connections and navigated the city's services effectively. Cultural adaptation is another essential consideration. Geeraert et al. (2019) found that immigrants typically begin to feel more culturally adjusted within 8 to 18 months, with the rate of adaptation depending on the social norms of the host country. Immigrants moving to countries with more flexible norms tend to adapt more quickly compared to those moving to more rigid societies. This reinforces the need to consider the duration of residence when selecting key informants, as it allows time for them to acclimatise to the cultural landscape of the city.

Moreover, Haug's (2008) research on spatial adjustment shows that immigrants often need 3 to 5 years to fully grasp the spatial geography of their new urban environment, including mastering public transportation, understanding local services, and becoming familiar with neighbourhood dynamics. This is echoed by Liu and Painter's (2023) findings, which highlight that spatial integration can be prolonged by factors such as spatial mismatch between residential locations and employment hubs, further influenced by transport infrastructure issues. Given these findings, selecting key informants who have resided in the city for at least a few years is justified, as they are likely to have achieved a level of familiarity with the city's structure, culture, and lifestyle. A minimum of one year of residence is necessary to ensure that the informants can provide informed perspectives on their experiences and the city's dynamics, based on both social and spatial integration. In this study, informants included who have lived in Melaka City and Padang City for at least 2 years to ensure that they possess sufficient familiarity with their respective urban environments.

3.5.1.2 Sampling Technique

Sampling denotes a statistical process that identifies sample individuals from a target population to represent the entire group (Majid, 2018). Purposive sampling denotes one of the non-probability sampling methods that has been employed to select the study informants. Purposive or judgemental sampling selects specific people or

occurrences within a specified context to ensure information reliability (Taherdoost, 2016). In other words, purposive sampling involves individuals with relevant information for this study. The researcher has established specific criteria to be fulfilled. Every unit that meets the criteria will be selected as a respondent (Bougie & Sekaran, 2020). Additionally, purposive sampling mitigates bias and non-representative issues and enhances generalisation (Baltes & Ralph, 2020; Etikan, 2016; Taherdoost, 2016). The researcher has employed the purposive sampling method for key respondent interview selection.

Goodson and Sikes (2001, p.g. 24) implied that *"purposive sampling is based on the assumption that the researcher wants to discover, to understand and to gain insight from the sample so that he or she can learn as much as possible"*. In Silverman (2017), most qualitative studies has employ purposive sampling given the selection of informants needed to comply with several established criteria and provide information that is worthy of addressing the study questions for research objective attainment. Creswell, 2007, Merriam and Tisdell (2015), and Othman (2018) supported qualitative research sampling, which is often filtered with purposive sampling methods for scholars to isolate the most accurate informants in a population and obtain enriched information (Neuman, 2014). Following this study scope, purposive sampling has been selected as the informants constitute the LG officers and residents engaged in GCD through GOS implementation following the recommended study objectives. Purposive sampling is employed by following the criteria established by the researcher based on the research setting and scope. This sampling method is highly versatile, as the researcher can substitute inappropriate informants in the study field to meet the research prerequisites for in-depth information (Creswell, 2007; Creswell & Creswell, 2018; Merriam & Tisdell, 2015; Miles & Huberman, 1994; Patton, 2014; Seidman, 2013). This method enables researchers to identify and isolate information-rich cases, ensuring that selected participants provide deep, relevant insights into the research topic (Patton, 1990).

Tomaszewski et al. (2020) further highlight that purposive sampling is crucial in qualitative research as it allows for the selection of participants with direct and substantial experience in the phenomenon under study, thereby enhancing the credibility of the findings. In this study, only informants directly involved in Green City Concept Development (GCCD) through GOS implementation were selected, ensuring their perspectives align with the research objectives. The key informant interviews, guided by purposive sampling, were structured to capture holistic and context-specific

experiences, contributing to data saturation and thematic depth (Tomaszewski et al., 2020).

Besides purposive sampling, the researcher also employed snowball sampling to identify additional key informants who met the study's criteria. Snowball sampling is particularly useful in qualitative research when studying specific populations with unique knowledge or experiences that may not be easily accessible through conventional sampling methods (Naderifar et al., 2017). This method involves initial informants recommending or referring other individuals with similar relevant experience, allowing the researcher to access a broader and more diverse range of participants (Kirchherr & Charles, 2018).

According to Etikan (2016), snowball sampling is effective in qualitative research when the targeted population is relatively small or specialised, as it ensures the recruitment of well-informed participants. This approach was particularly useful in this study to identify additional local government officers and community members actively involved in GOS implementation. By leveraging the social and professional networks of key informants, the researcher was able to gather more comprehensive insights into the challenges and strategies related to GOS in the context of Melaka and Padang. Combining purposive and snowball sampling enhanced the study's data richness and reliability, ensuring a well-rounded understanding of the phenomenon under investigation.

3.5.1.3 Sample Size

The sample size should align with the study's objectives, particularly given the absence of a strict rule of thumb in qualitative research (Creswell & Creswell, 2018) and should be determined based on anticipated data saturation (Guest et al., 2020). Creswell (2014) suggested interviewing between five to 25 informants for a phenomenological study, with 15 being the minimally acceptable sample size (Bertaux, 1981). Similarly, Filipkowski and Życzyńska-Ciołek (2023) highlighted the importance of biographical narrative interviews in qualitative research, particularly in identifying patterns and thematic saturation within interview-based studies. Hennink and Kaiser (2022) found that saturation in interview-based research typically occurs with a sample size ranging from seven to 19 informants in a homogeneous population. However, for multi-country or cross-cultural studies, researchers recommend a larger sample size to

account for variations across diverse contexts. In this regard, Hagaman and Wutich (2016) suggested that 20 to 40 informants are generally sufficient to reach data saturation in studies involving heterogeneous populations, particularly in cross-cultural settings. Conversely, Aguboshim (2021) mentioned that it is deemed necessary to emphasise sample size and enriched and sufficient data in case study research towards data saturation. Data saturation could also be attained through methodological triangulation and member-checking (Hoque et al., 2013). Summarily, saturation data could be derived through sample size and other mediums. Notably, total of 40 informants from Malaysia and Indonesia (20 from LG officers and 20 local residents) has been selected in this study. This study sample is thoroughly outlined in the following sub-sections.

a) Sample Size of Local Government Officers (Policymakers)

The sample size of the Melaka City LG has entailed 9 informants (nine MBMB officers) who are primarily in urban GCD within Melaka. As a local authority accountable for the Melaka City community-level green urban development, MBMB has been selected in this study. The Padang City sample size has encompassed 8 informants consisting of two Padang City Environmental Department officers, two Padang City Public Work and Spatial Planning Department representatives, and four from Padang City Development Planning Agency at Sub-National Level. Unfortunately, when collecting interview data in actual field activities, only 8 informants among Padang Local Government (PLG) officers were successfully collected. This sample was selected given its primary engagement in GOS implementation and GCD in Padang City. As the local bureaucracies accountable for planning and providing GC services to local Padang City communities, three departments has been selected. The total sample overview for both countries is presented in Table 3.1.

b) Sample Size of Residents (Park Users)

Local residents have been selected as the study informants to clarify specific issues or present their opinions as GOS consumers for GCD and observe the current

GOS implementation performance and its quality and needs in their local area. Essentially, 23 informants (refer to Table 3.1) have represented this study with purposive and snowball sampling techniques. It is deemed pivotal to address nearby community members' GOS-oriented opinions to assist the authorities towards GCCD. Local communities originate from the GOS situated in the middle of the city centre or close proximity to urban areas. The GOS is based on recreational elements under three pillars of sustainability: economic, social, and environmental. The local residents originate from Bukit Serindit Recreational Park and Bunga Merdeka Park in Melaka City, Malaysia and RTH Imam Bonjol Park and Nanggalo Park in Padang City, Indonesia.

c) Sample Size of Green Open Spaces

There are total of four GOS been selected in this study which are Bukit Serindit Recreational Park and Bunga Merdeka Park, located at Melaka City, Malaysia. While, in Padang City, Indonesia RTH Imam Bonjol Park and Nanggalo Park have been selected for non-participant observation study with convert mode (refer to Table 3.1). These four GOS have been selected because it happens located in the middle of metropolitan area that famously applied GCC in their GCD. Therefore, it relevant to be involved.

Table 3.1
An Overview of the Total Study Sample

City, Country	**Local Government Officer**		**Resident (Park User)**	**GOS Areas**
Melaka City, Malaysia	Majlis Bandaraya Melaka Bersejarah (MBMB) [Melaka Historic City	Jabatan Perancang Bandar [City Planning Department] – 2 Jabatan Landskap & Pengindahan Bandar [Landscape & Urban Beautification Department] – 2 Jabatan Kejuruteraan [Engineering Department] – 3	11	2 GOS areas located at Melaka City GOS areas: 1. Bunga Merdeka Park

	Council (MHCC)]	Jabatan Kesihatan Persekitaran [Environmental Health Department] – 2		2. Bukit Serindit Recreational Park
Padang City, Indonesia	Padang Local Government (PLG)	Dinas Lingkungan Hidup (DHL) [Environmental Department] – 2 Dinas Pekerjaan Umum dan Penataan Ruang (PUPR) [Public Work and Spatial Planning Department] – 2 Badan Perencanaan Pembangunan Daerah (BAPPEDA) [Development Planning Agency at Sub-National Level] – 4	12	2 GOS areas located at Padang City GOS areas: 1. Nanggalo Park 2. RTH Imam Bonjol Park
		17 Informants of Local Government Officer	23 Informants of Resident (Park User)	Total Sample from Both Cities: 40 Informants with 4 GOS Areas

Source: Researcher Fieldwork (2023)

3.5.2 Ethics in Research

It is essential to ensure that all study activities remain ethical to avoid bias, barriers, and legal non-compliance pre-data collection. As previously mentioned, a case study encompasses people, groups, companies, or programmes and activities (Creswell & Creswell, 2018). Thus, the researcher must ensure that the interview forms prioritise respondent sensitivity with ample space for the individuals to engage in question formation during the interview (Creswell, 2012). Furthermore, the study informants must be sufficiently experienced to address the research questions for the researcher to clearly improve his or her understanding of the evoked issues. Creswell (2007) and Creswell and Creswell (2018) further implied that the researcher must be an independent and observant individual with the ability to explore novel outcomes and deter irrelevant influences and bias.

Research ethics also encompasses respondent identity, which could not be disclosed, to safeguard individuals' privacy and highlight the researcher's integrity. In Silverman (2013, p. 162), *"Research staff and subject must be informed fully about*

purpose, methods and intended possible uses of the research, what their participation in research entails and what risks…The confidentiality of supplied by research subject and anonymity of informants must be respected". Thus, the researcher must first obtain approval for data collection from the Faculty of Administrative Science and Policy Studies (FSPPP) and Universiti Teknologi MARA Research Ethics Committee included Indonesia National Research and Innovation Agency (BRIN) and application Limited Stay Visa for Training or Scientific Research (Index C315) from Indonesia Directorate General of Immigration to conduct interview sessions among LG officers and residents from the cities of Melaka and Padang. A consent application letter to conduct the interview session among government officers also has been given to all directors from all departments in each local government's entities (refer to Appendix 2 until Appendix 10).

Regarding data gathering activities during the interview session, the researcher has ensured that all the study informants consented to participate in the study given that this interpersonal relationship entails ethical elements to maintain personal data confidentiality, including interview data (refer to Appendix 11). Informants' consent must be prioritised by the researcher pre-data collection. The individuals' names has been replaced with letters of the alphabet as a symbol for their nicknames to protect their confidentiality. Notably, the study data could only be accessed by the researcher.

3.6 Method of Data Collection

Interviews session in in-person and online methods has been employed as a primary source of data collection while reviewed documents from various books, journals, and articles has been utilised as secondary counterparts. The study aims to examine the pivotal roles of GOS for GCCD in Malaysian and Indonesian LGs, determine LG management strategies to mitigate urbanisation issues, ascertain how finance is a substantial concern in GCD in local Malaysian and Indonesian governments, and determine the approaches that could elevate community participation in GOS implementation across the local Malaysian and Indonesian government. A comparative case study method has been selected where the researcher has employed the key respondent interviews and LRs for data collection. The study fieldwork is scheduled between February 2023 until February 2024. Theoretical development has been authenticated through interview sessions. The techniques are thoroughly

elaborated in the following sub-sections. Given the viral (Covid-19) outbreak in 2019, the interview has been conducted using virtual communication instruments (Chandratre & Soman, 2020; Foley, 2021; Kamboj et al., 2021; Reñosa et al., 2021; Sah et al., 2020; Shepperd et al., 2021). As such, *Zoom* meeting has been used as an online platform followed with several in-person interview after the Covid-19 outbreak reduced.

3.6.1 Data Sources

The qualitative data collection elicited from primary data and secondary sources has been applied to explore the GOS-GCCD link across Malaysia and Indonesia.

3.6.1.1 Primary Sources

The data from primary sources, which involve first-hand information (Sadiki, 2009), has been collected among key respondent interviews. The primary data has been gathered from the LG officers and residents from the cities of Melaka and Padang. Semi-structured interviews and observations has been employed for data gathering.

3.6.1.2 Secondary Sources

Based on Brown et al. (1999) and Teti (2005), the secondary data collected from past (published and unpublished) literature involve books, journal articles, government websites (online newspapers), and statistical reports (archival records of GOS implementation for GCCD, LG booklets, pamphlets, master plans, and map layouts).

3.7 Field Activities: Data Collection Protocol

This section justified the data collection protocol in the pilot and actual study. The GOS implementation-GCCD connection has been identified through field interview activities. The section also elaborates on respondent selection and the respondent-researcher rapport for information extraction.

3.7.1 Pilot Study

A pilot study involving criteria-compliant study informants has been performed pre-actual research. The pilot study was scheduled between December 2022 and January 2023. The pilot study area has involved the Shah Alam City Council (MBSA). This LG was selected following their active urban planning through Local Agenda 21 implementation since 2000 to achieve 17 United Nations SDGs (TheStar, 2021) and low-carbon city development through the 2017 Low-Carbon Pilot Project at Taman Tasik Shah Alam, Seksyen 14 [Asia Pacific Energy Research Centre (APERC), 2018]. The MBSA is also active in the creation of recreational parks, botanical gardens, and lake parks (Urbanice Malaysia, 2021) through GOS implementation.

The pilot study informants have entailed five LG officers and five residents (park users) and served to provide initial exposure to researchers on the GOS implementation for GCCD at the LG level. The pilot study could also facilitate researchers to manage the semi-structured interviews with key informants (LG officers and residents) in the actual research, including how to obtain informed consent with the involved parties. Such consent proves crucial pre-data collection. Following (Silverman, 2017), a pilot study could enhance scholars' interview skills and facilitate the identification of interesting and important data from the pilot study informants. In this regard, researchers could optimally restructure the arrangement of interview themes in the actual study. Such studies could also increase researchers' efficiency in actual study data management (Silverman, 2017) and efficiently handle and interpret actual data compared to the pilot study experience. Additionally, the pilot study informants have been selected using purposive and snowball sampling similar to the actual study. After completed the pilot study activities some adjustment has been done in semi-structure interview questionnaire to ensure it can answer the research question properly.

3.7.2 Actual Study (Interview Protocol)

The actual study was scheduled for between February 2023 and February 2024. The key respondent interviews have involved the LG officers and residents in Melaka City, Malaysia and Padang City, Indonesia who are engaged in GOS implementation for GCCD. Purposive sampling has been employed in qualitative research based on several authors' recommendations and arguments (Tomaszewski et al. (2020); Othman,

2018; Silverman, 2017; Creswell, 2007, 2012; Merriam, 2009; Miles & Huberman, 1994) together with snowball sampling. Actual interviews have been performed at the specified location and time based on informants' availability with appointments to ensure total participation during the interview session. Notably, the interview has been performed at LG offices and GOS areas (for local resident interviews).

The interviews have provided insights into the study dimensions involved by examining GOS implementation towards GCCD using four aspects: the GOS role on GCCD, urbanisation management, financial stability, and active community participation. The data has been transcribed in written form through www.transkriptor.com for evaluation purposes post-interview completion to ensure that the researcher could thoroughly examine the interview data. The study data has typically be audio recorded and subsequently converted into written words (Polkinghorne, 2005). The interview has denoted four primary sections:

a) The interview begins with a study overview followed by an application for permission to initiate the interview session;
b) The interviewees are briefed on the general introduction of study variables and concepts;
c) More specific questions are provided to the interviewees to elicit open-ended viewpoints, which has been befit the study;
d) Follow-up questions are provided for further elaboration.

In encountering reluctant informants, the researcher must possess effective social skills when interacting with the interviewees (Polkinghorne, 2005). A positive rapport elevates trust and increases transparency during opinion-sharing, facilitating optimal interview sessions and relevant data derivation (Glaser, 1978; Hughes & McSherry, 2024) towards achieving a high saturation level. The concept of theoretical sensitivity, as highlighted by Glaser (1978), remains crucial in qualitative research, ensuring researchers remain reflexive and adaptable in data collection and interpretation, a notion further reinforced in contemporary grounded theory discussions (Hughes & McSherry, 2024).

3.7.3 Actual Study (Observation Protocol)

To address Research Objective 1 (RO1), which explores the important roles of green open spaces (GOS) in green city concept development (GCCD), an observational study was carried out through multiple visits to selected parks in both Melaka City and Padang City (refer to Appendix 11). Specifically, the observations were conducted at Bukit Serindit Recreational Park and Bunga Merdeka Park, Melaka City, from the 24th to the 26th of November 2020 and again from the 16th to the 18th of June 2023. A further round of observations took place at RTH Imam Bonjol Park and Nanggalo Park in Padang City between the 9th and 23rd of July 2023. The purpose of these observations was to explore the application of the three pillars of sustainability—economic, social, and environmental—within the green open spaces of both cities and to assess their contribution towards achieving green city status. In order to comprehensively compare the elements of GOS between Melaka City and Padang City, several photographs and videos were captured during the visits.

The multiple visits conducted across different periods provided a robust dataset, allowing for the examination of both temporal and spatial aspects of GOS. These visits facilitated the gathering of detailed, first-hand information about how the parks were utilized over time, and they offered insights into any potential changes in the physical, social, and environmental aspects of the parks. For example, the revisit to Bukit Serindit Recreational Park and Bunga Merdeka Park in 2023 allowed the study to assess whether any developments, improvements, or degradations had occurred in the green open spaces since the initial observation in 2020. Similarly, the single period of observation at RTH Imam Bonjol Park and Nanggalo Park in Padang City enabled a comprehensive assessment of these spaces during a concentrated time frame, allowing for direct comparison with the parks in Melaka.

In the course of the observation, photographs and videos were captured following a specific set of criteria. These criteria were established to ensure systematic documentation of the key aspects of GOS that reflect the three pillars of sustainability. First, the accessibility and inclusivity of the parks were recorded, focusing on features such as pathways, signage, and public amenities, which contribute to social sustainability. Second, the presence of flora and fauna, including trees, plants, and wildlife, was photographed to evaluate the environmental sustainability of the parks. Third, the recreational use of the parks was documented, with an emphasis on spaces

designed for social interaction, cultural activities, and physical exercise. This aspect directly ties into both social and economic sustainability. Additionally, particular attention was paid to the maintenance and cleanliness of the parks, with photographs focusing on waste disposal systems, cleanliness, and overall upkeep, which are important for environmental and social sustainability. The economic activities present in the parks, such as the presence of food stalls or street vendors, were also documented, reflecting the parks' contribution to local economies. Lastly, water features and energy-efficient elements, such as ponds, fountains, or solar-powered lighting, were captured to assess their role in environmental sustainability.

These criteria for capturing photos and videos align with recent research on urban green spaces. For instance, Ziter et al. (2019) highlight the importance of evaluating green space functionality, emphasizing that GOS must support social and environmental needs, such as biodiversity and climate regulation, in addition to offering social spaces for recreation (Pakina & Batkalova, 2018). Similarly, Shanahan et al. (2019) assert that urban green spaces must be examined holistically, considering both their environmental contributions and their role in supporting physical and mental well-being, which ties closely with this study's criteria for recreational use and social inclusivity (Pakina & Batkalova, 2018). The criteria for capturing photos and videos can be summarized in Table 3.2.

Table 3.2
Criteria for Capturing Photos and Videos

Criteria	**Examples**	**Link to Sustainability Pillars**
Accessibility and Inclusivity	Pathways, benches, signage	Social Sustainability
Flora and Fauna	Trees, plants, wildlife	Environmental Sustainability
Recreational Use	Playgrounds, sports areas, cultural spaces	Social and Economic Sustainability
Maintenance and Cleanliness	Trash bins, cleanliness, upkeep	Environmental and Social Sustainability

Commercial Activities	Food stalls, vendors	Economic Sustainability
Water Features and Energy Use	Ponds, fountains, solar-powered lights	Environmental Sustainability

Source: Researcher Fieldwork (2024)

The categorization of these observations into the three pillars of sustainability—economic, social, and environmental—was a key focus of the study. The economic sustainability of the parks was evaluated by observing the presence of commercial activities, such as vendors and local businesses, as well as the potential for tourism and job creation through park maintenance. Social sustainability was assessed by examining the parks' role as public spaces that facilitate community interaction, provide safe and inclusive environments, and offer recreational opportunities for different age groups and social demographics. Finally, the environmental sustainability of the parks was examined through their contribution to air purification, biodiversity, climate regulation, and water conservation. Recent studies, such as those by Jennings et al. (2019), emphasize the importance of urban green spaces in contributing to social cohesion, air quality improvement, and biodiversity conservation, which directly supports the environmental and social pillars of this research (Pakina & Batkalova, 2018).

The rationale for selecting the four parks for this observational study was based on their significance in their respective cities. In Melaka City, both Bukit Serindit Recreational Park and Bunga Merdeka Park were selected due to their prominence in providing recreational and green spaces in a city that faces significant pressures from urbanization and heritage conservation. These parks are central to the city's balance between modern development and environmental conservation, making them ideal for studying the integration of the three sustainability pillars. In Padang City, RTH Imam Bonjol Park and Nanggalo Park were chosen to offer a contrasting context to Melaka. As Padang is a rapidly developing urban centre, these parks are vital in mitigating the environmental impacts of urban growth while serving the recreational and social needs of the local population. This contrast between the historically and culturally significant parks of Melaka and the environmentally focused park of Padang provides a rich comparative framework for analysing the role of GOS in achieving sustainable city status.

In conclusion, this observational study highlights the critical role that GOS play in advancing GCCD in two diverse urban contexts. The analysis of these parks, through the lens of the three pillars of sustainability, demonstrates how green spaces can contribute to a city's environmental, social, and economic wellbeing. The visual data collected through photos and videos were systematically analysed using NVivo software, applying thematic analysis to identify patterns and themes that align with the objectives of the study. This approach aligns with recent empirical research by Thomas et al. (2020), who emphasize the need for qualitative and thematic analysis to deeply understand the multifaceted role of green spaces in urban sustainability (Pakina & Batkalova, 2018).

3.8 Data Analysis and Interpretation

This section elaborates on data evaluation and interpretation. Based on the Migrant and Seasonal Head Start Technical Assistance Center (2006), research data entails numbers, characters, and images, including any recording techniques that could be assessed to decide on the specific action and data that failed in sufficient interpretation and analysis. Data assessment proves essential to generate meaningful information. This study employs NVivo, a qualitative data analysis software, to process qualitative data through thematic analysis using a coding process for theme identification. Miles and Huberman (1994, p. 56) define coding as: *"Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study. Codes are usually attached to 'chunks' of varying size – words, phrases, sentences or whole paragraphs."* Thematic coding facilitates systematic organisation of data and pattern identification across multiple datasets, ensuring a structured approach to qualitative analysis (Miles & Huberman, 1994).

Raskind et al. (2019) further emphasise that qualitative coding is not merely a technical exercise but a crucial process in capturing nuances, contextual meanings, and emergent themes from the data. Their review highlights the importance of transparency and reflexivity in coding to enhance the credibility of qualitative findings. In this study, data analysis is based on interview sources and literature reviews (LRs). The interview data assessment began during the initial interviews, as thematic analysis allows for progressive refinement of codes and categories throughout the research process (Braun & Clarke, 2006; Donovan & Sanders, 2005; Raskind et al., 2019). This approach

ensures that emerging insights are continuously integrated, strengthening the depth and validity of the findings.

3.8.1 Content Analysis

In Holjevac et al. (2009) the researcher could analyse documents containing scientific, objective, quantitative, and generalised content with content analysis. Content analysis could be employed for data sources involving articles, documents, meeting minutes, speeches, brochures, pamphlets, newspapers, television, reports, letters, logs, and stories (English, 2005; Marshall & Rossman, 2010) to establish and comprehend specific phenomena (Marshall & Rossman, 2010). Content analysis has been utilised in this study to analyse multiple documents (journal articles, news articles, LG reports, brochures, and pamphlets) to support and strengthen empirical arguments, particular in Chapter Two and Chapter Five, and simultaneously enhance secondary data. Furthermore through content analysis the researcher can increase data credibility means any irrelevant data will be excluded by using validation from content experts (Bengtsson, 2016; Hsieh & Shannon, 2005) among co-investigator, colleagues, expert panel or from the informants (Bengtsson, 2016). In this study, content experts on Chapter One and Chapter Two will be the researcher's supervisor which are Dr. Thenmolli Vadeveloo, Dr. Zarina Mohd Zain and Dr. Roni Ekha Putera. Overall, data analysis and interpretation include primary and secondary data management in terms of writing interview transcripts, analysing interviews, and developing themes.

3.8.2 Thematic Analysis

Boyatzis (1998) denotes thematic analysis as a qualitative evaluation employed by scholars to assess qualitative data classification and themes (patterns) gathered by researchers. Similarly, Saunders et al. (2023) provide a contemporary perspective on thematic analysis, emphasizing its practical application for multidisciplinary research teams in identifying and interpreting patterns within qualitative data. Thematic analysis enables the researcher to examine the informants' viewpoints and identify, analyse, and report the emerging themes (Braun & Clarke, 2006; Donovan & Sanders, 2005). The study data has been systematically reviewed for patterns to enable the researcher to describe the examined phenomena using thematic analysis (Tesch, 1990). The

"Framework approach to qualitative data analysis" by NatCen Learning (2012) has been utilised as a guideline for thematic analysis for the researcher to explore the data and develop justifications. In this vein, the conceptual correlations could be more accurately perceived to be compared against the actual data (Alhojailan, 2012). For example, the researcher has been able to observe the conceptual GOS-GCCD link. This analysis could also ensure the position of the four pivotal GOS aspects towards GCCD using concept analysis based on the theme established from the study LR. The research themes will be grouped into themes, sub-themes, and sub-sub-themes. The qualitative data gathered through the study interview sessions and field observation has been thematically analysed.

3.8.2.1 Deductive-Inductive Thematic Analysis

In this study, a deductive-inductive thematic analysis approach has been employed to identify the main themes related to the role of green open spaces in the development of green cities in Melaka and Padang. This approach integrates two complementary methods: deductive analysis, which is guided by pre-existing theories or frameworks, and inductive analysis, which allows themes to emerge organically from the collected data. This combined approach ensures that the study is not constrained by initial hypotheses, but also open to unexpected findings.

a) Deductive Analysis

The deductive approach to thematic analysis begins by identifying themes based on established literature and theoretical frameworks. In the context of this study, the three main pillars of sustainability—economic, social, and environmental—have been used as the foundation for the analysis. This is aligned with previous studies that discuss the role of green open spaces in green city development. For example, research by Chiesura (2004) highlighted those green open spaces play a significant role in reducing the stresses of urban life through the ecosystem services they provide, a point which relates directly to environmental sustainability.

Through deductive analysis, the key themes have been initially identified such as income generation for residents under economic sustainability, enhancing physical

fitness under social sustainability, and restoring urban biodiversity under environmental sustainability. These themes were chosen because of strong evidence from past studies supporting the importance of green open spaces in strengthening these three pillars. For instance, Kabisch et al. (2016) emphasised that green open spaces benefit residents' physical and mental health, which directly contributes to social sustainability.

b) Inductive Analysis

Inductive analysis, on the other hand, focuses on identifying themes that were not pre-planned or anticipated during the study. This process involves a thorough reading of interview transcripts and observation notes, where additional themes that may not be captured by the initial theoretical framework can be identified. For instance, when analysing the data from Padang, one of the themes that emerged inductively was increasing urban resilience to climate change. This was because many respondents in Padang, particularly local government officials, stressed the role of green open spaces in mitigating the effects of climate change, such as reducing urban temperatures and managing stormwater runoff. This theme arose naturally from the data without being preconceived and reflects the specific local context.

The inductive approach also allowed for the discovery of unique local dimensions that might not have been reached if researcher had only relied on deductive analysis. For example, in Melaka, there was a strong emphasis on the tourism opportunities created by green open spaces, an aspect that is less emphasised in the global literature but highly relevant in the local context, given Melaka's status as a World Heritage tourism destination.

c) Integration of Deductive-Inductive Analysis

The key strength of the deductive-inductive approach lies in its ability to integrate pre-existing theoretical frameworks with new, unexpected findings. For example, the deductively identified theme of economic sustainability initially encompassed income generation for local residents through small-scale trading in public parks. However, through inductive analysis, the theme of enhancing community economic resilience through green tourism also emerged, particularly in Melaka, where

local residents gained additional income from tourism activities associated with green open spaces.

Previous studies have also supported the use of a deductive-inductive approach in thematic analysis. For example, Fereday and Muir-Cochrane (2006) emphasised that combining deductive and inductive approaches allows researchers to explore the data openly while ensuring that the research remains grounded in a solid theoretical base. In this study, the deductive approach ensured that I remained focused on the sustainability pillars, while the inductive approach provided the flexibility to discover new dimensions relevant to the local context.

As an example, during an interview with a government official in Padang, the respondent highlighted those green open spaces serve as a buffer to mitigate the impact of natural disasters such as flooding. Initially, this aspect was not included in deductive framework for environmental sustainability. However, through inductive analysis, researcher identified the theme of enhancing resilience to disasters as a crucial sub-theme under environmental sustainability. This demonstrates how the inductive approach enabled me to expand researcher analysis beyond the initial framework.

The deductive-inductive approach provides flexibility in the thematic analysis for this study, allowing researcher to integrate theoretically supported themes with new findings that emerged from the field data. The integration of pre-existing theory and new discoveries ensures a comprehensive and contextualised analysis of the role of green open spaces in the development of green cities in Melaka and Padang.

3.8.2.2 The Application of NatCen Learning's Framework Approach to Thematic Analysis

In conducting a qualitative study involving local government officials and residents in Melaka and Padang, the Framework Approach to Qualitative Data Analysis (NatCen Learning, 2012) has been utilised as a structured guideline for thematic analysis. This approach is particularly suited to policy and practice-oriented research as it helps organise and interpret qualitative data systematically while maintaining transparency and ensuring that the data remains linked to its original source. The following section provides a step-by-step explanation of how this framework was applied to the research, supported by examples and a matrix that demonstrates the theme development process.

a) Step 1: Data Familiarisation

The first step in thematic analysis is data familiarisation. This involves reading and re-reading the interview transcripts and observation notes to immerse myself in the data. At this stage, researcher took notes on key points made by local government officials and park users regarding green open spaces. For instance, in Melaka, many respondents highlighted the economic benefits of green spaces, particularly in terms of boosting tourism and providing spaces for local vendors to operate. Similarly, in Padang, residents emphasised the social benefits of having accessible green spaces to promote physical fitness and recreational activities. These early insights helped shape my understanding of the dataset and allowed initial themes to emerge around the economic, social, and environmental roles of green spaces.

b) Step 2: Identifying a Thematic Framework

Once familiar with the data, the next step was to identify a thematic framework. This involved developing themes based on both deductive and inductive processes. The deductive approach was grounded in the study's focus on sustainability, with pre-existing themes related to economic, social, and environmental pillars. For instance, "income generation" and "physical fitness" were identified early on as deductive themes linked to the economic and social aspects of sustainability. However, inductive analysis also revealed new sub-themes, such as "biodiversity restoration," which emerged as a significant environmental theme, particularly in Padang, where urban biodiversity has been a local policy focus.

c) Step 3: Indexing

After the thematic framework was established, the next step involved applying the framework systematically across the entire dataset. This process, known as indexing, involved coding sections of data that corresponded to specific themes. For example, segments of an interview where a resident discussed how green spaces contribute to the community's social fabric were coded under the theme of "social sustainability," and more specifically, the sub-theme of "community cohesion." The

indexing process was conducted using a matrix format, where data from different respondents were mapped against the relevant themes. This ensured that data was systematically organised and easily accessible for further analysis.

d) Step 4: Charting

Once the data was indexed, researcher moved on to charting, which involved summarising and rearranging the data into a matrix that allowed for both case-based and thematic analysis. For example, a chart was created to summarise the environmental benefits highlighted by government officials in both cities. This allowed researcher to visually compare and contrast the perspectives of Melaka's officials, who primarily focused on tourism-related environmental benefits, with those of Padang's officials, who were more concerned with biodiversity restoration. This charting process was crucial in identifying cross-cutting themes and allowed for a clear representation of the data.

e) Step 5: Mapping and Interpretation

The final stage of the framework approach was mapping and interpretation, where the synthesised data was analysed in-depth to draw conclusions. During this stage, reseacher looked for patterns and relationships between the different themes and sub-themes. For instance, the social and environmental benefits of green spaces were found to be closely interlinked in both cities, as spaces promoting physical activity also contributed to biodiversity. This stage was critical in developing the final framework that synthesised the strategic roles of green open spaces in both cities, integrating economic, social, and environmental factors into a cohesive explanation.

Table 3.3
Development of Themes

Raw Data Example	**Sub-Sub Theme**	**Sub-Theme**	**Theme**
"Green spaces help local vendors to sell their products."	Local vendor opportunities	Income generation	Economic sustainability

"Jogging tracks are important for community exercise."	Physical activity	Physical fitness	Social sustainability
"Having parks helps bring people together in the community."	Social interaction	Community cohesion	Social sustainability
"Green spaces allow for urban wildlife to flourish."	Urban wildlife protection	Biodiversity restoration	Environmental sustainability
"Tourists love the parks because of their natural beauty."	Tourism appeal	Economic attraction	Economic sustainability

Source: Researcher Fieldwork (2024)

Table 3.3 demonstrates how data related to the roles of green open spaces in economic, social, and environmental sustainability was categorised into relevant themes, sub-themes, and sub-sub-themes. By doing so, it provides a clear and structured path from the raw data to the final analysis, aligning with the framework approach's principles of transparency and systematic data management.

The NatCen Learning's framework approach was essential in guiding the thematic analysis for this research. Through its structured yet flexible nature, the approach allowed me to systematically explore the data while maintaining the integrity of the raw responses. The use of matrix-based indexing and charting ensured that all themes were comprehensively captured, providing a robust foundation for the subsequent formulation of the GOS-GCCF for both Melaka and Padang.

3.8.3 Constant Comparative Analysis

Constant comparative analysis is a qualitative research method that involves the continuous comparison of data to identify patterns, similarities, and differences within and across cases. Originally developed in grounded theory research by Glaser and Strauss (1967), and further explored in contemporary studies such as Evans (2023), this method is now widely applied in various qualitative studies to enhance the depth of analysis and ensure a thorough understanding of the data. In this study, constant comparative analysis was employed to systematically compare the responses from local

government officials and park users in Melaka and Padang, focusing on the roles of green open spaces in the development of green cities.

a) Process of Constant Comparative Analysis

The process of constant comparative analysis in this study involved continuously comparing the coded data within and across the themes and cases. Each new piece of data, such as a transcript from an interview, was compared to existing data to refine the emerging themes and ensure they accurately captured the respondents' perspectives. For instance, responses from government officials in Melaka regarding the economic benefits of green open spaces were compared with those from Padang. This comparison allowed me to identify differences in how green spaces are utilised for economic purposes in the two cities, revealing that Melaka's green spaces are more closely tied to tourism, while in Padang, they are used more for community-based economic activities.

b) Example of Constant Comparative Analysis in This Study

One of the key themes in this study was the role of green open spaces in promoting social sustainability, particularly through encouraging physical activity. During the constant comparative analysis, researcher compared the responses of park users in both cities regarding the availability of facilities for exercise. In Melaka, respondents often emphasised the availability of jogging tracks and fitness equipment in parks, which encouraged regular physical activity. In contrast, users in Padang highlighted the communal use of open fields for group sports and recreational activities. This comparison not only enriched the understanding of how social sustainability is facilitated through green spaces but also uncovered cultural differences in how public spaces are used.

c) Integration with Other Methods

Constant comparative analysis was used in conjunction with other analytical methods, such as thematic analysis and pattern matching, to ensure that the themes and

patterns identified were grounded in the data. By continuously comparing new data with existing themes, this method also helped to refine and validate the initial findings derived from deductive and inductive thematic analysis. This iterative process was crucial for ensuring that the analysis was both comprehensive and reflective of the nuances in respondents' experiences.

The use of constant comparative analysis in qualitative research has been widely supported in previous studies. For example, Boeije (2002) highlighted how constant comparison enables researchers to develop categories that are not only theoretically grounded but also closely aligned with the data. Similarly, Hewitt-Taylor (2001) pointed out that this method enhances the credibility of findings by ensuring that themes are continuously refined and validated through comparison with new data.

In this study, constant comparative analysis played a key role in deepening the analysis of data related to the roles of green open spaces in green city development. By systematically comparing data within and across cases, researcher was able to identify both commonalities and differences in how green spaces contribute to sustainability in Melaka and Padang. This method ensured that the analysis remained grounded in the data and that the emerging themes were robust, credible, and reflective of the respondents' experiences.

3.8.4 Pattern Identification and Analysis

This approach involves several stages in analysing data for the multi-case study. The analysis is carried out to identify key patterns in the data, compare them with relevant theories, synthesise patterns across different cases, and finally make comparisons to understand the similarities and differences between the cases studied.

3.8.4.1 Pattern Identification

Pattern identification is the first step in this qualitative analysis, where key patterns in the data are identified. Using the thematic analysis method (Braun & Clarke, 2006), these patterns are extracted from data collected through interviews and observations. Thematic analysis is used to identify and interpret recurring patterns in the context of the study.

For example, in this research, local financial strategies such as the use of CSR and charging international visitors fees for green open spaces were identified as recurring themes in the implementation of open green spaces. This is consistent with previous studies that highlight alternative funding sources as a critical factor in the sustainable implementation of green spaces (Chiesura, 2004). Chiesura's (2004) study on the importance of urban green spaces also found that creative approaches to funding, such as CSR, play a crucial role in the success of sustainable municipal initiatives.

3.8.4.2 Pattern Matching Analysis

Subsequently, deductive pattern matching analysis (Pearse, 2019) were performed to increase reliability and validation. The flow of data analysis is comprised of three phases. The first phase was when the researcher identified text fragmentation from the interview transcript and divided it according to the relevant RO1. That process has been repeated until relevant themes appear. Next is pattern matching by comparing the dataset with the current study framework and theories, including the identification process of frequency of the theme repeated by the informant.

Once the patterns are identified, Pattern Matching Analysis is employed for RO1, which is theory-driven. This analysis compares the identified patterns in the data with theoretical expectations to test for congruence. In this study, the theory underlying green city development is used to compare empirical data related to financial stability and green space implementation.

For instance, the hypothesis posits that stable financing leads to full urban greenery development. Empirical data showing the successful use of CSR in cities like Melaka and Padang can be compared with this theoretical expectation to determine whether CSR is indeed a relevant financial strategy for achieving green city goals. Yin (2018) states that Pattern Matching Analysis is an effective technique for verifying patterns obtained from case study data against existing theoretical expectations.

3.8.4.3 Cross-Case Synthesis

Cross-Case Synthesis is used to synthesise data from multiple cases. This technique is essential for understanding similar or differing patterns across the cases studied. In this research, the cases of Melaka and Padang are synthesised to identify key

patterns in green space implementation strategies, particularly in the areas of community participation and financial stability.

For instance, in both cities, CSR emerged as a recurring strategy. However, there were differences in community involvement: Melaka emphasised collaboration with local NGOs, while Padang involved the private sector directly. This synthesis process allows more general patterns to be identified and used for future policy recommendations. Creswell (2013) emphasises that Cross-Case Synthesis aids in developing a holistic understanding of the phenomenon studied, especially in multi-case studies where there is contextual variation.

3.8.4.4 Comparison Across Cases

After the synthesis, Comparison Across Cases is performed to compare the identified patterns between the different cases. This analysis is important for identifying similarities and differences in green space implementation strategies, such as funding and community involvement.

For example, while both Melaka and Padang used CSR as a funding strategy, the methods of fundraising differed. Melaka relied on corporate sector funds, while Padang depended more on international aid. This comparison reveals variations in the effectiveness of strategies based on local context.

Supported by Yin (2018), he also states that comparison across cases enables researchers to understand how specific contexts influence the effectiveness of strategies applied in different cases.

3.8.5 Comparative Analysis

The comparative analysis in this study is structured in three key phases, each building upon the previous to provide a comprehensive examination of the green open space (GOS) strategies in Melaka, Malaysia, and Padang, Indonesia. The analysis aims to test the hypotheses constructed for each research objective, identify similarities and differences, and establish how GOS initiatives contribute to green city development (GCCD) in these cities. The study follows the methodological guidance of Delwyn Goodrick's (2014) six-step guideline for comparative case studies, alongside Yin's (2014) pattern-matching logic for empirical analysis.

a) Phase 1: Literature Review and Data Organization

This phase focuses on the collection and organisation of literature and secondary data regarding the geographical, demographic, and socio-economic characteristics of Malaysia and Indonesia, both at the national and state levels. The comparison begins with an overview of each country's policy landscape related to sustainable development and GOS. Key components of this phase include:

i. National-Level Comparison:

The review covers Malaysia’s and Indonesia’s national frameworks for green city development, highlighting key differences in urban governance, sustainability strategies, and environmental policies.

ii. State-Level Comparison:

At the state level, the review narrows down to the policies and initiatives specific to Melaka and Padang, focusing on GOS master plans and the historical development of GCCD in each city.

This phase establishes a foundation for understanding the broader context of GOS and GCCD within both countries, justifying why these two cities were selected. Melaka was chosen for its historical significance and its aggressive push towards sustainable urban development, driven by tourism and heritage preservation. In contrast, Padang was selected due to its unique challenges in balancing urban expansion with environmental resilience, particularly in the context of its exposure to natural disasters. Both cities provide contrasting yet complementary cases for exploring the role of GOS in green city initiatives.

b) Phase 2: City-Level Comparison

The second phase focuses on the comparison of GOS strategies and policies at the city level, examining how local governments—the Melaka Historic City Council

(MBMB) and the Padang Local Government (PLG)—approach the implementation of green spaces within their respective urban environments.

i. Historical Development:

This section delves into the historical development of GOS and GCCD in both cities. Melaka's GOS strategies have evolved to support both urban biodiversity and cultural tourism, while Padang's approach has been more reactive, focusing on disaster mitigation and ecological restoration.

ii. Primary Data Collection:

Primary data were collected through interviews with local government officials and park users in both cities, as well as observations of GOS sites. This city-level analysis highlights key differences in the strategic objectives of GOS: Melaka's focus on economic sustainability through tourism development contrasts with Padang's emphasis on social and environmental resilience.

The comparative analysis at this level reveals important variations in policy enforcement, community engagement, and resource allocation, demonstrating how local contexts influence the success and challenges of GOS implementation.

c) Phase 3: Empirical Analysis

In this final phase, empirical data collected during the fieldwork are analysed using Delwyn Goodrick's (2014) six-step guideline for comparative case studies, as well as Yin's (2014) theory of change, which is applied to assess the patterns and relationships between GOS strategies and their outcomes.

i. Clarifying the Purpose:

The comparative analysis aims to evaluate how GOS strategies in Melaka and Padang contribute to the broader goals of GCCD, with a focus on economic, social, and environmental sustainability.

ii. Selecting Cases:

Melaka and Padang were selected for comparison due to their contrasting urban challenges and GOS objectives. Melaka's urban tourism-driven development and Padang's disaster-resilient green space strategies provide a rich basis for comparison.

iii. Developing a Conceptual Framework:

The analysis is guided by the three pillars of sustainability—economic, social, and environmental—which serve as the core dimensions of comparison for the GOS strategies in each city.

iv. Defining the Dimensions of Comparison:

The study compares the key dimensions of GOS implementation, including policy development, public engagement, and ecological impact. Yin's pattern-matching logic is applied here to determine the degree of alignment or deviation between the two cities.

v. Synthesising Data:

The data from interviews and observations are synthesised to identify similarities and differences between the two cities. This synthesis helps uncover the underlying factors that contribute to the success or failure of GOS initiatives in each context.

vi. Drawing Conclusions:

The analysis concludes by identifying best practices and lessons learned from both cities, which inform the recommendations for improving GOS strategies in Melaka, Padang, and other cities with similar urban challenges.

Table 3.4
Summary of the Comparative Analysis Section

Phase	Focus	Key Components
Phase 1: Literature Review and Data Organization	- Gathering data on geographical, demographic, and socio-economic characteristics of Malaysia and Indonesia at both national and state levels.	- **National-Level Comparison**: Compare Malaysia's and Indonesia's national policies and sustainability strategies. - **State-Level Comparison**: Examine Melaka and Padang's GOS master plans and GCCD policies. - **Justification**: Melaka for heritage-based development, Padang for disaster resilience.
Phase 2: City-Level Comparison	- Comparing the local implementation of GOS policies by MBMB (Melaka) and PLG (Padang).	- **Historical Development**: Contrast Melaka's economic focus (tourism) and Padang's resilience-driven GOS strategies. - **Primary Data**: Interviews and observations provide insights into local GOS enforcement, community involvement, and resource allocation.
Phase 3: Empirical Analysis	- Analysing empirical data using Goodrick's (2014) six-step guideline and Yin's (2014) theory of change.	- **Steps in Goodrick's Guideline**: 1. Clarify purpose (evaluate GOS contribution to GCCD). 2. Select cases (Melaka and Padang). 3. Develop conceptual framework (economic, social, environmental sustainability). 4. Define dimensions of comparison (policy, engagement, ecological impact). 5. Synthesize data (interviews, observations). 6. Draw conclusions (identify best practices, lessons). - **Yin's Theory of Change**: Use pattern-matching logic to assess alignment between GOS strategies and outcomes in both cities.

Source: Researcher Fieldwork (2024)

3.8.5.1 Delwyn Goodrick's (2014) Six-Step Comparative Case Study Guidelines

The comparative analysis in this research adopts Delwyn Goodrick's (2014) six-step guideline for conducting comparative case studies, as aligned with the foundational work of Yin (2014). This methodological approach is essential in investigating and contrasting the roles of green open spaces in Melaka City, Malaysia, and Padang City, Indonesia, towards green city development, focusing on the three pillars of sustainability: economic, social, and environmental.

Goodrick's six-step guideline provides a structured framework for systematically examining multiple cases to identify patterns of similarity and variation, which enhances the robustness of the comparative analysis. Each step is closely followed and adapted to suit the objectives of this research, especially in understanding the strategic implementation of green open spaces.

a) Step 1: Clarifying the Purpose of the Comparison

In the context of this study, the purpose of comparison is to investigate how the roles of green open spaces contribute to green city development across two different urban settings—Melaka and Padang. The comparative study is crucial in understanding the strategic implementation of both new and existing approaches to green open spaces across these two cities. This comparative investigation is driven by the overarching research objective of formulating a GOS-GCCF. The comparison helps assess the strengths and weaknesses of each city's strategy, focusing on key dimensions such as environmental restoration, social wellbeing, and economic growth.

b) Step 2: Selecting Cases for Comparison

The selection of Melaka City and Padang City as case studies is intentional, given their geographical, socio-economic, and environmental differences, which provide a rich basis for comparison. Melaka, with its historical significance and status as a rapidly developing urban centre, contrasts with Padang, which has a different set of environmental and urban challenges. The selection of these cases allows for the exploration of green open space policies and their impacts on green city development within distinct cultural and regulatory contexts. Both cities are pursuing green city development, but with differing approaches to sustainability, which enhances the comparative aspect of the study.

c) Step 3: Developing a Conceptual Framework

The conceptual framework for this research draws on the three pillars of sustainability: economic, social, and environmental, which serve as the foundation for

evaluating the roles of green open spaces. Goodrick's guideline emphasises the need to establish a clear conceptual framework to ensure consistent assessment across cases. For this study, themes such as generating resident income (economic sustainability), strengthening physical fitness and social interaction (social sustainability), and restoring urban biodiversity (environmental sustainability) form the basis of comparison. The framework also incorporates policy strategies related to green open spaces, both in terms of their development and their strategic implementation.

d) Step 4: Defining the Dimensions of Comparison

The dimensions of comparison in this research align with the key themes derived from the thematic analysis of interviews with local government officers and park users. These dimensions include the economic contributions of green open spaces, social benefits such as public health and community cohesion, and environmental impacts like biodiversity conservation and climate mitigation. By applying the 'pattern matching logic' analysis, as outlined by Yin (2014), the researcher seeks to identify the degree of similarity or variation between the two cities in how these dimensions are addressed. This step is critical in revealing how each city's policies and practices align with the broader goals of sustainable urban development.

e) Step 5: Analysing and Synthesising Data Across Cases

In this step, the empirical data collected through interviews and observations are analysed using thematic analysis, constant comparative analysis, and pattern matching. This allows for the systematic examination of each case's unique features, as well as their shared characteristics. The thematic analysis helps uncover key patterns in how green open spaces are utilised, while the constant comparative method facilitates the identification of trends and outliers across the two cities. The researcher synthesises these findings to draw meaningful conclusions about the relative effectiveness of green open space policies and strategies in Melaka and Padang, which are then examined in relation to the programme theory of change.

f) Step 6: Drawing Conclusions and Developing Implications

The final step involves drawing conclusions from the comparative analysis, which are then used to formulate recommendations for policy and practice in both Melaka and Padang. This study's findings contribute to the broader field of green city development by identifying best practices and potential areas for improvement in the management and implementation of green open spaces. The conclusions derived from the comparative analysis are also used to propose a GOS-GCCF tailored to the unique characteristics of each city. This framework provides strategic insights for policymakers aiming to enhance the sustainability of urban development through green open space initiatives.

This step-by-step discussion demonstrates how Goodrick's six-step guideline is effectively applied to your comparative case study, ensuring a thorough and structured analysis that aligns with your research objectives and methodology.

3.8.5.2 Justification for Case Selection

Melaka and Padang were selected as the focus of this comparative case study due to their distinct yet complementary urban contexts. Melaka, a UNESCO World Heritage Site, has pursued green city development through tourism and heritage preservation, with a strong emphasis on economic sustainability. In contrast, Padang, a city vulnerable to natural disasters, has focused on building resilience through environmental sustainability and social engagement. These contrasting objectives allow for a robust comparative analysis of how GOS can be tailored to meet different urban needs and sustainability goals.

3.8.6 Explanation of Hypotheses

The hypotheses formulated in this study are directly aligned with the research objectives and serve as a critical foundation for the data analysis process. While this research predominantly employs qualitative methods, the use of hypotheses is intended to provide a structured approach to exploring specific assumptions about the important roles of GOS and strategies implementation of GOS towards GCCD. The hypotheses

are examined through a combination of thematic analysis, constant comparative analysis, and pattern identification, all of which offer insight into the relationships between the data and the broader theoretical framework.

3.8.6.1 Hypothesis for Research Objective 1

The first hypothesis posits that 'A sound understanding of GOS important roles increases GCCD efficiency'. This hypothesis is explored through the identification of the benefits of GOS in GCD based on Three Pillars of Sustainability (economic, social, and environmental), such as ability of GOS to generate resident income for economic sustainability, strengthen physical fitness for social sustainability, and ability to restore urban biodiversity for environmental sustainability dimension, which contribute to development of GCCF. The analysis of qualitative interview data from local government officers and residents in both Melaka and Padang helps to validate or refute this hypothesis by exploring how these important roles of GOS impact GCD across different urban contexts.

The thematic analysis revealed multiple themes related to the economic sustainability of GOS, such as generating resident income and boosting local tourism. Constant comparative analysis across the two case studies provided further insights into how GOS important roles varies between the two cities, and how this variation influences the well implementation of GOS towards GCCD.

3.8.6.2 Hypotheses for Research Objectives 2, 3, and 4

Each of these research objectives is supported by a specific hypothesis that is addressed through the thematic patterns identified in the qualitative data. The hypotheses are as follows:

a) Research Objective 2:

This hypothesis suggests that: Well-structured administration in rapid urbanisation management improves GOS towards GCCD. Analysis of urban management strategies in well implementing GOS in the crowded city, such as vertical

green spaces and minimum percentage of GOS, helps to determine whether these strategies significantly suitable towards GCD in both Melaka and Padang.

b) Research Objective 3:

The hypothesis posits that: Stable financing leads to total urban greenery through GOS implementation for GCCD. Cross-case synthesis and comparative analysis are employed to explore what is the current practiced or new strategies as sources to finance the management and maintenance of GOS implementation that then will impact GOS success in both Melaka and Padang.

c) Research Objective 4:

The hypothesis posits that: High community participation in the LG decision process improves GOS implementation efficiency towards GCCD. This is explored through the analysis of how LG attracted park users in Melaka and Padang to engage with GOS through diverse events and programs in GOS and maximize social and mass media usage to channel to everyone in the city.

3.8.6.3 Integration of Hypotheses in the Analytical Framework

While the hypotheses serve as guiding assumptions, the analysis techniques employed, such as constant comparative analysis and pattern identification, allow for the iterative examination and refinement of these hypotheses. The comparison across cases is particularly useful for exploring variations and commonalities in the way GOS functions within different urban environments as well as the strategies implementation of GOS, thereby providing a more nuanced understanding of the hypotheses.

Additionally, thematic analysis (deductive-inductive) is applied to identify recurring themes and patterns that align with or challenge the initial hypotheses. In this way, the hypotheses are continually revisited throughout the data analysis process, ensuring that they are considered in light of emerging findings.

By triangulating the findings from different sources—interviews, observations, and secondary data—the hypotheses are further assessed or revised, thereby

contributing to a more comprehensive understanding of the important roles of GOS and strategies implementation of GOS in sustainable urban development.

3.9 Validity and Reliability

Creswell (2012) emphasised validity and reliability to be highly pivotal qualitative research elements. Qualitative researchers must be meticulous in developing study notions with regards to data collection, analysis, and interpretation and how the findings are publicly presented (Creswell, 2012). For example, qualitative data should depict cautiously-defined categories for high validity and reliability (Silverman, 2017), which enables the researcher to match empirical outcomes based on the data derived from interviews and LRs. In line with Silverman (2017), the reliability of every qualitative study outcome could be attained through the degree to which the results could be empirically proven and supported. Case studies enable data triangulation through multiple sources of evidence or derived data (Yin, 2018) regardless of time, place, situation, or person (Chua, 2021). The researcher has employ cross-country comparative case study analysis to compare the semi-structured interview data outcomes between Malaysia and Indonesia with data triangulation from distinct locations for optimal validity and reliability included verify by the experts in order to get data validity and send back transcribe interview to the informants for cross-check in order to confirm that information gathered from previous interviews is not been fabricated and able to increase data reliability. Overall, the study's validity and reliability could be ascertained using audit trails, member-checking, and triangulation, including researcher bias retention (Creswell, 2012; Lincoln & Guba, 1985; Agostinho, 2005). Notably, research validity and reliability were determined through data triangulation from different locations and different informant types (policymakers and park users), which positioned the researcher as a qualitative study tool. Agostinho (2005) highlights that naturalistic inquiry in qualitative research is essential for ensuring the credibility and trustworthiness of findings, as it allows researchers to capture the complexity of human experiences in their real-world settings. This approach aligns with the study's methodological rigor, reinforcing the importance of systematic validation strategies in qualitative research.

3.9.1 Audit Trails

Audit trails are crucial for ensuring transparency and trustworthiness in qualitative research. In this study, each step of the research process will be meticulously recorded, including the decisions made and the rationale behind them. This ensures that readers and evaluators can scrutinise how the data were collected, analysed, and interpreted. Audit trails are particularly useful in cross-country comparative studies, such as the comparison between Melaka and Padang, as they help to maintain consistency in the data collection and analysis process across different contexts (Noble & Smith, 2019). Some more, this comprehensive documentation will allow external reviewers or future researchers to trace the exact path taken by the researcher, ensuring that the research findings can be verified and validated. Here are examples of audit trails in practice in this study:

a) Data Collection Process

For each interview or observation conducted in Melaka and Padang, the date, time, location, and context of the data collection session will be recorded. If any changes or adaptations are made to the interview protocol—for example, adjusting a question based on the cultural or environmental context of one of the cities—these modifications will be documented. For instance, if a local government officer in Padang provides insights into environmental policies that differ from the context in Melaka, the researcher will record why additional probing questions were introduced to explore those differences further. The reasoning behind these decisions will be explained to ensure the integrity of the comparative analysis. For example, if during an interview in Melaka, a participant raises concerns about economic sustainability in a way that was not previously anticipated, the researcher might adapt future interviews in Padang to include questions related to this topic. The researcher will then document this decision, explaining how the new line of inquiry could provide richer comparative data.

b) Coding and Thematic Development

During the thematic analysis, the researcher will maintain a detailed record of how themes are identified, coded, and refined throughout the data analysis process. Any decision to merge themes, create sub-themes, or discard certain themes will be carefully logged along with the reasoning behind these actions. For example, if an initial analysis reveals overlapping themes of "economic sustainability" and "employment generation," the researcher may decide to combine them into a single theme after reviewing several interviews. The decision to merge these themes will be justified by referencing specific quotes or patterns observed in the data. For example, suppose both Melaka and Padang interviews highlight "community engagement" in managing green open spaces, but the data from Melaka emphasises corporate sponsorship while in Padang it focuses on volunteer efforts. The decision to either treat these as a single theme with sub-themes or separate themes altogether will be documented in the audit trail, with clear reasoning tied to the emerging patterns in the data.

c) Reflexive Documentation

Throughout the study, the researcher will maintain reflexive memos that outline personal reflections and considerations that may influence decisions. These reflexive notes will include thoughts on how personal biases or assumptions may affect the interpretation of the data. For instance, if the researcher is more familiar with the political system in Malaysia, they may reflect on how this familiarity might unconsciously shape the way they interpret government officials' responses in Melaka compared to Padang. Any adjustments made to maintain neutrality and objectivity will be recorded. For example, if the researcher realises that the questions related to environmental sustainability were interpreted differently in Padang due to differences in local policies, this reflection will be noted, along with any steps taken to address the issue, such as refining future interview questions for consistency across the two cities.

d) Rationale for Methodological Choices

Any changes made to the research methodology during the course of the study will be carefully documented. This could include alterations in the sampling strategy, the interview guide, or the analytical approach. For instance, if it becomes necessary to interview additional park users in Melaka due to a lack of data saturation on social sustainability themes, the researcher will explain why this decision was made and how it impacts the overall data collection process. For example, if the researcher initially planned to conduct 20 interviews per city but found that the data from Padang reached saturation after 15 interviews, while in Melaka the data required 25 interviews for saturation, this difference will be documented along with a rationale for extending the number of interviews in one case but not the other.

These audit trail elements provide transparency in the research process, ensuring that every decision, modification, and analytical step can be traced back to its origin and justified. By maintaining a comprehensive audit trail, the study's trustworthiness and dependability are enhanced, allowing others to evaluate the validity of the findings and replicate the study if necessary.

3.9.2 Member-Checking

Member-checking is used to enhance the credibility of research findings, where participants are given the opportunity to review and provide feedback on the researcher's interpretation of the data. In this study, local government officers and residents will be asked to verify interim findings derived from their interviews, ensuring that the researcher's interpretation aligns with the participants' intended meaning (Birt et al., 2016). This method contributes to the study's reliability by ensuring that the analysis is grounded in the participants' perspectives, not the researcher's bias.

Member-checking is a strategy used to enhance the credibility and accuracy of qualitative research findings by allowing participants to review the researcher's interpretations of the data. In this study, local government officers and residents from Melaka and Padang will be invited to review interim findings—preliminary conclusions drawn during data analysis. The purpose of this process is to ensure that the participants'

perspectives are accurately represented and to provide them an opportunity to correct any misinterpretations or add additional insights.

Interim findings refer to preliminary analyses or themes that emerge during the early stages of data analysis, before the final conclusions are drawn. These are typically shared with participants to validate whether the researcher's interpretation of the data aligns with the participants' experiences and intentions. For example, after the initial coding of interview transcripts, the researcher may identify themes related to social sustainability, such as 'community bonding' and 'enhanced physical fitness' through the use of green open spaces.

a) Example of Interim Findings in Practice:

In this study, after conducting and transcribing interviews with residents in Melaka about their use of urban parks, the researcher might identify an emerging theme such as 'improved mental health' linked to frequent use of green spaces. The researcher could then present this theme as part of the interim findings to the participants from Melaka to confirm if this interpretation reflects their actual experience. Participants may be asked, for instance, whether they agree with the interpretation that green spaces contribute to mental well-being or if they feel additional aspects (such as stress relief from urban living or connecting with nature) were overlooked.

i. Participant Feedback on Interim Findings:

A resident may point out that while they do use green spaces for mental relaxation, they primarily see it as a space for social interaction with their community, which may not have been captured fully in the researcher's initial analysis. This feedback allows the researcher to refine or expand the interpretation to better reflect the participants' views, possibly adding a sub-theme like "social interactions as mental health support."

b) Interim Findings for Local Government Officers:

Similarly, after interviewing local government officers about their views on the role of green open spaces in sustainability efforts, an interim finding might emerge around ‘economic sustainability’ with the theme of ‘increased tourism revenue’. This preliminary interpretation could then be shared with the officials to confirm whether it reflects their intentions. They may provide additional clarification, such as noting that their primary focus is not just revenue generation, but also enhancing the quality of life for residents, which should be highlighted as part of the theme.

i. Example Feedback on Economic Sustainability:

A government officer might clarify that while tourism revenue is an important consideration, the green spaces were primarily developed to improve the city’s livability and attract future investments in non-tourism sectors. Such feedback would prompt the researcher to modify the interpretation of the interim findings, possibly creating a new theme like ‘long-term economic growth through livability’ to more accurately capture the official’s viewpoint.

c) Purpose of Sharing Interim Findings:

The process of sharing interim findings serves two key purposes:

i. Accuracy of Interpretation:

It ensures that the researcher’s interpretation of the data reflects the participants' true experiences and insights, reducing the risk of misrepresentation or misunderstanding.

ii. Participant Empowerment:

It gives participants an active role in the research process, empowering them to shape the analysis and ensuring that the conclusions drawn are grounded in their lived experiences.

By incorporating feedback on interim findings, the researcher can make necessary adjustments before finalising the thematic analysis, thereby enhancing the validity and credibility of the study.

d) Example Process for Sharing Interim Findings:

i. Initial Coding and Theme Development:

After the first round of data analysis, the researcher develops preliminary themes, such as ‘community well-being’ and ‘economic development through tourism’.

ii. Presentation of Interim Findings:

The researcher sends a summary of these themes to the participants, either via email or in follow-up interviews, asking them to review the interpretation.

iii. Participant Review:

Participants review these findings, providing feedback on whether the themes reflect their actual experiences and perspectives. They may also offer additional insights or correct misunderstandings.

iv. Researcher Refinement:

Based on the feedback, the researcher refines the themes and adjusts the coding framework if necessary. For instance, a theme may be broken down into sub-themes or expanded to incorporate previously overlooked aspects.

By engaging participants in this iterative process, the researcher ensures that the final conclusions are accurate, comprehensive, and grounded in the data. Member-checking also strengthens the study's credibility, as the participants themselves validate the researcher's interpretations before final conclusions are drawn.

3.9.3 Triangulation for Validation

Triangulation involves using multiple data sources, collection methods, and analytical perspectives to increase the validity and reliability of the research findings. In this study, triangulation will be achieved through the use of interviews and observations, involving two main sample groups: local government officers and residents. This method ensures that data is cross-verified, allowing for a more comprehensive understanding of the role of green open spaces in green city development across both Melaka and Padang (Fusch et al., 2018). By comparing data from different sources, the study seeks to strengthen the credibility of the findings.

Triangulation is a critical method in qualitative research used to enhance the validity and reliability of findings by cross-verifying data from multiple sources, methods, and perspectives. In this study, triangulation will involve the use of multiple data sources (interviews with local government officers and residents), different methods (interviews and observations), and diverse analytical perspectives to strengthen the trustworthiness of the conclusions drawn about green open spaces in the green city development of Melaka and Padang.

a) Triangulation of Data Sources:

In this study, triangulation will be achieved by collecting data from two distinct groups: local government officers (policymakers) and residents (park users) in Melaka and Padang. By comparing the perspectives of these two groups, the researcher can identify patterns, discrepancies, or complementary insights that provide a more holistic understanding of how green open spaces contribute to economic, social, and environmental sustainability in both cities. This approach ensures that the analysis does not rely solely on one viewpoint, reducing the risk of bias or incomplete interpretation.

For example, LG officers in Melaka might emphasise the role of green open spaces in attracting tourism and economic investment, while residents may focus more on the social benefits, such as improving physical fitness and mental well-being. In Padang, however, residents might prioritise the environmental benefits, such as the restoration of urban biodiversity, over economic factors. By triangulating these diverse data sources, the researcher can provide a more comprehensive analysis that integrates multiple dimensions of sustainability and highlights how different stakeholder groups perceive the benefits of green open spaces.

b) Triangulation of Methods:

The study will utilise interviews and observations as complementary methods to collect data, allowing the researcher to verify findings through different means. Interviews will provide in-depth qualitative data based on participants' personal experiences and opinions, while observations will offer objective insights into how green open spaces are used and maintained in both cities. By combining these methods, the researcher can cross-check the data to identify consistencies or inconsistencies between what participants say in interviews and what is observed in practice. For example, in an interview, a local government officer in Padang might discuss the city's strategy for maintaining public parks and promoting environmental sustainability. During observations of these parks, the researcher might notice certain discrepancies, such as inadequate waste management or poorly maintained green areas, which contradict the official's claims. By triangulating the interview data with observational data, the researcher can provide a more nuanced analysis that highlights potential gaps between policy intentions and actual implementation.

Conversely, residents in Melaka might express satisfaction with the availability of green open spaces for recreational activities during interviews. Through observations, the researcher might observe frequent usage of these spaces for jogging, family gatherings, and social events, confirming the residents' views. This triangulation strengthens the validity of the research findings by ensuring consistency between different types of data.

c) Triangulation of Analytical Perspectives:

In addition to triangulating data sources and methods, the study will also use multiple analytical perspectives to interpret the data. The researcher will approach the analysis through the lens of the three pillars of sustainability—economic, social, and environmental—to explore how green open spaces contribute to each of these dimensions. By examining the data from these different perspectives, the researcher can develop a more balanced and robust understanding of the complex role that green open spaces play in green city development.

For example, during data analysis, themes related to economic sustainability (e.g., tourism and income generation) might emerge strongly from interviews with local government officers in Melaka. At the same time, themes related to social sustainability (e.g., community bonding and physical fitness) could be more prominent in interviews with residents. To ensure a comprehensive analysis, the researcher will also apply an environmental lens to examine how green open spaces contribute to biodiversity and urban resilience. By triangulating these different analytical perspectives, the researcher can present an integrated framework that captures the multifaceted impact of green open spaces in both cities.

d) Example of Triangulation in Practice:

i) Step 1: Data Collection via Interviews (Multiple Sources):

The researcher conducts interviews with government officials and residents in both cities, identifying key themes such as economic benefits, social cohesion, and environmental protection.

ii) Step 2: Data Collection via Observations (Multiple Methods):

The researcher observes how the parks are used, the maintenance standards, and any environmental initiatives like biodiversity projects in these spaces. For instance, in Melaka, the parks may be observed to attract tourists, while in Padang, the parks may be used more for community activities like local festivals or environmental clean-ups.

iii) Step 3: Comparative Analysis (Multiple Analytical Perspectives):

The researcher compares the interview data and observational data to see if there are consistencies or contradictions. For example, if local officials in Padang claim that green open spaces are a key part of their environmental policy, but the researcher observes poor environmental management in these spaces, this discrepancy would be noted. Meanwhile, in Melaka, if residents speak about the parks as vital for social activities, and the researcher observes frequent gatherings in these spaces, this agreement strengthens the study's findings.

By employing triangulation across data sources, methods, and analytical perspectives, the study provides a more rigorous and trustworthy analysis, ensuring that the findings are well-supported and reflect the complexity of green open space contributions to urban sustainability.

3.9.4 Research Bias Retention

Researcher bias is an inevitable aspect of qualitative research, but managing it effectively is critical to maintaining the integrity of the study. In this research, strategies such as self-reflection and explicit documentation of the analytic process will be employed to minimise personal bias. This involves documenting assumptions, personal opinions, and decisions made during data analysis, thereby promoting transparency and accountability in the interpretation of findings (Berger, 2015). By retaining and addressing bias in this manner, the study aims to preserve objectivity and trustworthiness.

Researcher bias is an inherent challenge in qualitative research, particularly when the researcher is deeply involved in the data collection and analysis process. However, addressing and managing this bias is essential to maintaining the credibility of the findings. In this study, several strategies will be employed to retain and mitigate bias, including self-reflection and explicit documentation of the analytic process.

a) Self-Reflection

Self-reflection, also referred to as reflexivity, involves the researcher's continuous assessment of how their personal background, assumptions, and experiences might influence the research process and outcomes. Reflexivity is crucial in cross-country comparative studies like this one, where the researcher may have varying degrees of familiarity with different cultural and institutional contexts in Melaka and Padang. By regularly engaging in reflexive journaling, the researcher can record their thoughts, potential biases, and evolving understanding of the data throughout the research process (Berger, 2015). For example, if a researcher is more familiar with one city's governmental structure than the other, they might unknowingly focus more on themes that resonate with their preconceptions. By actively reflecting on this potential bias, the researcher can take steps to ensure both cities are equally considered in the analysis.

b) Explicit Documentation of the Analytic Process

Explicit documentation involves systematically recording each step of the data analysis process, from initial coding to theme development and interpretation. This transparent approach ensures that other researchers or reviewers can trace how conclusions were reached. In this study, each decision made during the analysis will be documented, including the rationale for coding certain pieces of data in specific ways, merging or separating themes, and the justifications for interpreting findings in light of the research objectives. For instance, if a particular theme related to environmental sustainability emerges more strongly in the interviews from Melaka than Padang, the researcher will document why this was the case, considering potential contextual differences or interview dynamics (Nowell et al., 2017).

Additionally, the researcher will utilise a coding framework that will be revised iteratively as new themes and patterns emerge. Any changes to the coding framework will be documented, including reflections on how the researcher's background might influence these decisions. For example, if the researcher initially overlooks certain social sustainability themes, reviewing and explicitly documenting these decisions may reveal the influence of prior assumptions, prompting the researcher to revisit the data to

ensure all aspects are covered. These strategies contribute to greater transparency and enhance the rigour of the research. By maintaining a record of reflexive insights and analytic decisions, the researcher can critically assess and mitigate bias, promoting the objectivity of the findings while acknowledging the subjective nature of qualitative research.

For example, in this study comparing the impact of GOS in both cities, the researcher may have an implicit belief that urban parks in Melaka are more developed based on prior visits. Through reflexive journaling, the researcher can document these pre-existing views and consciously approach the data from Padang with an open mind, ensuring that both cities are analysed with equal rigour. Furthermore, any analytic decisions made during theme development, such as merging 'economic sustainability' with 'community income' due to overlapping responses, will be thoroughly documented with justifications to allow for external review.

3.10 Methodology Alignment with SDG 11

The research methodology adopted in this study aligns with SDG 11: Sustainable Cities and Communities, which promotes inclusive, resilient, and sustainable urban development. By employing a cross-country embedded multicase study design, this research examines context-specific strategies for enhancing Green Open Space (GOS) implementation within Green City Concept Development (GCCD). The comparative approach between Melaka, Malaysia, and Padang, Indonesia allows for a comprehensive evaluation of urban sustainability challenges and the effectiveness of localised policies in addressing them. This methodological framework aligns with SDG Target 11.3, which emphasises “inclusive and sustainable urbanisation and participatory, integrated, and sustainable human settlement planning and management in all countries.” By investigating the role of local governments, policy frameworks, financial mechanisms, and public participation in GOS implementation, this study contributes to a deeper understanding of how urban governance models can be improved to achieve sustainable city planning goals.

Additionally, the study utilises semi-structured interviews and non-participant structured observations to capture diverse perspectives from both policymakers and local residents. This methodological approach ensures a comprehensive representation of urban stakeholders, addressing SDG 11’s inclusivity principle. The research also

places a strong emphasis on financial stability, community participation, and urban management strategies, which are crucial dimensions of sustainable urban planning. Furthermore, the triangulation of data sources, including interviews with local government officers and residents, strengthens the validity and reliability of the findings, ensuring they are aligned with real-world urban sustainability needs. This methodological alignment with SDG 11 not only enhances the credibility of the study but also ensures that its findings provide practical, evidence-based recommendations for improving urban resilience, equitable green space access, and participatory governance.

3.11 Chapter Summary

This study adopts a cross-country comparative embedded multicase study research design (refer to Figure 3.2). The selected case study for Malaysia has include the GOS located in Bukit Serindit Recreational Park and Bunga Merdeka Park, Melaka City while the Indonesian counterpart has involved the GOS situated in RTH Imam Bonjol Park and Nanggalo Park, Padang City. Both cases provide novel possibilities to comprehend the GOS implementation towards GCCD following the current local environment. Research methods has encompassed LRs, semi-structured interviews, and comparative analysis. Conclusively, performing cross-country comparative case studies could depict the elements that could be imbibed on practical grounds.

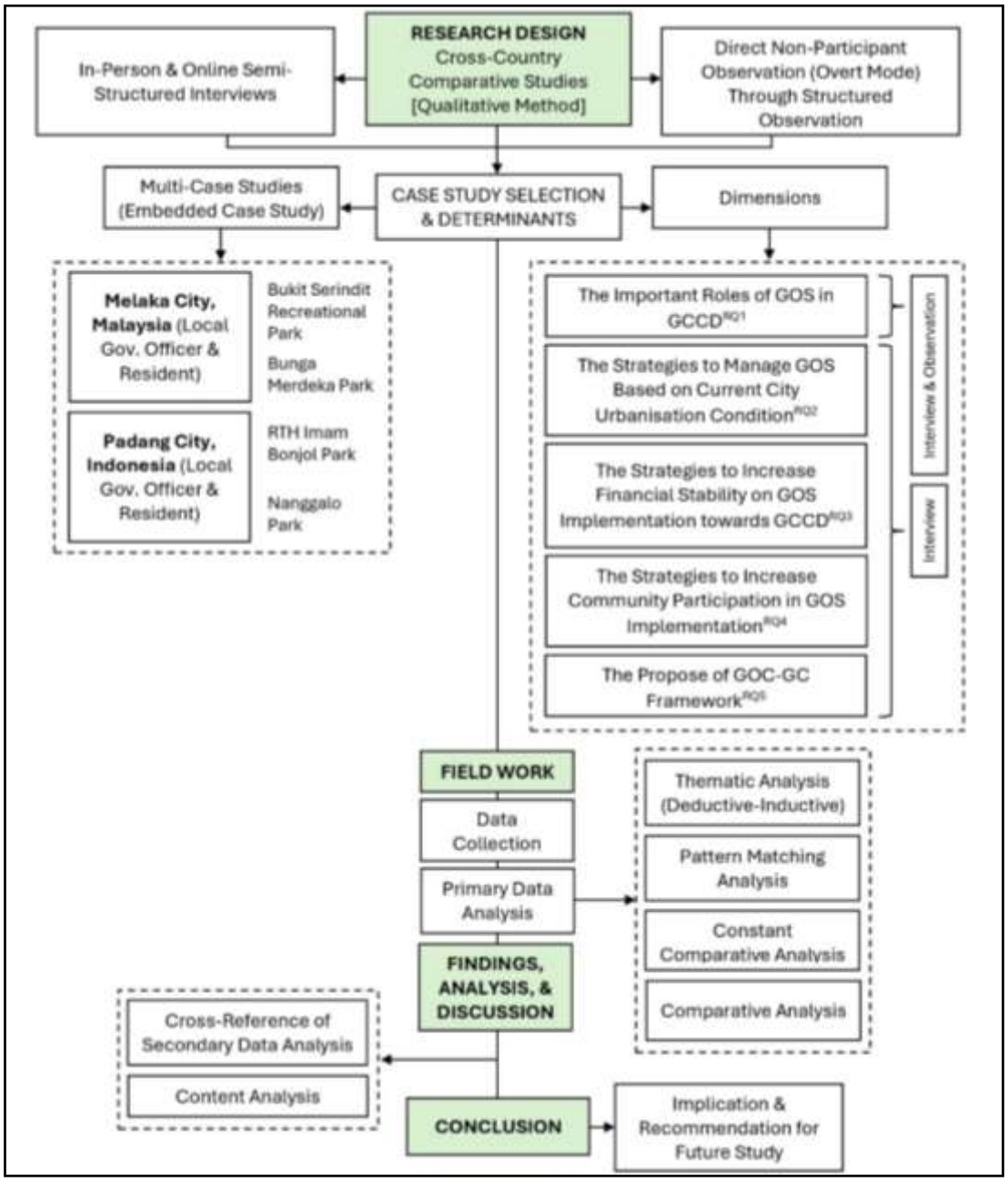

Figure 3.2 Flowchart of Research Methodology

CHAPTER 4
FINDINGS

4.1 Introduction

This chapter discusses the methodology used included research design for qualitative research in depthly. This chapter also discusses the analyses of data from the interview with selected local government officers and local residents in Melaka City and Padang City. This chapter constitutes findings and analysis on the data collected through a qualitative approach. To analyses the raw data and to achieve research objective successfully, five phases of research process are followed:

a) Phase 1: The important roles of GOS in GCCD(Interview and Observation).
b) Phase 2: The strategies to manage GOS based on current city urbanisation condition.
c) Phase 3: The strategies to increase local government financial stability in financing GOS implementation towards GCCD.
d) Phase 4: The strategies to increase community participation in GOS implementation.
e) Phase 5: The formulation of GOS-GCCF that suits with Melaka and Padang local context.

This stage involved two stages of data collection using semi-structured interview and direct non-participant structured observation. These multiple data source was used to ensure the richness of evidence from different perspective on important roles of GOS in GCCD and to overcome the potential weakness inherent in multicase data collection method. This was to reitate, the purpose of research objective one that was to examine the important roles of GOS in GCCD, the findings and analysis for which data collections were as follows.

In order to obtain the RO1, an interview and observation method was employed to examine the important roles of GOS in GCCD from views of local officers from Majlis Bandaraya Melaka Bersejarah (MBMB) [Melaka Historic City Council (MHCC)] and residents as park user at Bukit Serindit Recreational Park and Bunga

Merdeka Park. In this semi-structured interview nine informants from MBMB with different department and rank and 11 residents have been interviewed same goes for Indonesia local government, Padang City, eight officer have been selected with 12 resident and two GOS involved for observation which are RTH Imam Bonjol Park and Nanggalo Park. The analysis was carried out using the qualitative software NVivo 12. All responses were presented and summarised using interpretation of the NVivo, since coding and nodes can be generating in the simplest way. The summary of semi-structured interview results was shared to the informants and the informants were requested to review and verify the result showed (called: member checks). This was to ensure reliability of the data (Creswell, 2013). Furthermore, data from interview will be supported with data from non-participant structured observation through covert mode and analysed based on thematic analysis together with other analyses techniques that compromised with development of code follow by categorised and identification of relevant themes that can answered the research question. Observational data have been recorded through field note, that involves photography and video recording. The location involve is Bukit Serindit Recreational Park, Bunga Merdeka Park, RTH Imam Bonjol Park, and Nanggalo Park. Follow by RO2 until RO5 data driven from interview only.

4.2 Profiles of Informants

This study involved a data collection period of 12 months, from February 2023 until February 2024. In-depth semi-structured interviews with key informants representing relevant city council in Melaka City, Malaysia and Padang City, Indonesia were conducted. The findings of this chapter were derived from the feedback obtained from two (2) main groups – the local government officers as policymakers and the residents as park users. A total number of 40 informants were involved in this research with out of 40 informants, 22 were male and 18 were female. Most of the informants between 30 to 40 years old. They are aware of the GCD in their city, they understand GC and GOS term and know that the GOS is one of the important main dimensions in GCC. All of informants among local government officer actively and directly involve with GC program and project through GOS implementation. Unfortunately, most of the informant among local government officer and resident is not a member of any park community, they only regular park users and some of informant among residents do

involve in GC program or project too. Furthermore, most informant have been living in their neighbourhood more than 10 years, while the officer mostly holding their position in city council more than 10 years.

As refer Figure 4.1 total of 40 informants for both cities 30% (12 informants) from that is Padang City's residents follow by Melaka City's residents 27.5% (9 informants), Melaka City's LG officers 22.5% (11 informants), and 20% (8 informants) from Padang City's LG Officers. Furthermore, 55% (22 informants) of 40 informants from both cities is male and most of them are more than 30 years old and hold a bachelor's degree. Besides that, most of them also resided in their respective cities for more than 10 years. This shows that most of them are very aware of the current situation of their city, especially for GOS conditions.

Table 4.1
Data Frequency of Informant Profile

Profile	**Description**	**Number of Informant**	**Percentage (%)**
Type of Informant	Melaka's LG Officer	9	22.5
	Padang's LG Officer	8	20
	Melaka's Resident	11	27.5
	Padang's Resident	12	30
Gender	Male	22	55
	Female	18	45
Age	<20	0	0
	>20	10	25
	>30	15	37.5
	>40	9	22.5
	>50	6	15
Highest Education Level	SPM	1	2.5
	STAM	1	2.5
	Foundation	1	2.5
	Diploma	7	17.5
	Bachelor's Degree	15	37.5
	Master's Degree	13	32.5
	Doctor of Philosophy	2	5
Year of Residential	<2 Years	0	0

	>2 Years	9	22.5
	>5 Years	4	10
	>10 Years	13	32.5
	>20 Years	6	15
	>30 Years	8	20
Year of Experience for LG Officer	<2 Years	0	0
	>2 Years	2	11.8
	>5 Years	5	29.4
	>10 Years	9	52.9
	>20 Years	0	0
	>30 Years	1	5.9

Source: Researcher Fieldwork (2024)

Next, the study has identified 13 main themes from 26 theme as the important roles of GOS by adapting three dimensions from Three Pillars of Sustainability Theory, namely economic, social, and environmental sustainability, which has shown to be essential in GCD through GOS implementation (Refer to Table 4.3 and for more details with interview and observation data refer to Table 4.4 until Table 4.5). Additionally, the study identified three other dimensions that emphasise the strategy required for GOS implementation (urban management, LG financial stability, and community participation), contributing to GC achievement. Overall, the study discovered 70 themes in proposing the GOS-GCC Framework as the outcome of the study (Refer to Table 4.3, Table 4.10, Table 4.13, Table 4.16, and Table 4.19. As exhibited in Table 4.4, the term 'file' refers to the number of informants who mentioned the theme as well as photo and video from the observation study. On the other hand, the term 'reference' refers to the frequency of the theme repeated by the informant included the description from photo and the video. Each informant, photo and video involved in a particular theme was recorded using table symbol (√) and Table 4.2 and Table 4.3 show the list of informant pseudonym for local government officer and the resident of both cities.

Table 4.2
List of Informant Pseudonym for Local Government Officer at Melaka and Padang City

Type of Informant	Pseudonym of Informant	Age	Year of Residential	Local Government	Department	Position
Melaka Local Government's Officer 1	MO1	41	7	MBMB	Environmental Health	Environmental Health Officer
Melaka Local Government's Officer 2	MO2	32	2	MBMB	City Planning	Assistant Director (Planning)
Melaka Local Government's Officer 3	MO3	34	28	MBMB	Landscape & Urban Beautification	Landscape Architect
Melaka Local Government's Officer 4	MO4	34	15	MBMB	Environmental Health	Assistant Senior Environmental Officer
Melaka Local Government's Officer 5	MO5	42	19	MBMB	Landscape & Urban Beautification	Assistant Landscape Architect
Melaka Local Government's Officer 6	MO6	39	39	MBMB	City Planning	Assistant Director
Melaka Local Government's Officer 7	MO7	46	26	MBMB	Engineering	Senior Assistant Director of Engineering-Project Management
Melaka Local Government's Officer 8	MO8	35	3	MBMB	Engineering	Senior Assistant Engineer

Melaka Local Government's Officer 9	MO9	33	10	MBMB	Engineering	Engineer Assistant (Traffic & Environmental Management)
Padang Local Government's Officer 1	PO1	41	35	DLH	Not Applicable	Head of Environmental Law Management & Enforcement
Padang Local Government's Officer 2	PO2	57	2	DLH	Not Applicable	Head of Parks & Environmental Maintenance Division
Padang Local Government's Officer 3	PO3	51	51	DPUPR	Not Applicable	Assistant of City Space Supervision
Padang Local Government's Officer 4	PO4	53	34	DPUPR	Not Applicable	Head of Spatial Planning
Padang Local Government's Officer 5	PO5	38	20	BAPPEDA	Research & Development	Young Expert Researcher Functional (Sub Coordinator of Innovation & Technology)
Padang Local Government's Officer 6	PO6	55	30	BAPPEDA	Research & Development	Young Expert Researcher Functional
Padang Local Government's Officer 7	PO7	45	45	BAPPEDA	Infrastructure & Regional	Head of Infrastructure & Regional Affairs
Padang Local Government's Officer 8	PO8	44	43	BAPPEDA	Regional Development Planning, Control & Evaluation	Young Expert Planner Functional

Abbreviation MBMB : Majlis Bandaraya Melaka Bersejarah [Melaka Historic City Council]

DLH	: Dinas Lingkungan Hidup [Department of Environmental Services]
DPUR	: Dinas Pekerjaan Umum & Penataan Ruang [Department of Public Works & Spatial Planning]
BAPPEDA	: Badan Perencana Pembangunan Daerah [Regional Development Planning Agency]

Source: Researcher Fieldwork (2024)

Table 4.3
List of Informant Pseudonym for Resident at Melaka and Padang City

Type of Informant	Pseudonyms of Informant	Age	Year of Residential
Melaka Resident 1	MR1	27	4
Melaka Resident 2	MR2	47	9
Melaka Resident 3	MR3	45	17
Melaka Resident 4	MR4	32	32
Melaka Resident 5	MR5	59	13
Melaka Resident 6	MR6	42	11
Melaka Resident 7	MR7	32	3
Melaka Resident 8	MR8	39	12
Melaka Resident 6	MR9	39	10
Melaka Resident 7	MR10	32	12
Melaka Resident 8	MR11	22	2
Padang Resident 1	PR1	22	4
Padang Resident 2	PR2	22	4
Padang Resident 3	PR3	21	21
Padang Resident 4	PR4	27	8
Padang Resident 5	PR5	22	20
Padang Resident 6	PR6	53	24
Padang Resident 7	PR7	29	13
Padang Resident 8	PR8	38	10
Padang Resident 9	PR9	39	10
Padang Resident 10	PR10	30	13
Padang Resident 11	PR11	26	8
Padang Resident 12	PR12	22	4

Source: Researcher Fieldwork (2024)

4.3 Research Objective 1 (RO1): The Important Roles of Green Open Space in Green City Concept Development

There are four GOS areas from two different countries which is Malaysia and Indonesia located precisely in Melaka City and Padang City had been observed and recorded by photo and video as supported to informants' description in order to answer RQ1 (Table 4.6, Table 4.9, and Table 4.12). Figure 4.1 until Figure 4.4 illustrates the appearance of the GOS landscape in four public parks. Has various social facilities and the organised placement of flora and fauna habitats, including various commercial areas provided by MBMB and PLG inside and surrounding the park. It has shown that the four parks brought a comprehensive benefit for city sustainability that is essential to Melaka City and Padang City in achieving a GC status. By incorporated with three dimensions from Three Pillars of Sustainability Theory (economic, social, and environmental), the benefits or functionality in term to examines the important roles of GOS towards GCD have been identified. A total of 13 key themes out of 26 main themes were found in this study (Refer Table 4.4) and the themes has been rearranged according to total number of 'file' and 'reference' (Refer to Table 4.6, Table 4.9, and Table 4.12).

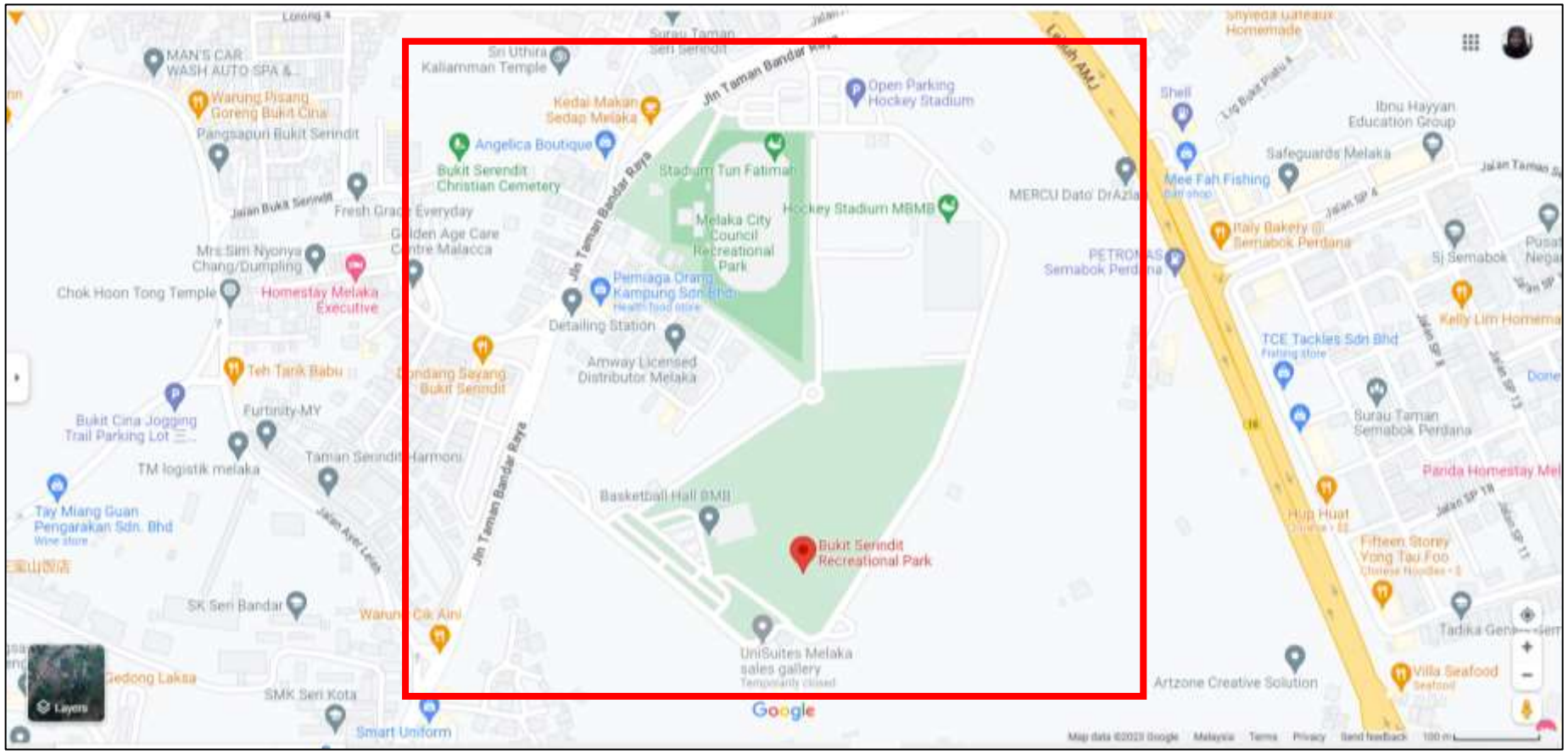

Figure 4.1 Bukit Serindit Recreational Park, Melaka City, Malaysia
Source: Google Map (2024)

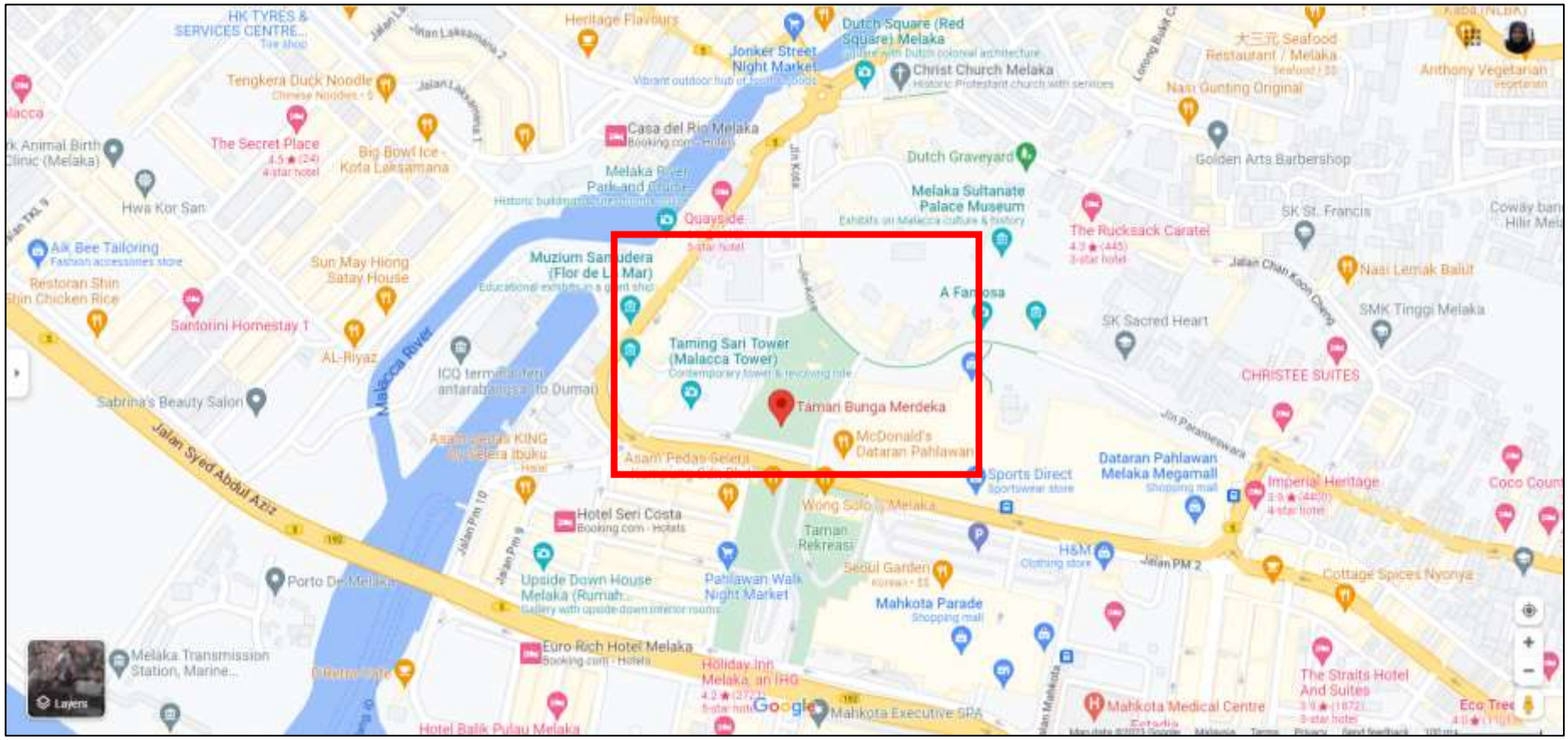

Figure 4.2 Bunga Merdeka Park, Melaka City, Malaysia

Source: Google Map (2024)

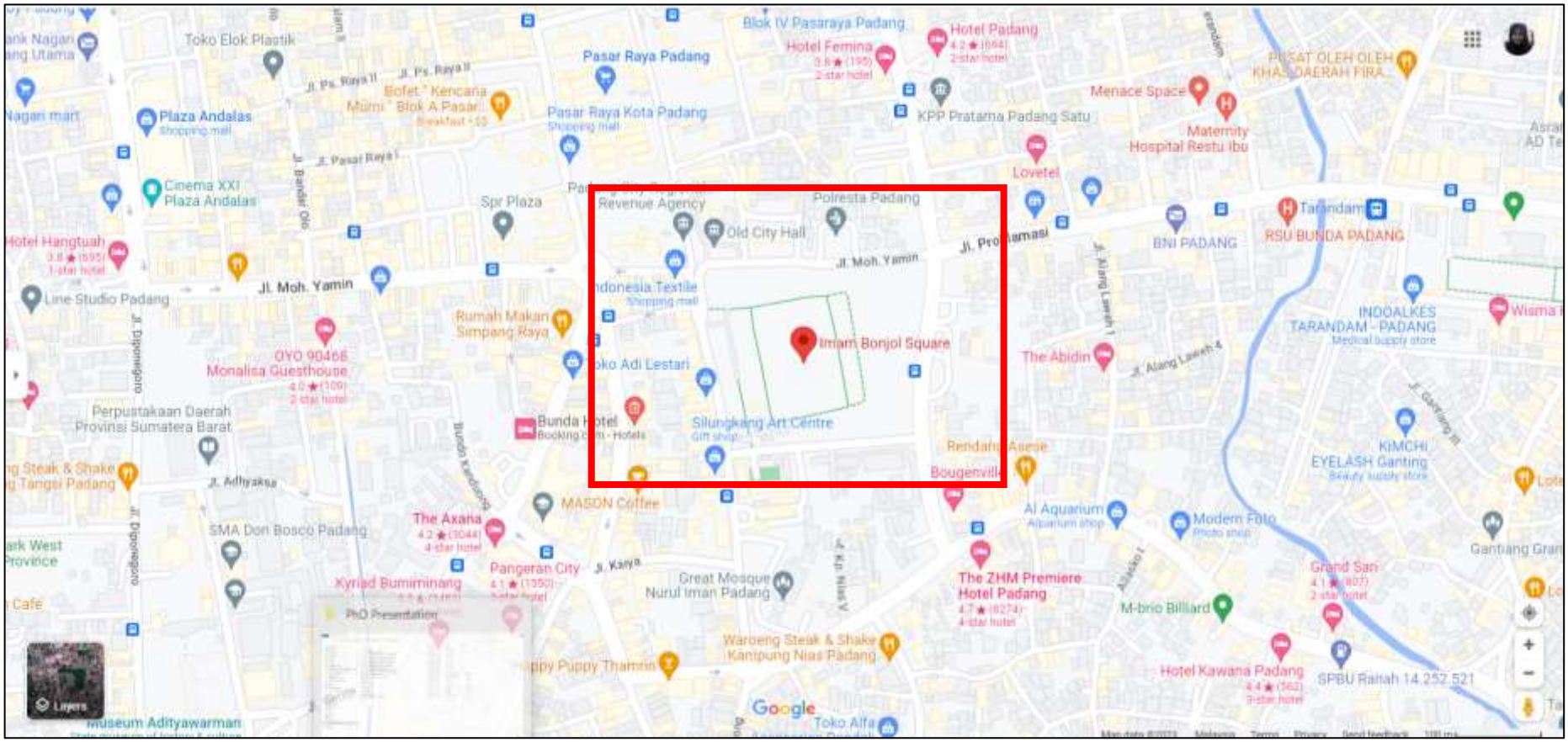

Figure 4.3 RTH Imam Bonjol Park, Padang City, Indonesia

Source: Google Map (2024)

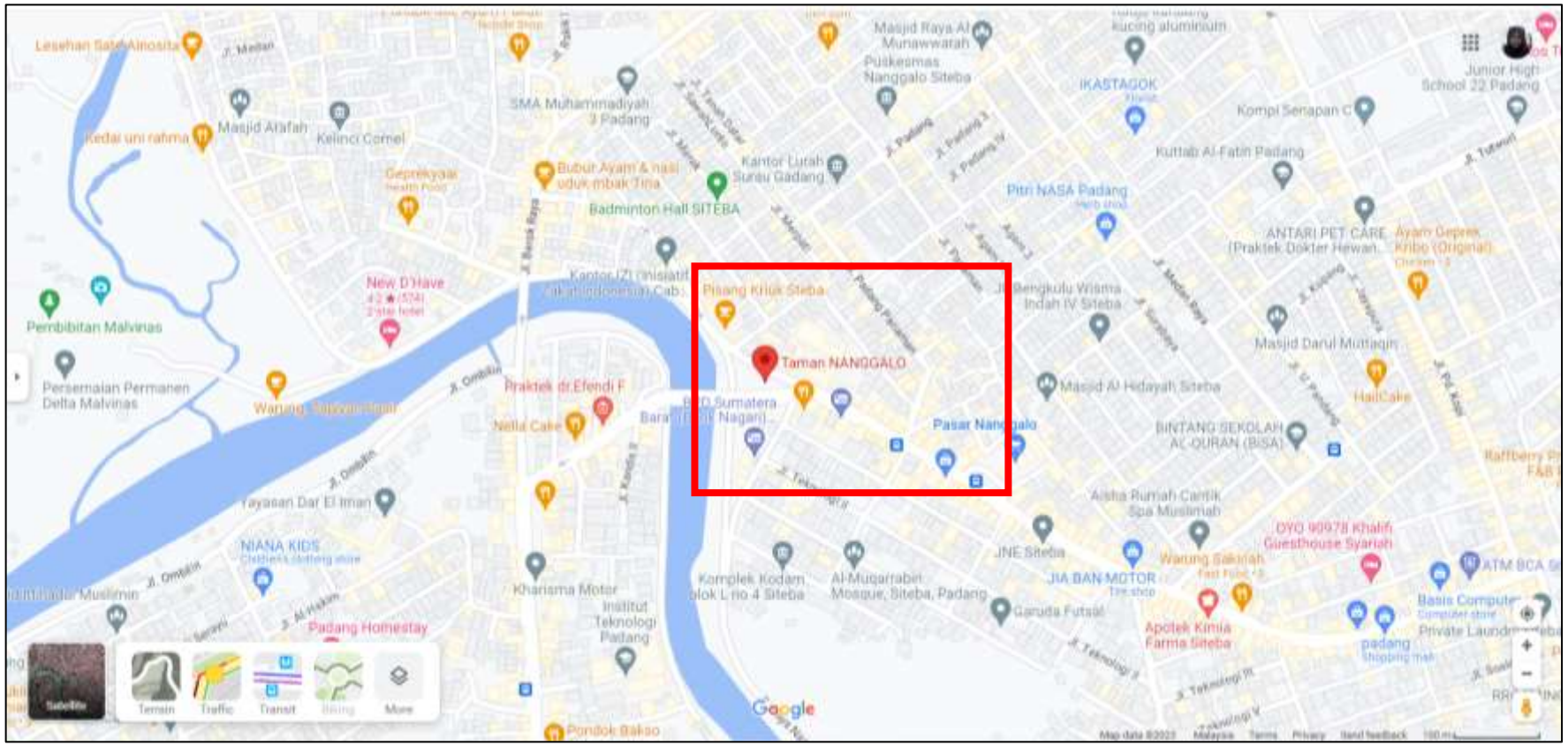

Figure 4.4 Nanggalo Park, Padang City, Indonesia
Source: Google Map (2024)

As Table 4.4 below shows the overall summary of findings RO1, there are total 26 themes that represent the ability of the GOS contribute positively to GCD by looking at Three Pillars of Sustainability Theory (economic, social, and environmental).

Table 4.4
Overall Summary of Main Theme Development Using Comparative Analysis for Important Roles of Green Open Space in Green City Development in Melaka and Padang

Bil.	Abbreviation	Dimension / Main Theme	Melaka	Padang
		Economic Sustainability		
1	GRI	Generating Resident Income	√	√
2	ITN	Increasing Tourist Numbers	√	√
3	BPV	Boosting Property Value	√	√
4	SLGR	Strengthening Local Government Revenue	√	√
5	AI	Attracting Investors	√	X
			5	4
		Social Sustainability		
6	SPF	Strengthening Physical Fitness	√	√
7	IEMH	Improving Emotional and Mental Health	√	√
8	EHB	Enriching Human Bonds	√	√
9	EOP	Encouraging Outdoor Pedagogic	√	√
10	PSN	Providing a Safe Neighbourhood	√	√
11	IRA	Increasing Residents' Awareness	√	X
12	NGT	Nurturing Green Technology	√	X
13	CHNR	Creating Human-Nature Relationship	√	√
14	DSP	Developing Strong Personality	√	x
			9	6
		Environmental Sustainability		
15	RUB	Restoring Urban Biodiversity	√	√

16	PF	Preventing Flood	√	√
17	FUA	Filtering Urban Air	√	√
18	SNR	Screening and Noise Reduction	√	√
19	CDUT	Cooling Down Urban Temperature	√	√
20	BBMP	Becoming a Bird Migration Point	√	√
21	CON	Controlling Odour Nuisance	√	√
22	PW	Purifying Water	√	√
23	RSW	Resisting Strong Wind	√	√
24	RS	Remediating Soil	√	√
25	ML	Mitigating Landslide	√	X
26	WC	Water Conservation	√	X
			12	10
		Total Main Theme	**26**	**20**

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

4.3.1 Economic Sustainability

There are total of five main themes found for Melaka City and four main themes found for Padang City. The informants mentioned that GOS serves as a resource area for generating income for residents – this is the most repeated theme mentioned compared to other. This theme also supported by observational data by photo and video record.

Table 4.5
Summary of Main Theme Development Using Comparative Analysis for Important Roles of Green Open Space in Economic Sustainability Towards Green City Development in Melaka and Padang

Bil.	Abbreviation	Dimension / Main Theme	Melaka	Padang
		Economic Sustainability		
1	GRI	Generating Resident Income	√	√
2	ITN	Increasing Tourist Numbers	√	√

3	BPV	Boosting Property Value	√	√
4	SLGR	Strengthening Local Government Revenue	√	√
5	AI	Attracting Investors	√	X
		Total Main Theme	**5**	**4**

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

While, as referred to Table 4.6 it shows development of theme from thematic and pattern matching analysis by counting the file and references (repeated words and sentences) given from informant's perspective and data from observational study.

Table 4.6
Details Summary of Main Theme Development Using Thematic and Pattern Matching Analysis for Important Roles of Green Open Space in Economic Sustainability Towards Green City Development in Melaka dan Padang

Informant & Observation	**Main Theme**				
	GRI	**ITN**	**BPV**	**SLGR**	**AI**
MO1	√	√	√	√	
MO2	√	√			
MO3	√	√		√	
MO4	√	√	√		
MO5	√	√	√		
MO6	√	√	√		
MO7	√	√			
MO8	√	√	√		√
MO9		√	√		
MR1	√	√	√	√	√
MR2	√	√			√
MR3	√	√	√		√
MR4	√	√			
MR5	√	√			

MR6	√	√			
MR7	√	√		√	
MR8	√	√	√		
MR9	√	√	√		
MR10	√	√	√		
MR11	√				
OBP-BMP	1, 2, 3, 4, 5, 20, 22, 23, 24, 25, 27, 28, 29, 33, 34, 35, 30, 31, 32, 79, 84	25, 26		21, 83, 87	
OBP-BSRP	1			23, 25, 72, 74	
OBV-BMP					
OBV-BSRP	1				
File / Reference	42/108	21/56	11/11	11/11	4/4
PO1	√		√		
PO2	√				
PO3	√				
PO4	√		√		
PO5	√	√			
PO6	√		√		
PO7	√	√			
PO8	√				
PR1	√		√		
PR2	√		√		
PR3	√			√	
PR4	√	√	√	√	
PR5	√	√			

PR6	√		√		
PR7	√		√		
PR8	√				
PR9	√	√	√	√	
PR10	√				
PR11	√		√		
PR12	√				
OBP-NP	1, 2, 3, 4, 5, 6, 20				
OBP-RTHIBP	1, 2, 3, 4, 5, 6, 7, 9 8, 9, 10, 14, 22, 41, 42, 57, 58				
OBV-NP	1				
OBV-RTHIBP	1	1			
File / Reference	45/113	7/28	10/16	3/4	0/0
Total File / Reference	**87/221**	**28/84**	**21/27**	**14/15**	**4/4**

Abbreviation	MO	: Melaka City's Local Government Officer
	MR	: Melaka City's Resident
	OBP-BMP	: Observation Photo-Bunga Merdeka Park
	OBP-BSRP	: Observation Photo-Bukit Serindit Recreational Park
	OBV-BMP	: Observation Video-Bunga Merdeka Park
	OBV-BSRP	: Observation Video-Bukit Serindit Recreational Park
	PO	: Padang City's Local Government Officer
	PR	: Padang City's Resident
	OBP-NP	: Observation Photo-Nanggalo Park
	OBP-RTHIBP	: Observation Photo-RTH Imam Bonjol Park
	OBV-NP	: Observation Video-Nanggalo Park

OBV-RTHIBP : Observation Video-RTH Imam Bonjol Park

Source: Researcher Fieldwork (2024)

Table 4.5 and Table 4.6 summaries the main theme the important roles of GOS in GCD through its ability to bring sustainability in economic dimension, show the difference between Melaka and Padang. The total important roles in economic sustainability, five themes have been given by the informants followed by the sub-theme and sub-sub-theme development as refer to table and figure as per below description (refer to Table 4.7 and Figure 4.5 and Figure 4.6). By look at the finding from constant comparative analysis on first theme elaborated the similarities and differences of ability of GOS from both cities to support the economic sustainability towards GCD.

Table 4.7
Details of Main Theme, Sub-Theme, and Sub-Sub-Theme Development Using Constant Comparative Analysis for Important Roles of Green Open Space in Economic Sustainability Towards Green City Development in Melaka and Padang

Bil.	Main Theme	Sub-Theme (Melaka)	Sub-Sub-Theme (Melaka)	Sub-Theme (Padang)	Sub-Sub-Theme (Padang)
1	Generating Resident Income	Food & Beverage Outlets	Coffee Shop	Food & Beverage Outlets	-
			Food Court		Bazar Ramadhan
			Food Truck		Food Trucks
		Retail & Services	Handphone Shop	Retail & Services	-
			Hotel		-
			Photographic Shop		Photographic Shops
		Event & Club Activities	Club Fund Generation (Aerobic, Running)	Event Activities	-
			NGO/Club Fund Generation from Events		Paid Events
		Mall & Supermarket Proximity	Mart (e.g., TRANSPOD Mini-Mart)	Mall & Supermarket Proximity	-

	Near to Mall or Supermarket (e.g, McDonald's)		Near to Mall or Supermarkets
Sports & Recreational Activities	Water sport	Sports &Recreational Activities	-
	Kids' Fun Activities		Paid Playgrounds
	Zumba & Zumba Booth		-
	Cycle Rickshaw		-
	Horse-Drawn Carriage		-
	Kayaking		-
	Rental Facilities (Bicycles, Kids' Motorbikes, Rollerblades, Scooters)		Equipment Rental (e.g., Rental Mats)
Street Hawker Stalls	Food Vendors	Street Hawker Stalls & Performers	Street Vendors (Homemade Food)
	Hawkers (Street Hawker)		Hawkers (Street Hawker)
	Stalls (F&B, Pasar Tani, Pasar Malam)		Roadside Stalls
	Up Town Markets		Street Performers (Busking)
Small Traders & Businesses	Business Units	Small Traders & Businesses	Resident-Run Shops & Stalls
	Shop Lots		Shop Lots
	Small Traders		-
	SMEs (Small and Medium Enterprises)		MSMEs (Micro, Small & Medium Enterprises)
Urban Farming	Food Production	-	-

		-	-	Opening Employment Opportunities	Transportation Hubs (Near Transit Points)
					Facilities for Waiting Areas
2	Increasing Tourist Numbers	City Attraction	General City Landmarks	City Attractions	General City Landmarks
		Event & Program Attractions	Bird Competitions	Events Attractions	Cultural Events and Programs
			Melaka Duck Tours		-
		Nature & Recreational Attractions	Natural Scenic Spots	Nature Attractions	Natural Scenic Spots
			Park Sports & Recreational Facilities		-
		Tourism & Historical Attractions	Historical Replicas (e.g., Cow Cart)	-	-
			Historical Structures (e.g., Train, Aeroplane, Yellow Car, Cannon, Stone Block, Ruins of Bastion Mauritius)		-
			Historical Symbolic (e.g., The Cross City, Menara Taming Sari, Taming Sari Keris)		-
		-	-	Tourism & Cultural Attractions	Minangkabau Traditional Clothing
		-	-		Rumah Gadang Minangkabau (Traditional Houses)
3	Boosting Property Value	Commercial Area Proximity	Impact on Property Near Commercial Zones	Commercial Area Proximity	Impact on Property Near Commercial Zones

		Green Open Spaces in Heritage Areas	Property Demand Around World Heritage Zones	Green Open Spaces in Tourism Spots	Property Demand Around Tourist Attractions
		Demand for Green Space	Impact on Property Prices Due to Proximity to Parks	Demand for Green Space	Impact on Property Prices Due to Proximity to Parks
		Multi-Facilities Impact	Properties Near City Centre, Green Spaces, and Recreational Areas	Multi-Facilities Impact	Properties Near City Centre, Green Spaces, and Recreational Areas
		-	-	City Centre Proximity	Impact on Property Near City Centre
4	Strengthening Local Government Revenue	Paid Swimming Pool Facilities	Commercial Activities in Parks	-	-
		Paid Park Facilities	Paid Parking	Paid Park Facilities	Paid Parking
			Paid Sport Space Facilities (e.g., Football Fields, Badminton Courts)		Paid Facilities (e.g., Playgrounds, Fitness Centres)
			Paid Swimming Pool Facilities	-	-
		-	-	Rental Space for Events & Program	Commercial Activities in Parks (e.g., Cultural or Business Events)
5	Attracting Investors	Foreign Investment	Attracting Foreign Investors to Park Projects	-	-
		International Tree-Planting	Partnering in Global Tree-Planting Initiatives	-	-
		Investment Opportunities	Promoting Park-Related Investment Options	-	-

Park Attractions	Showcasing Parks as Attractive Investment Ventures	-	-

Source: Researcher Fieldwork (2024)

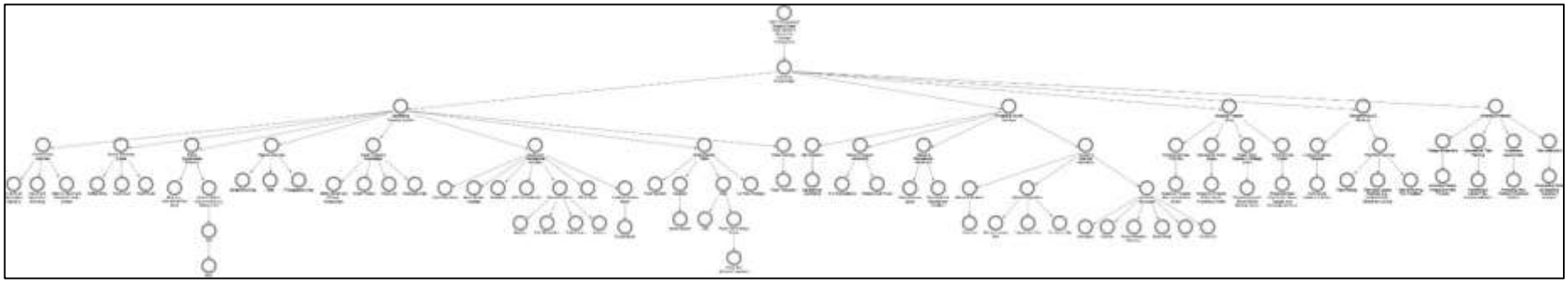

Figure 4.5 NVivo Summary of Overall Theme Development for Important Roles of Green Open Space in Economic Sustainability Towards Green City Development in Melaka

Note: As image is small, please refer to Table 4.7 for clearer details.

Source: Researcher Fieldwork (2024)

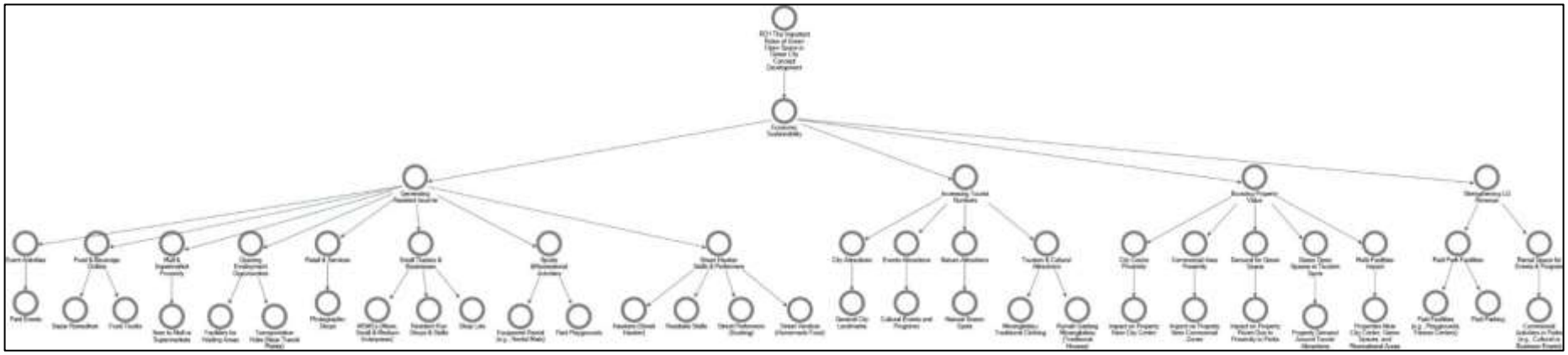

Figure 4.6 NVivo Summary of Overall Theme Development for Important Roles of Green Open Space in Economic Sustainability Towards Green City Development in Padang

Noted: As the image is small, please refer to Table 4.7 for clearer details.

Source: Researcher Fieldwork (2024)

Some selected findings from the informants' interview transcriptions and descriptions from observational study videos are presented below, while findings from observational study photos can be found in Appendix 12.

> *“Kalau yang dekat Taman Bunga Merdeka tu dia ada stall, dia memang ada stall yang dah memang tak bergerak lah kan - coconut shake. Lepas tu ada orang datang jual-jual yang untuk mainan budak-budak banyaklah dekat situ.”*
>
> *"If the one near Taman Bunga Merdeka has a stall, it does have a stall that has not moved, right - coconut shake. After that, people came to sell toys for children, there were many nearby."*

– [MO3, 34 Years Old, 28 Years of Residential, Landscape & Urban Beautification Department, MBMB]

> *“So bila kawasan petang kadang ada macam foodtruck pun ada, kita ada sediakan kawasan sebenarnya untuk dekat macam Taman Bandaraya Bukit Serindit lah.”*
>
> *"So, when the evening area sometimes has food trucks, we have prepared an area close to it like Bukit Serindit City Park."*

– [MO7, 46 Years Old, 26 Years of Residential, Engineering Department, MBMB]

> *“So far dekat situ kita memang tidak mensyaratkan untuk perniagaan sebab dia adalah public park. Tapi waktu petang-petang ni akak santai cerita lah environment dekat taman Taman Bandaraya Serindit dulu. Okey kat situ kan kita aktiviti adalah joging. Lepas tu every macam ada yoga, ada zumba, ada aerobik semua bagai kat situ tapi dekat kawasan situ ada juga public yang bersyarat lah dengan MBMB dengan penggeraian untuk meniaga dekat situ. Kita tak buka banyak dalam yang khemah biru yang kecil tu kan meniaga kat situ lah. Itu punca ekonomi diaorang lah. Tapi kita tak buka secara besar-besaran sebab kita nak jaga lot parking, kita nak jaga environment, kita nak jaga kawasan tu eksklusif untuk orang guna untuk publik untuk riadah lah macam tu.”*
>
> *"So far near there we do not require business because it is a public park. But in the evenings, I will relax and talk about the environment near Serindit*

City Park. Okay, right there, our activity is jogging. After that, everything like there is yoga, there is zumba, there is aerobics, it's all there, but near that area there is also a public that is conditional with MBMB with a permit to do business near there. We don't open much in the small blue tent; we do business there. That's the cause of his economy. But we don't open it on a large scale because we want to take care of the parking lot, we want to take care of the environment, we want to take care of the area exclusively for people to use for the public for leisure like that."

– [MO5, 42 Years Old, 19 Years of Residential, Landscape & Urban Beautification Department, MBMB]

"...saya nampak aktiviti penjualan lah. Bila mana ramai yang berkunjung ke taman awam ni dengan kebenaran PBT tempatan lah maknanya peniaga-peniaga dibenarkan berniaga di sana ha. So, peniaga-peniaga kecil, contohnya food truck ataupun yang berniaga secara buka table ha dia boleh menjana pendapatan di sana lah. Di samping orang beriadah mesti lepas beriadah orang kadang-kadang dahaga, kadang-kadang nak minum nak makan kan ha. So peniaga-peniaga kecil ni boleh generate hasil daripada jualan diaorang lah ha sebab kawasan tumpuan kawasan yang menjadi...taman-taman awam ni biasanya kawasan tumpuan lah especially hujung-hujung minggu pagi atau petang ha itu yang saya nampak lah."

"...I saw sales activity. When many people visit this public park with the permission of the local municipality, it means that traders are allowed to do business there. So, small traders, for example food trucks or those who do business as open tables, can generate income there. In addition to recreational people must stop recreationally, sometimes people are thirsty, sometimes they want to drink, they want to eat, right? So, these small traders can generate revenue from their sales, ha, because the focus areas are the areas that become...these public parks are usually the focus areas, especially on weekends, mornings or evenings, that's what I see."

– [MR6, 42 Years Old, 11 Year of Residential]

"Ada contoh salah satunya ada setengah tu dia akan membuat macam...kan ada permainan kanak-kanak kan ha skuter, roller blade untuk penyewaan dan sebagainya, motor bateri itu salah satu tu yang dekat dan adanya taman akan adanya daya penarik lah ha kalau setengah-setengah orang kalau pergi budak-budak kan dia tentu nak cari benda tu je. So benda tu juga boleh dikatakan salah satu pendapatan pada mereka yang berusaha untuk

mencari pendapatan sampingan."

"There is an example of one of them, half of them will make things like... there are children's games, right? Scooters, roller blades for rental and so on, the battery motor is one of those that is close and there is a park, there will be an attraction, right? Half of the people, if the boys go, will definitely want to look for that thing. So that thing can also be said to be one of the incomes for those who are trying to find a side income."

– [MR8, 39 Years Old, 12 Years of Residential]

"Karena dengan adanya taman - sekarang ini udah jadi tempat rekreasi ya tempat berkumpulnya masyarakat. Oke singkatnya putaran uang juga bergerak di sana dengan adanya masyarakat menjual kuliner dan juga mungkin apalagi selain kuliner, ada mainan anak-anak. Jadi secara apa membantu masyarakat untuk meningkatkan perekonomian. Juga mungkin ada usaha-usaha home industry yang bisa bawa ke sana karena sudah menjadi tempat berkumpul, rekreasi di 2 taman ini."

"Because with the park - now it has become a recreation area, a place where people gather. OK, in short, money is also moving there with people selling culinary delights and perhaps, besides culinary delights, there are children's toys. So, in what way does it help society to improve the economy? "There may also be home industry businesses that can be brought there because it has become a place for gathering and recreation in these 2 parks."

– [PO2, 57 Years Old, 2 Years of Residential, Environmental Services Department, PLG]

"Ya karena emang taman itu dijadikan tempat rekreasi kan, jadi memang mendatangkan usaha untuk orang-orang lingkungan di sekitar, kayak jual-jual minuman makanan. Untuk meningkatkan perekonomian mungkin itu aktivitasnya. Selama pengamatan itu aja."

"Yes, because the park is used as a recreation area, right, so it does bring in business for people in the surrounding area, such as selling food and drinks. To improve the economy, maybe that's the activity. Just during the observation."

– [PR2, 22 Years Old, 4 Years of Residential]

“Deretan lot kedai dan pejabat di sekeliling Taman Nanggalo membuatkan pekan kecil ini menjadi pusat kecil untuk masyarakat sekitar melakukan transaksi pembelian setiap hari.”

“Rows of shop lots and offices around Taman Nanggalo make this small town a small center for the surrounding community to make daily purchasing transactions.”

– [OBV-NP, 1, Timespan 0:00.2 – 0:06.3]

“Kedai-kedai makanan gorengan juga terletak berhadapan dengan Taman Nanggalo di sepanjang laluan jalan raya menjadi tarikan kepada pengunjung taman untuk singgah jika berasa lapar dan dahaga. Selain itu, sebuah kedai kecil yang terletak di tepi dan hampir masuk ke dalam Taman Nanggalo juga beroperasi walaupun papan tanda amaran tidak boleh menjaja di sini terletak kemas di bahagian atas bumbung kedai kecilnya itu.”

“Fried food shops are also located in front of Nanggalo Park along the road as an attraction for park visitors to stop by if they feel hungry and thirsty. In addition, a small shop located on the side and almost inside Nanggalo Park is also operating although a warning sign not to sell here is neatly placed on the top of the roof of the small shop.”

– [OBV-NP, 1, Timespan 0:15.7 – 0:19.7]

“Food truck kelihatan berada di bahagian pintu masuk utama Taman Nanggalo, terletak di luar kawasan taman dan berhampiran dengan kawasan tebing Sungai.”

"Food trucks appear to be at the main entrance of Nanggalo Park, located outside the park area and close to the riverbank area."

– [OBV-NP, 1, Timespan 0:19.6-0:21.4]

“Deretan lot kedai, supermarket dan pejabat-pejabat kerajaan kelihatan mengelilingi Taman RTH Imam Bonjol menjadikan ia kawasan tumpuan masyarakat Kota Padang.”

"Rows of shop lots, supermarkets and government offices can be seen surrounding Taman RTH Imam Bonjol, making it a focal point for the people

of Kota Padang."

– [OBV-RTHIBP, 1, Timespan 0:00.2 – 0:17.2]

"Kawasan taman tema kanak dan dewasa secara komersial, berbayar. Pelbagai permainan disediakan terletak bersebelahan rumah Gadang Minang."

"Children's and adult theme park areas are commercial, paid. Various games are available located next to Gadang Minang's house."

– [OBV-RTHIBP, 1, Timespan 0:06.9 – 0:07.6]

"Deretan kedai makanan dan minuman terletak di sepanjang bahagian tepi kanan taman yang berhampiran tepi-tepi jalan kenderaan luar daripada pintu masuk utama Taman RTH Imam Bonjol sehingga ke hujung jalan pinggir taman."

"A row of food and drink shops is located along the right side of the park near the edges of the outer vehicle road from the main entrance of Taman RTH Imam Bonjol to the end of the road on the side of the park."

– [OBV-RTHIBP, 1, Timespan 0:13.5 – 0:17.2]

4.3.2 Social Sustainability

There are nine themes found for Melaka City and there are six themes found for Padang City (Refer to Table 4.8). Strengthening physical fitness become the most important theme which is a key theme in social sustainability dimension indicated the GOS was functional as a very effective fitness place to the city dwellers.

Table 4.8
Summary of Main Theme Development Using Comparative Analysis for Important Roles of Green Open Space in Social Sustainability Towards Green City Development in Melaka and Padang

Bil.	Abbreviation	Dimension / Main Theme	Melaka	Padang
		Social Sustainability		
1	SPF	Strengthening Physical Fitness	√	√

2	IEMH	Improving Emotional and Mental Health	√	√
3	EHB	Enriching Human Bonds	√	√
4	EOP	Encouraging Outdoor Pedagogic	√	√
5	PSN	Providing a Safe Neighbourhood	√	√
6	IRA	Increasing Residents' Awareness	√	X
7	NGT	Nurturing Green Technology	√	X
8	CHNR	Creating Human-Nature Relationship	√	√
9	DSP	Developing Strong Personality	√	X
		Total Main Theme	**9**	**6**

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

While, as referred to Table 4.9 it shows development of theme from thematic and pattern matching analysis by counting the 'file' and 'references' (repeated words and sentences) given from informant's perspective.

Table 4.9
Details Summary of Main Theme Development Using Thematic and Pattern Matching Analysis for Important Roles of Green Open Space in Social Sustainability Towards Green City Development

Informant / Observation	**Main Theme**								
	SPF	**IEMH**	**EHB**	**EOP**	**PSN**	**IRA**	**NGT**	**CHNR**	**DSP**
MO1	√	√	√		√				
MO2	√	√	√		√				
MO3	√	√	√	√	√		√		
MO4	√	√	√		√	√			
MO5	√	√		√	√		√		
MO6	√	√	√		√				
MO7	√	√	√		√				
MO8	√	√	√		√	√			

MO9	√	√	√	√	√				
MR1	√	√	√	√				√	
MR2	√	√	√	√					
MR3	√	√	√		√				
MR4	√	√	√		√				√
MR5	√	√	√		√				
MR6	√	√	√	√	√				
MR7	√	√	√		√				
MR8	√	√	√		√				
MR9	√	√	√	√	√				
MR10	√	√	√		√				
MR11	√	√	√	√	√				
OBP-BMP	29, 42, 52, 58, 59, 66, 67, 68, 69, 78, 85, 86	2, 3, 29, 42, 46, 53, 54, 55, 56, 57, 66, 83	42			41, 50, 51, 73, 74, 75, 76, 83	20, 80, 81, 82, 77, 74		
OBP-BSRP	17, 18, 19, 20, 28, 32, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 54, 55, 56, 57, 58, 59, 61, 65, 67, 68, 69, 70, 71,	6, 7, 8, 9, 20, 32, 33, 34, 35, 40, 49, 50, 51, 52, 53, 67	32, 37, 47, 48, 67	82, 83		23, 62, 63, 64, 65, 66, 67	22, 23, 25, 26, 81, 82, 83		

	72, 73, 74, 75, 76, 77, 78, 79, 80								
OBV-BMP									
OBV-BSRP									
File / Reference	78/258	51/103	66/59	10/18	18/22	17/18	15/15	1/1	1/2
PO1	√	√	√	√					
PO2	√	√	√	√					
PO3	√	√	√	√					
PO4	√	√	√	√	√				
PO5	√	√	√	√	√				
PO6	√	√	√	√	√				
PO7	√	√	√	√	√				
PO8	√	√	√	√					
PR1	√	√	√	√	√				
PR2	√	√	√	√	√				
PR3	√	√	√	√	√				
PR4	√		√	√	√				
PR5	√	√	√	√	√				
PR6	√	√	√	√	√				
PR7	√	√	√	√	√				
PR8	√	√	√	√					
PR9	√	√	√	√	√				
PR10	√	√	√	√	√				
PR11	√	√	√	√	√				
PR12	√	√	√	√	√				

OBP-NP	21, 23	21, 22, 23	18, 19, 20, 21	18, 19, 20, 21, 22					
OBP-RTHIBP	14, 17, 18, 19, 20, 46, 47, 50, 54, 56, 57, 58	14, 18, 20, 22, 24, 25, 43, 44, 45, 57	14, 17, 33, 40, 44, 48, 49, 51, 52, 53, 54, 55, 56, 58, 59	14, 17, 51, 52, 53, 54, 55, 56, 58, 59					
OBV-NP	1	1	1	1				1	
OBV-RTHIBP	1	1	1	1				1	
File / Reference	36/84	33/78	41/96	37/62	15/17	0/0	0/0	3/5	0/0
Total File / Reference	**114/342**	**84/181**	**107/155**	**47/80**	**33/39**	**17/18**	**15/15**	**4/6**	**1/2**

Abbreviation		
	SPF	: Strengthening Physical Fitness
	IEMH	: Improving Emotional and Mental Health
	EHB	: Enriching Human Bonds
	EOP	: Encouraging Outdoor Pedagogic
	PSN	: Providing Safe Neighborhood
	IRA	: Increasing Residents Awareness
	NGT	: Nurturing Green Technology
	CHNR	: Creating Human-Nature Relationship
	DSP	: Developing Strong Personality

Source: Researcher Fieldwork (2024)

By look at the finding from constant comparative analysis on first theme elaborated the similarities and differences of ability of GOS from both cities to support the social sustainability towards GCD although it has same main themes, but their GOS

do have some differences. For example, as referred to Table 4.10 under key themes: strengthening physical fitness, GOS in Padang have Go-Kart like a mini fun fair provided in the GOS compare to GOS in Melaka they don't have it.

Table 4.10
Total Details of Main Theme, Sub-Theme, and Sub-Sub-Theme Development Using Constant Comparative Analysis for Important Roles of Green Open Space in Social Sustainability Towards Green City Development in Melaka and Padang

Bil.	Main Theme	Sub-Theme	Sub-Sub-Theme (Melaka)	Sub-Sub-Theme (Padang)
1	Strengthening Physical Fitness	Sports & Physical Activities for All Ages	Aerobics, Breakdancing	-
			Basketball, Football, and Baseball	Badminton, Football, and Volleyball
			Futsal, Rugby, Takraw, and Hockey	Futsal, and Takraw
			Jogging and Running	Running, Jogging and Walking
			Cycling, etc. Physical Activities	Cycling
			-	Go-Kart
		Children's Fitness & Health	Outdoor Gym for Kids	Outdoor Gym for Kids
			Child's Cognitive Development	-
			Clean Air for Health Development	-
			Greenspace as Visual Therapy for Children	-
			Greenspace Develop Children Social Skills	-
			Playgrounds and Outdoor Activities	Playgrounds
			Cycling, Push Bikes, Scooter, Rollerblading and Skating Areas	-
			Football with Parents	Football
			Skateparks and Sport Training Spaces	-
			Tai Chi and Yoga	-

		Senior & Adult Fitness	Walking and Pedestrian Pathways	Walking and Pedestrian Pathways
			Outdoor Gym and Parkour	Outdoor Gym
			Zumba and Senamrobik	*Senamrobik*
		Recreational & Group Activities	Fun Runs and Picnics	-
			Recreational Sports (e.g., Fishing, Park Events, etc. Recreational Activities)	Recreational Activities
			Team Sports (Stadiums for Sports Events)	-
			-	Physical Training for Soldiers
2	Improving Emotional and Mental Health	General Emotional and Mental Health Improvement	**Aesthetic and Environmental Therapy (Emotional Relaxation)** [e.g. Graffiti Art Therapy, Green Therapy]	**Aesthetic and Environmental Therapy (Emotional Relaxation)** [e.g. Green Therapy]
			Restorative Spaces for Urban Workers [e.g. Rest Zones; Mental Relief Zones (e.g. Spaces for Cured & Prevented Burnout); Reducing Tiredness (Alleviate Fatigue); Ecotherapy (Stress Relief & Mental Relaxation); Therapeutic Breaks (e.g. Green Micro-Break Spots)]	**Restorative Spaces for Urban Workers** [e.g. Rest & Refresh Zones; Therapeutic Breaks (e.g. Green Micro-Break Spots)]
			Emotional Regulations & Stability [e.g. Mood Regulation Spaces (e.g. Promote Relaxation, Promote Happiness, Controlling Anger); Safe & Relaxing Environments (e.g. Feeling Safe, Reduce Feelings of Entrapment); Mind Health Support (Promote Psychological Well-being & Clarity)]	**Emotional Regulations & Stability** [e.g. Mood Regulation Spaces (e.g. Promote Relaxation, Promote Happiness); Mind Health Support (Promote Psychological Well-being & Clarity); Reduce Loneliness (Community-Oriented Spaces Fostering Social Connection & Reduce Isolation)]

			Stress Reduction & Psychological Health [e.g. Calming Visuals (e.g. Watching Fish, Observing People Behaviour); Protection from Weather Stressors (Shaded Areas Minimising Weather-Induced Stress)]	**Stress Reduction & Psychological Health** [e.g. Protection from Weather Stressors (Shaded Areas Minimising Weather-Induced Stress)]
			Healing and Relaxation [e.g. Healing Through Bird Sound Therapy; Healing Through Yoga]	**Healing and Relaxation** (e.g. Healing Through Bird Sound Therapy)
			-	**Mental Clarity & Cognitive Balance** (e.g. Balancing the Brain)
		Children's Emotional and Mental Health Support	**Therapeutic Play and Visual Stimulation** [e.g. Colourful Lighting and Visual Therapy (Attracting & Engaging Children)]	-
			Greenery and Nature Therapy (Promote Relaxation)	-
			Social and Emotional Development [e.g. Spaces for Free Play & Interactive Learning Zones (e.g. Fostering Cheerful Social Interaction, Fostering Freedom]	-
			Stress and Tension Relief (e.g. Children's Tension Release)	-
3	Enriching Human Bonds	Social Interaction & Community Gathering	**Family & Friends** (e.g. Family Gathering Zones, Friends' Hangout Areas)	**Family, Friends & Colleague** (e.g. Family Gathering Zones, Friends & Colleagues' Hangout Areas)
			Senior Citizens Gathering Areas	Senior Citizens Gathering Areas
			Teenager Hangout Spaces	Teenager Hangout Spaces

			Society & Community Gatherings Spaces	-
			-	Housewives Gathering Spots
		Community Building Programmes and Activities	**Community Events** (e.g. NGO Programmes, Blood Donation Events)	**Community Events** (e.g. Gotong-Royong, Public Figures Meet & Greet, Reunion Events, Promote Entrepreneurship Development, Other Large-Scale Public Events)
			Competitions (e.g. Bird Competitions, Children's Competitions)	Sports Competition Zones
		Social Unity through Ukhuwwah	**Spaces for Bonding and Unity**	**Spaces for Bonding and Unity** [e.g. Gathering and Eating Areas (e.g. Communal meals and Picnics, Areas for Discussions)]
		Multi-Age & Multi-Cultural Engagement	**Intergenerational and Cross-Cultural Spaces** (e.g. Multi-Age Activities, Multi-Cultural Activities)	-
		Healthy Neighbourhoods Promote Community's Mental Well-being	Friendly Interactions Among Park Visitors	-
		Civic Connection Through Public Services	-	Portable Local Government Service Spots (Mobile Service Units)
4	Encouraging Outdoor Pedagogic	Learning & Development for Children	**Nature and Environmental Education** [e.g. Learning Plant Names (e.g. Tree Tagging for Educational Interaction), Outdoor Environmental Learning]	-

			Personal & Social Development [e.g. Personality Development Areas; Social Skills and Interaction Development (Polishing Interpersonal Skills) (e.g. Children Confidence Development, Children Social Interaction, Children Social Skills)]	-
			Cognitive Development [e.g. Mind and Idea Development (e.g. Encouraging Creative Thinking, Encouraging Idea Generation; Motor Skills Development]	**Cognitive Development** [e.g. Learning & Play Spaces (e.g. Children Place; Children Playground]
			Cultural and Historical Learning	**Cultural & Historical Education** [e.g. Minang Traditional Elements (Minang Clothing & Rumah Gadang); Informational War Equipment (Battle Tank)]
		Educational Programmes and Activities	Children's Outdoor Programmes & Activities	Study & Programmes Space
5	Providing a Safe Neighbourhood	Reducing Criminal	Emphasis On Public Park Lighting, Patrols, and Crime Reporting Initiatives	-
		Strengthening Neighbourhood Safety	Community Watch Programs and Regular Neighbourhood Safety Meetings	-
		Youth Programmes	Engagement Initiatives Specifically for Teenagers, Including Sport Activities and Skill-Building Workshops, Reducing Risky Behaviours Like "Rempit" Activities	-

		Mitigating Social Problems	Programmes Targeting Anti-Social Behaviour and Enhancing Social Cohesion Among Residents	Programmes Targeting Anti-Social Behaviour and Enhancing Social Cohesion Among Residents
6	Increasing Residents' Awareness	Information Accessibility	Information Corner	-
		Signage	Health Signage	-
			Safety Signage	-
7	Nurturing Green Technology	Environmental Programmes	Tree Planting Programme	-
		Technological Integration in Parks	**Digital Engagement** (Hashtags Use to Encourage Community Interaction)	-
			Smart Parking Systems (Simplify Parking Fee Payments for Visitors Using Technology-Enabled System)	-
			Free Wi-Fi Access (Easy Access for Educational & Recreational Purposes)	-
			Pedestrian Safety (Enhanced Zebra Crossings for Pedestrian Safety)	-
8	Creating Human-Nature Relationship	Accessible Natural Spaces	Everyday Nature Engagement, Relaxation & Personal Connection with Nature	Everyday Nature Engagement, Relaxation & Personal Connection with Nature
9	Developing Strong Personality	Enhancing Confidence and Self-Esteem	Participatory Activities as well as Physical Challenges & Sports	-

Source: Researcher Fieldwork (2024)

Although it has almost similar main theme but once look at from constant comparative analysis perspective turn out it do have several differences between themes in GOS from Melaka and Padang. Thus, well understanding the current elements of GOS in term in social sustainability it crucial to support effective GOS implementation toward GCD in two different cities' needs.

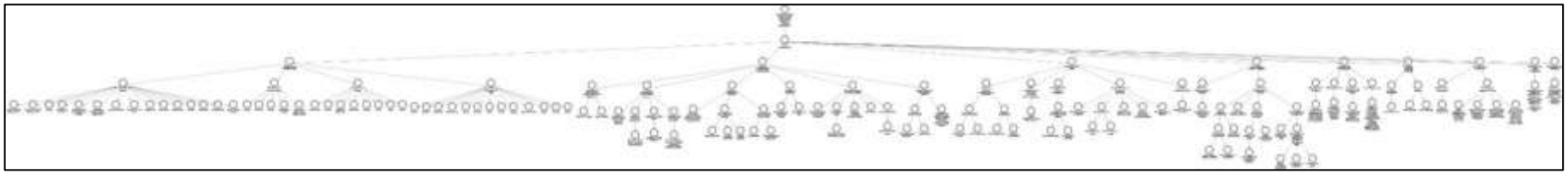

Figure 4.7 NVivo Summary of Overall Theme Development for Important Roles of Green Open Space in Social Sustainability Towards Green City Development in Melaka

Note: As the image is small, please refer to Table 4.10 for clearer details.

Source: Researcher Fieldwork (2024)

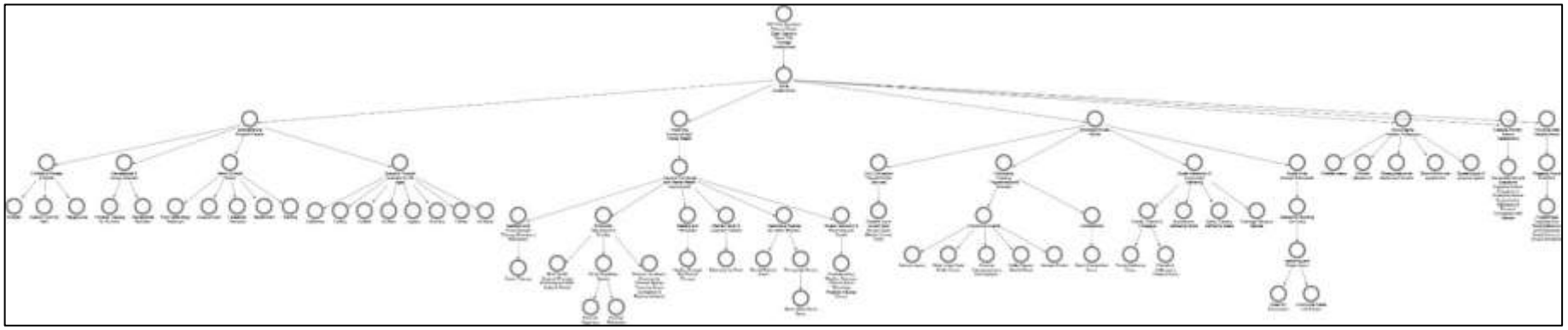

Figure 4.8 NVivo Summary of Overall Theme Development for Important Roles of Green Open Space in Social Sustainability Towards Green City Development in Padang

Note: As the image is small, please refer to Table 4.10 for clearer details.

Source: Researcher Fieldwork (2024)

Some selected findings from the informants' interview transcriptions and descriptions from observational study videos are presented below, while findings from observational study photos can be found in Appendix 13.

> *“Kalau Bukit Serindit menjadi kawasan jogging-jogging. Kalau kata dekat Taman Bunga Merdeka tu menjadi kawasan tempat diaorang riadah, diaorang berjalan-jalan atau bersiar-siar sajalah. Tapi di Bukit Serindit tu joging, riadah kawasan tu besar sedikit lah. So lagi besar daripada Taman Bunga Merdeka tu.”*
>
> *"If Bukit Serindit becomes a jogging area. If it is said that Taman Bunga Merdeka is an area where people relax, they go for a walk or just go sightseeing. But there is jogging in Bukit Serindit, the leisure area is a little big. So, it's bigger than the Merdeka Flower Garden."*

– [MO8, 35 Years Old, 3 Years of Residential, Engineering Department, MBMB]

> *“…kedua-dua taman tu yang untuk di Bukit Serindit dia more to aktiviti sukan memang saya pun sendiri akan pergi ke sana untuk joging, main hoki.”*
>
> *"...the two parks that go to Bukit Serindit are more for sports activities. Indeed, I myself will go there to jog, play hockey."*

– [MR10, 34 Years Old, 12 Years of Residential]

> *“Kalau ini seperti yang saya bilang tadi apa ya taman itu digunakan oleh masyarakat sebagai tempat olahraga. Sebagai ya mungkin setiap pagi atau sore akan kelihatan orang jogging, orang olahraga lari ada yang main bola. Jadi memang secara untuk fungsi secara untuk masyarakat ya masyarakat pakai selain untuk refreshing di sana mereka juga refreshing di sana gitu, mereka juga juga untuk olahraga gitu.”*
>
> *"If it's like what I said earlier, the park is used by the community as a sports venue. Yes, maybe every morning or evening you will see people jogging, people running and playing football. "So, in terms of its function for the community, people use it apart from refreshing themselves there, they also refresh themselves there, they also use it for sports."*

– [PO1, 41 Years Old, 7 Years of Residentials, Environmental Services Department, PLG]

“Aaa...lebih ke taman Imam Bonjol sih kak, kalau taman Nanggalo kan lebih kecil tadi ya kawasannya jadi lebih terbatas lingkup geraknya. Tapi beberapa kali saya pernah juga liat ada orang yang jogging di taman Nanggalo, nah tapi mungkin untuk yang di taman Imam Bonjol itu kegiatan aktivitas fisiknya mungkin ada yang pakai untuk bermain bola gitu aktifitas fisiknya, ada juga yang jogging, ada yang maraton di sana juga ya mungkin membantu juga.”

"Aaa...it's more like Imam Bonjol Park, Sis, if Nanggalo Park is smaller than the area will be more limited in terms of movement. But several times I have also seen people jogging in Nanggalo Park, well, but maybe for those in Imam Bonjol Park, the physical activity is maybe some people use it to play football, that's the physical activity, there are also those who jog, there are those who do marathons there too. Yes, that might help too."

– [PR3, 21 Years Old, 21 Years of Residential]

“Selain itu, laluan pejalan kaki turut disediakan, ia berstruktur simen dan bukan mesra hijau walaupun begitu ia masih dalam keadaan sangat baik dan selamat digunakan untuk berjalan secara perlahan dan sesuai untuk berjogging pendek juga.”

“In addition, a footpath is also provided, it is a cement structure and not green friendly even so it is still in very good condition and safe to use for slow walking and suitable for short jogging as well.”

– [OBV-NP, 1, Timespan 0:19.6;0:21.4]

“Anak-anak kecil sedang bermain bola sepak di padang yang terletak luas ditengah-tengah Taman RTH Imam Bonjol. Suara riuh rendah mengambarkan mereka sangat seronok bermain bersama-sama dengan kawan-kawannya.”

“Small children are playing football on the wide field in the middle of RTH Imam Bonjol Park. The noisy voice describes them having a lot of fun playing together with their friends.”

– [OBV-RTHIBP, 1, Timespan 0:01.3-0;03.5]

4.3.3 Environmental Sustainability

There are 12 themes found for Melaka City and 10 themes for Padang City (Refer to Table 4.11). Subsequently, within the dimension of environmental sustainability, the most frequently mentioned main themes are the ability of GOS to restore urban biodiversity follow by ability to prevent flood, filtering urban air, screening and noise reduction, and cooling down urban temperature included supporting themes which is become a bird migration point, able to control odour nuisance, purify water, resisting strong wind, remediation soil, mitigating landslide, and ability to conserving water.

Table 4.11
Summary of Main Theme Development Using Comparative Analysis for Important Roles of Green Open Space in Environmental Sustainability Towards Green City Development in Melaka and Padang

Bil.	Abbreviation	Dimension / Main Theme	Melaka	Padang
		Environmental Sustainability		
1	RUB	Restoring Urban Biodiversity	√	√
2	PF	Preventing Flood	√	√
3	FUA	Filtering Urban Air	√	√
4	SNR	Screening and Noise Reduction	√	√
5	CDUT	Cooling Down Urban Temperature	√	√
6	BBMP	Becoming a Bird Migration Point	√	√
7	CON	Controlling Odour Nuisance	√	√
8	PW	Purifying Water	√	√
9	RSW	Resisting Strong Wind	√	√
10	RS	Remediating Soil	√	√
11	ML	Mitigating Landslide	√	X
12	WC	Water Conservation	√	X
		Total Main Theme	**12**	**10**

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

While, as referred to Table 4.12 it shows development of theme from thematic and pattern matching analysis by counting the ‘file’ and ‘reference’ (repeated words and sentences) given from informant’s perspective.

Table 4.12
Details Summary of Main Theme Development Using Thematic and Pattern Matching Analysis for Important Roles of Green Open Space in Environmental Sustainability Towards Green City Development

Informant / Observation	**Main Theme**											
	RUB	**PF**	**FUA**	**SNR**	**CDUT**	**BBMP**	**CON**	**PW**	**RSW**	**RS**	**ML**	**WC**
MO1	√	√	√	√	√	√		√				
MO2	√	√	√	√	√	√						
MO3	√	√	√		√			√		√		
MO4	√	√	√	√	√	√	√	√	√	√	√	√
MO5	√	√	√	√	√			√				√
MO6	√	√	√	√								
MO7	√	√	√									√
MO8	√	√	√									
MO9	√	√	√	√	√		√					
MR1	√	√	√	√	√						√	
MR2	√	√	√	√		√						
MR3	√	√	√			√	√		√			
MR4	√	√	√	√	√	√	√		√			

MR5	√	√	√	√	√	√	√	√	√	√	√	
MR6	√	√								√		
MR7	√	√	√			√						
MR8	√	√	√	√								
MR9	√	√	√									
MR10	√	√	√	√	√			√				
MR11	√	√	√	√	√							
OBP-BMP	36, 37, 38, 39, 83 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 63, 83				46		60, 61					
OBP-BSRP	3, 4, 5, 6, 7, 8, 4, 10, 17, 60 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 33, 34, 35			18	55		16, 28					
OBV-BMP	1				1							
OBV-BSRP	1, 3		3		3							
File / Reference	62/178	25/36	22/48	14/17	15/20	8/9	9/10	6/6	4/5	4/4	3/4	3/3

| | | |

PR10	√		√	√					√			
PR11	√		√				√					
PR12	√	√	√	√								
OBP-NP	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18			20	21							
OBP-RTHIBP	11, 12, 13, 14, 18 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37			22	14, 22, 24, 25, 33, 37		20, 57					
OBV-NP	1			1								
OBV-RTHIBP	1		1	1	1							
File / Reference	61/149	12/15	20/35	20/20	11/15	8/10	6/6	2/3	3/3	2/3	0/0	0/0
Total File / Reference	123/327	41/83	37/51	34/37	26/35	16/19	15/16	8/9	7/8	6/7	3/4	3/3

Abbreviation	RUB	: Restoring Urban Biodiversity	CON	: Controlling Odour Nuisance
	PF	: Preventing Flood	PW	: Purifying Water

FUA	: Filtering Flood	RSW	: Resisting Strong Wind
SNR	: Screening and Noise Reduction	RS	: Remediating Soil
CDUT	: Cooling Down Urban Temperature	ML	: Mitigating Landslide
BBMP	: Becoming a Blind Migration Point	WC	: Water Conservation

Source: Researcher Fieldwork (2024)

By look at the finding from constant comparative analysis on first theme elaborated the similarities and differences of ability of GOS from both cities to support the environmental sustainability towards GCD. As referred to Table 4.13 show the deepest similarities and differences between Melaka and Padang.

Table 4.13
Details of Main Theme, Sub-Theme, and Sub-Sub-Theme Development Using Constant Comparative Analysis for Important Roles of Green Open Space in Environmental Sustainability Towards Green City Development in Melaka and Padang

Bil.	Main Theme	Sub-Theme	Sub-Sub-Theme (Melaka)	Sub-Sub-Theme (Padang)
1	Restoring Urban Biodiversity	Fauna Conservation & Diversity	**Native Wildlife Species** [e.g. Urban Wildlife (e.g. Beavers, Monkeys, Asian Water Monitors (Biawak Air)); Native Bat Species; Local Bird Populations; Butterflies, Dragonflies, & Other Pollinators; Aquatic Species Like Fish	**Native Wildlife Species** [e.g. Urban Wildlife (e.g. Foxes, Monkeys, Squirrels); Local Bird Populations; Butterflies, Dragonflies, & Other Pollinators]
		Flora Conservation & Diversity	**Native Plant Varieties** [e.g. Aquatic Plants for Water Ecosystems; Non-Aquatic Plants Diversity (e.g. Fruit-Bearing Plants for Wildlife Sustenance, Grasses & Mosses Areas to Enhance Ground Cover Biodiversity, Traditional & Medicinal Plants That Reflect Local Heritage & Offer Ecological Value, Flowering Plants for Pollinator Support, Paddy Field Zones for Traditional Agricultural Connection & Biodiversity, Wild Flora to Support Local Ecosystems & Provide Natural Vegetation)]	**Native Plant Varieties** [e.g. Non-Aquatic Plants Diversity (e.g. Fruit-Bearing Plants for Wildlife Sustenance, Creeping Plants, Grasses, & Mosses Areas to Enhance Ground Cover Biodiversity, Traditional & Medicinal Plants That Reflect Local Heritage & Offer Ecological Value, Flowering Plants for Pollinator Support)]
			Trees & Structural Vegetation (e.g. Bamboo, Tall Trees, & Shrubs for Biodiversity, Large, Old Trees & Varied Tree Types for Complex Habitat Structure, Parasitic Plants for Ecosystem Balance)	**Trees & Structural Vegetation** (e.g. Bamboo, Tall Trees, & Shrubs for Biodiversity, Large, Old Trees & Varied Tree Types for Complex Habitat Structure, Parasitic & Non-Flowering Plants for Ecosystem Balance)
		Habitat Development & Preservation	Designated Habitats for Local Fauna	-
			Protection Zones for Wild Flora & Fauna	Protection Zones for Wild Flora & Fauna
2	Preventing Flood	Water Absorption and Retention	Trees as Water Absorption Agents	Trees as Water Absorption Agents
			Water Retention Ponds	-

		Infrastructure Systems for Flood Mitigation	Interlocking Pathways Enhanced Water Flow	Interlocking Pathways Enhanced Water Flow
			Kurinka Road Pavement System Enhanced Water Permeability	-
3	Filtering Urban Air	Pollution Mitigation	CO_2 Absorption by Trees	CO_2 Absorption by Trees
			Purification of Transportation Smog	Purification of Transportation Smog
			Trees Reducing Pollution	Trees Reducing Pollution
			Elimination of Cigarette Smoke	-
			Reduction of Environmental Pollution	-
		Air Quality & Health	Promotion of Clean & Fresh Air	Promotion of Fresh Air
			Reduction of Haze	Reduction of Haze
			Development of a Healthy Environment	-
4	Screening and Noise Reduction	Natural Barriers	Plant Barriers for Noise Absorption	Plant Barriers for Noise Absorption
5	Cooling Down Urban Temperature	Cooling Mechanisms	Shade Areas	Shade Areas
6	Becoming a Bird Migration Point	Habitat for Migratory Birds	Feeding Grounds	Feeding Grounds
7	Controlling Odour Nuisance	Odour Prevention Measures	Cleanliness and Waste Management	Cleanliness and Waste Management
		Natural Odour Control	Scented Plants and Shrubs	-
8	Purifying Water	Use of Natural Filtration in Parks	Clean Water	Water Purification
			Water Quality	-
9	Resisting Strong Wind	Natural Barriers & Windbreaks	Wind-Resistant Plant Species for Park Landscaping	Wind-Resistant Plant Species for Park Landscaping
10	Remediating Soil	Soil Restoration	Use of Native Plants for Soil Health	Use of Native Plants for Soil Health

		through Natural Processes		
11	Mitigating Landslide	Enhancing Soil Stability with Vegetative Barriers	Native Vegetation for Erosion Control	-
12	Water Conservation	Rainwater Retention Pond Systems	Collecting Rainwater & Support Park Irrigation	-

Source: Researcher Fieldwork (2024)

The development of overall themes can be also look at in NVivo figure as per references Figure 4.9 and Figure 4.10 below between Melaka and Padang.

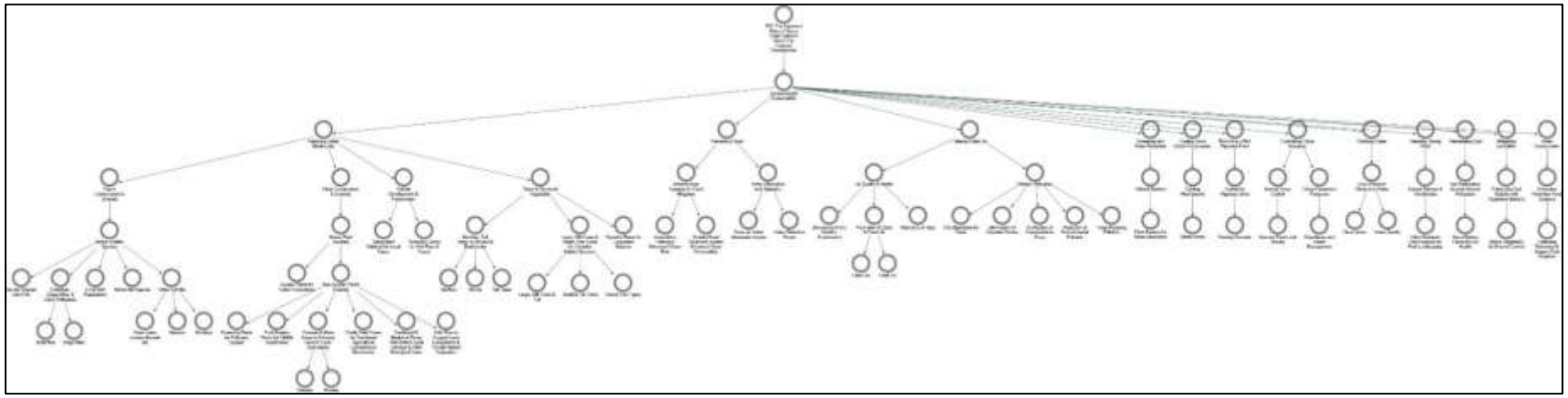

Figure 4.9 NVivo Summary of Overall Theme Development for Important Roles of Green Open Space in Environmental Sustainability Towards Green City Development in Melaka

Noted: As the image is small, please refer to Table 4.13 for Clearer details.

Source: Researcher Fieldwork (2024)

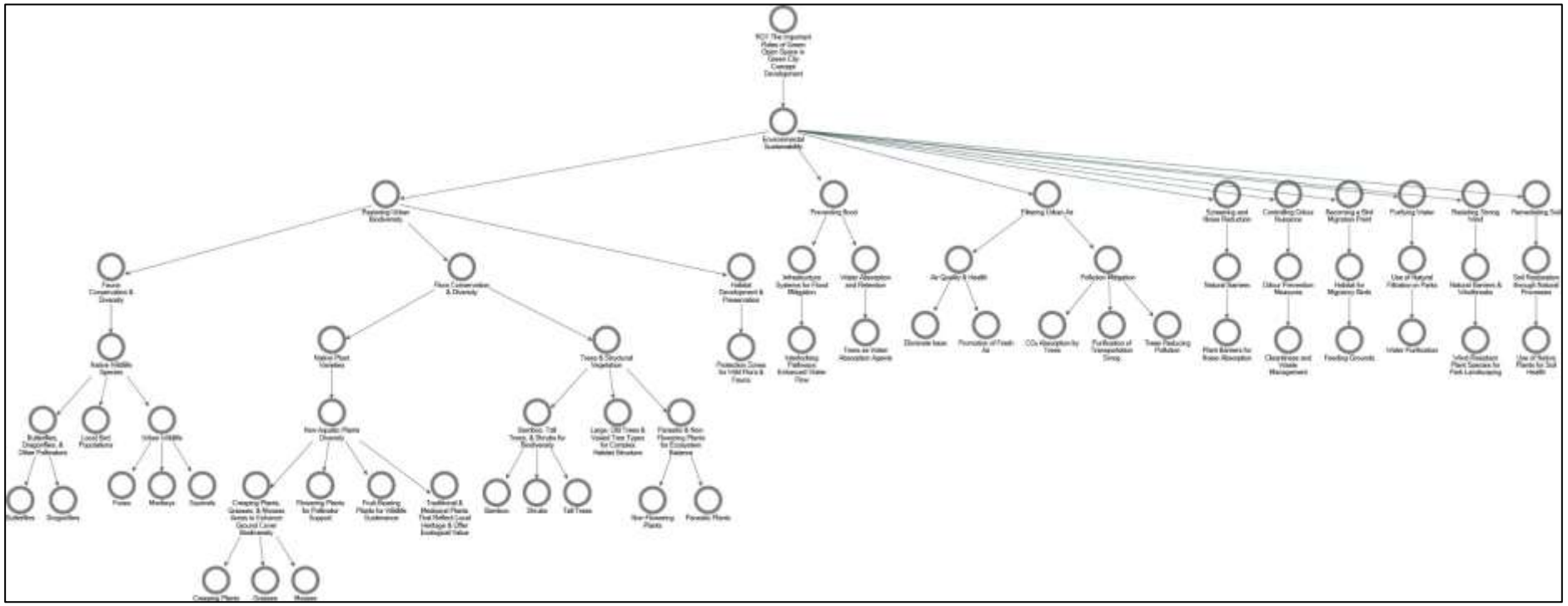

Figure 4.10 NVivo Summary of Overall Theme Development for Important Roles of Green Open Space in Environmental Sustainability Towards Green City Development in Padang

Noted: As the image is small, please refer to Table 4.13 for clearer details.

Source: Researcher Fieldwork (2024)

Some selected findings from the informants' interview transcriptions and descriptions from observational study videos are presented below, while findings from observational study photos can be found in Appendix 14.

“Satu pokok besar tu memang tempat perlindungan burung-burung lah yang ada dekat situ. Selain daripada faktor daripada Pak cik-Pak cik yang bawa burung-burung tu mempengaruhi tempat-tempat habitat burung-burung Merbuk lah dengan burung Merpati kawasan situ.

Kalau kata dari segi habitat tu yang akan nampak memang burung lah ha burung banyak ha.

Bila time ada berbunga tu adal ah butterfly dengan burung-burung.”

"That one big tree is indeed a refuge for the birds nearby. Apart from the factors from the aunts and uncles who brought the birds affected the habitats of Merbuk birds and pigeons in that area.

If you say in terms of habitat, what you will see is indeed birds, ha, many birds ha.

When there are flowers, it's like a butterfly with birds."

– [MO5, 42 Years Old, 19 Years of Residential]

“…rama-rama ada, burung pun macam-macam jenis. Ada dekat...ada...dia banyak je..dragonfly ada, tapi usually baiklah bila lepas waktu hujan lah benda tu ada, kalau waktu yang biasa yang tak berapa hujan tu tak de. Biawak pun ada.”

"...butterflies are there, birds are of all kinds. It's near...there's...there's a lot of it..dragonfly is there, but usually it's good when it's after the rainy season. Lizards are there too."

– [MR7, 32 Years Old, 3 Years of Residential]

“Ya kalau secara mungkin hewan-hewan yang biasa di pohon-pohon mungkin membantu ya, tapi untuk yang - ada lah berarti - ada - iya untuk yang burung-burung yang lokal - di situ kan banyak pohon berarti kan

adalah untuk membantu ekosistem hewan-hewan yang berada di sekitar sana terutama yang burung ya mungkin."

"Yes, if it is possible that the animals that are common in the trees might help, yes, but for those that - there means - there are - yes for the local birds - there are lots of trees which means that it helps the animal ecosystem- the animals around there, especially birds, maybe."

– [PO4, 53 Years old, 34 Years of Residential, Public Works & Spatial Planning Department, Padang local governemnt]

"Ada nih kayak capung tuh, ada sih, dragonfly - pepatung. Yang terbang-terbang, ada."

"There are dragonflies, there are dragonflies - dragonfly. They are flying around."

– [PO2, 22 Years Old, 4 Years of Residential]

"Kedengaran bunyi burung, pelbagai burung yang sedang hinggap di pepohon tinggi sedang mengeluarkan pelbagai bentuk bunyi siulan burung di dalam Taman Bung Merdeka memberikan suatu suasana alam semulajadi yang sihat dan menyegarkan kepada pengunjung taman sebagai terapi ketenangan."

"The sounds of birds can be heard, various birds perched on tall trees are emitting various forms of bird whistling in Taman Bung Merdeka, providing a healthy and refreshing natural atmosphere to park visitors as a calming therapy."

– [OBV-BMP, 1, Timespan 0:00.1-0:11.3]

"Kawasan laga siualan burung yang juga merupakan kawasan pertandingan bunyi burung peringkat negeri. Menjadi kawasan tarikan pelancong yang terletak di dalam Taman Rekreasi Bukti Serindit. Kawasan ini juga menjadi kawasan terapi bunyi burung untuk mencari ketenagan dan menghilangkan tekanan warga bandar. Selain itu, ia dapat menarik spesis burung untuk datang berhabitat di taman ini."

"The bird whistle competition area which is also the state level bird sound competition area. Being a tourist attraction located within the Bukti Serindit

Recreation Park. This area is also a bird sound therapy area to find energy and relieve the stress of city dwellers. In addition, it can attract bird species to come and live in this park."

– [OBV-BSRP, 1, Timespan 0:00.0-0:15.0]

"Tumbuhan-tumbuhan tumbuh sihat berada di dalam Taman Rekreasi Bukit Serindit, berbunga atau tidak berbunga, yang tinggi dan yang pendek berada di sekeliling tasik termasuk tumbuhan akutik membiak di permukaan tasik. Memberikan udara yang segar, memberikan teduhan, menyejukkan sekeliling dan menjadi terapi alam semulajadi kepada pengunjung taman."

"Healthy growing plants are in Bukit Serindit Recreation Park, flowering or non-flowering, tall and short around the lake including aquatic plants multiplying on the surface of the lake. Provides fresh air, provides shade, cools the surroundings and becomes a natural therapy for park visitors."

– [OBV-BSRP, 3, Timespan 0:00.1-0:04.1]

"Kelihatan burung terbang sekeliling di bahagian atas pokok-pokok tinggi dalam kawasan Taman Nanggalo sambil mengeluarkan siulan."

"Birds are seen flying around at the top of tall trees in the Nanggalo Park area whistling."

– [OBV-NP, 1, Timespan 0:07.6-0:14.2]

"Pokok-pokok besar dan tinggi memberikan kawasan teduhan yang luas dan membuatkan pengunjung berasa selesa kerana dapat berteduh dan berlindung daripada cahaya panas matahari."

"Large and tall trees provide a wide shade area and make visitors feel comfortable because they can shade and shelter from the hot sun."

– [OBV-NP, 1, Timespan 0:18.0-0:22.2]

"Selain itu, keberadaan kehijauan yang memberikan kesejukan turut memberikan udara yang segar."

"In addition, the presence of greenery that provides coolness also provides fresh air."

– [OBV-NP, 1, Timespan 0:18.0-0:22.2]

"Terdengar bunyi beberapa burung sedang bersiul tetapi tidak kelihatan kelibatannya."

"Heard the sound of some birds whistling but could not be seen."

– [OBV-RTHIBP, 1, Timespan 0:00.2-0:14.9]

"Bunyi kenderaan di luar masih kedengaran tetapi tidak terlalu kuat kerana banyakkan pokok-pkok besar dan tinggi dan disusun agak rapat mengelilingi Taman RTH Imam Bonjol berjaya mengurangkan bunyi bising tersebut."

"The sound of vehicles outside can still be heard but not too loud because there are a lot of big and tall trees and they are arranged quite closely around RTH Imam Bonjol Park which successfully reduces the noise."

– [OBV-RTHIBP, 1, Timespan 0:00.2-0:16.5]

"Pokok-pokok besar dan tinggi gah berdiri di sekeliling Taman RTH Imam Bonjol dengan pelbagai jenis tumbuhan hiasan yang berbunga dan tidak berbunga. Tumbuhan-tumbuhan renek (shrub) yang rendah kecil ditanam sebagai pokok hiasan dan tumbuhan bersaiz herb seperti moss dan grass tumbuh luas menghijau dalam taman. Tiada tumbuhan akuatik ditemui kerena taman tidak mempunyai kawasan elemen berair seperti tasik dan air pancut juga tidak berfungsi, ia kering kontang tiada air. Banyaknya elemen-elemen hijau menyejukan keadaan sekeliling dengan teduhan yang diberikan melindungi pengunjung taman daripada cuaca terik. Udara juga segar."

"Big and tall trees stand around the RTH Imam Bonjol Park with various types of flowering and non-flowering decorative plants. Small shrubs (shrubs) are planted as ornamental trees and herb-sized plants such as moss and grass grow wide and green in the garden. No aquatic plants were found because the garden did not have any water element areas like lakes and fountains were also not working, they were dry and devoid of water. The abundance of green elements cools the surroundings with the shade provided to protect park visitors from the scorching weather. The air is also fresh."

– [OBV-RTHIBP, 1, Timespan 0:08.3-0:17.1]

4.4 Research Objective 2 (RO2): The Strategies to Manage Green Open Space in Current City Urbanisation Condition

Total of eleven main themes were discovered under the strategies to implement GOS based on current condition of urbanisations areas (Refer to Table 4.14, and for more details with interview and observation data refer to Table 4.15). The most strategies needed was vertical green spaces at both cities follow by vertical green spaces, minimum percentage of GOS, and pocket parks.

Table 4.14
Summary of Main Theme Development Using Comparative Analysis for Strategies to Manage Green Open Space in Current Urbanisation Condition Towards Green City Development in Melaka and Padang

Bil.	Abbreviation	Main Theme	Melaka	Padang
1	VGS	Vertical Green Spaces	√	√
2	MPG	Minimum Percentage of GOS	√	√
3	PP	Pocket Parks	√	√
4	FPD	Fragmentation by Population & Distance	√	X
5	WUP	Walkable Urban Parks	√	√
6	LGS	Linear Green Spaces	√	X
7	PC	Park Connectors	√	√
8	1HT	1 Home 1 Tree	√	X
9	1PT	1 Person 1 Tree	X	√
10	UTRP	Urban Tree Replacement Penalty	√	X
11	LAN	Landfill to Green Space	√	X
		Total Main Theme	**10**	**6**

Source: Researcher Fieldwork (2024)

There are 10 main themes from Melaka City and 6 main themes for Padang City. Table 4.15 summaries the main theme as strategies to managing GOS in crowded city, show the pattern of main theme development between Melaka and Padang. The all

strategies, 11 themes comprised with the old and new strategies that have been given by the informants. The separation between new and old strategies can be seen on sub-theme development as refer to Table 4.16 and Figure 4.11 and Figure 4.12 as per below.

Table 4.15
Details Summary of Main Theme Development Using Thematic and Pattern Matching Analysis Strategies to Manage Green Open Space in Current Urbanisation Condition Towards Green City Development in Melaka and Padang

Informant	**Main Theme**										
	VGS	**MPG**	**PP**	**FPD**	**WUP**	**LGS**	**PC**	**1HT**	**1PT**	**UTRP**	**LAN**
MO1	√					√					
MO2	√	√	√	√			√				
MO3	√	√									
MO4					√						
MO5											
MO6		√									
MO7	√	√	√				√			√	
MO8	√										
MO9		√									
MR1	√			√							
MR2				√							
MR3	√			√							
MR4			√		√	√					√
MR5											
MR6	√		√								
MR7					√	√		√			
MR8					√						
MR9											
MR10											
MR11			√	√							

File / Reference	8/11	5/10	5/7	6/9	4/4	3/4	2/2	1/1	0/0	1/1	1/1
PO1	√	√									
PO2	√						√				
PO3	√										
PO4		√									
PO5			√								
PO6											
PO7		√			√						
PO8	√		√								
PR1	√										
PR2											
PR3	√										
PR4									√		
PR5	√										
PR6											
PR7											
PR8											
PR9											
PR10											
PR11											
PR12											
File / Reference	6/11	3/5	2/6	0/0	1/2	0/0	1/1	0/0	1/1	0/0	0/0
Total File / Reference	**12/22**	**8/15**	**7/13**	**6/9**	**5/6**	**3/4**	**3/3**	**1/1**	**1/1**	**1/1**	**1/1**

Abbreviation				
	VGS	: Vertical Green Spaces	PC	: Park Connectors
	MPG	: Minimum Percentage of GOS	1HT	: 1 Home 1 Tree
	PP	: Pocket Parks	1PT	: 1 Person 1 Tree
	FPD	: Fragmentation by Population & Distance	UTRP	: Urban Tree Replacement Penalty

WUP : Walkable Urban Parks LAN : Landfill to Green Space

LGS : Linear Green Spaces

Source: Researcher Fieldwork (2024)

Table 4.16
Details of Main Theme and Sub-Theme Development Using Constant Comparative Analysis for Strategies to Manage Green Open Space in Current Urbanisation Condition Towards Green City Development in Melaka and Padang

Bil.	**Main Theme**	**Sub-Theme (Melaka)**	**New / Old Strategy**	**Sub-Theme (Padang)**	**New / Old Strategy**
1	Vertical Green Spaces	Vertical Landscape	New	Vertical Landscape	New
		Green Rooftop	New	Green Rooftop	New
		GOS in Abandon Building	New	GOS in State Gov. Building	New
		Tiered GOS	New	Green Building Space	New
		Camouflaged Sightseeing Tower	New	-	-
2	Minimum Percentage of GOS	10% Minimum Area of GOS	Old	30 % Minimum Area of GOS	Old
		Encourage Developer to Create GOS	New	-	
3	Pocket Parks	Pocket Park	New	Thematic Park	Old
		Pocket Park Inside the Mall	New	-	-
		Mini Park	New	-	-
		Pocket Park Inside Office Building	New	-	-
		Scattered GOS	New	-	-
4	Fragmentation by Population & Distance	Enrich Park by Resident Population	New	-	-
		Enrich Park by Resident Population	Old	-	-

		Enlarge by Population	New	-	-
		Enrich Park by Residential Distance	New	-	-
5	Walkable Urban Parks	Pedestrian Walkways	New	Pedestrian Walkway	New
6	Linear Green Spaces	Linear Green Spaces	New	-	-
		Flyover or Underpass Green Spaces	New	-	-
		Green Back Lanes or Eco-Street	New	-	-
7	Park Connectors	Park Connector	New	Per Hierarchy	New
		Integrate Park	New	-	-
8	1 Home 1 Tree	1 Home 1 Tree	New	-	-
9	1 Person 1 Tree	-	-	1 Person 1 Tree	New
10	Urban Tree Replacement Penalty	One Tree Cut Replace 10 Trees	Old	-	-
11	Landfill to Green Space	Turning Ex-Landfill to GOS	Old	-	-

Source: Researcher Fieldwork (2024)

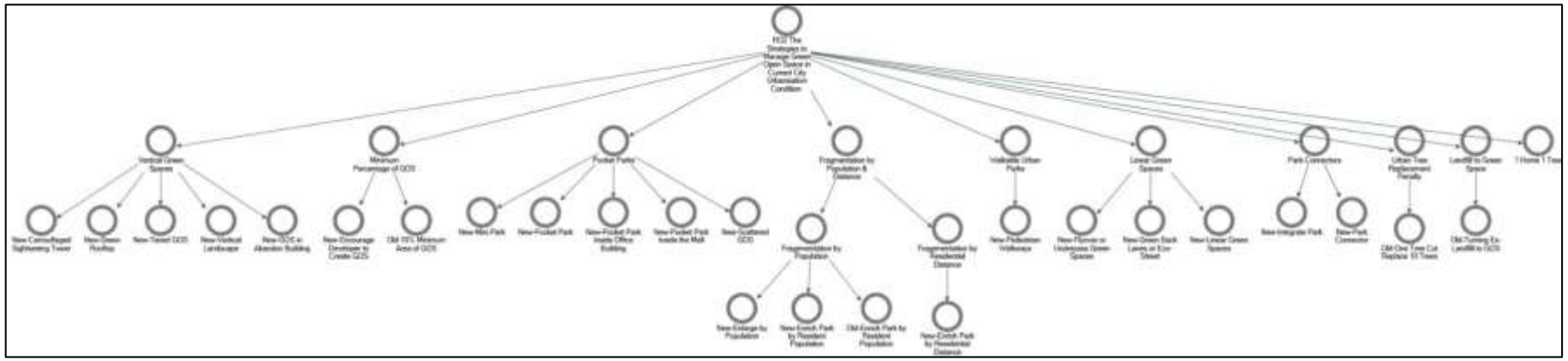

Figure 4.11 NVivo Summary of Overall Theme Development for Strategies to Manage Green Open Space in Current Urbanisation Condition Towards Green City Development in Melaka

Note: As the image is small, please refer to Table 4.16 for clearer details.

Source: Researcher Fieldwork (2024)

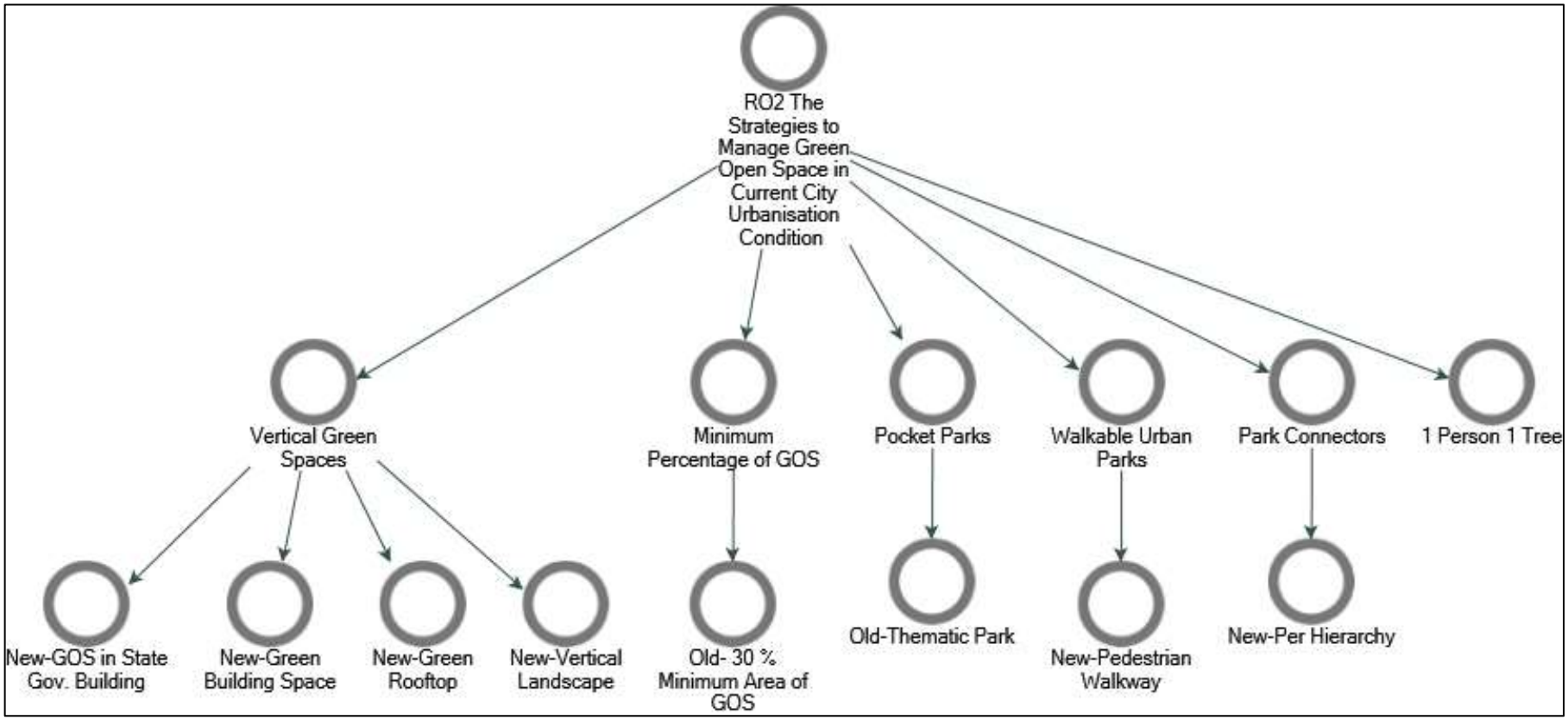

Figure 4.12 NVivo Summary of Overall Theme Development for Strategies to Manage Green Open Space in Current Urbanisation Condition Towards Green City Development in Padang

Note: As the image is small, please refer to Table 4.16 for clearer details.

Source: Researcher Fieldwork (2024)

Some of the selected informant's views on the theme of vertical green spaces, the most repeated theme.

"...kalau kita tengok Singapore punya nama yang ada air terjun daripada atas apa nama dipanggil dan sekarang ni. Tahu nama lah apa eh apa nama dia. So dia dia dia dia buat dia buat apa nama yang menegak tu kan landskap tu kan vertikal landskap tu kan kita boleh tanam spesies-spesies yang rare sebenarnya dekat kawasan-kawasan yang macam tu."

"...and then dalam cadangan juga untuk penambahbaikan lorong-lorong belakang untuk dijadikan vertical landskap di kawasan lorong belakang - back lane kedai cadang buat vertical landskap di kawasan belakang kedai di lorong-lorong belakang. Kita tak banyak space untuk reserve jalan kita nak jadikan dia kids area. So, kita ada cadangan untuk buat landskap di bahagian belakang back lane. Saya bagi satu contoh yang paling latest adalah di kawasan Jalan Hang Tuah - dekat mall area UiTM bandaraya. Salah satu area yang kita cadang adalah vertical landskap di back lane rumah kedai di situ."

"...if we look at Singapore has a name with a waterfall than what is it called and now. Do you know what his name is? So he, he, he, he, he, he, he, what's the name of the vertical landscape, right? The landscape is vertical, right? We can plant rare species near areas like that."

"...and then in the proposal also for the improvement of the back alleys to be used as a vertical landscape in the back alley area - the back lane of the shop proposes to make a vertical landscape in the back area of the shop in the back alleys. We don't have much space to reserve the road, we want to make it a kids area. So, we have a proposal to create a landscape at the back of the back lane. I am giving one of the most recent examples in the area of Jalan Hang Tuah - near the mall area of UiTM in the city. One of the areas we recommend is the vertical landscape in the back lane of the shop there."

– [MO1, 41 Years Old, 7 Years of Residential, Environmental Health Department, MBMB]

"Okey dia ada pandangan saya lah secara idea je lah, saya tak pasti

perlaksanaannya bagaimana tapi secara ideanya okey kita boleh laksanakan ataupun wujudkan taman-taman sebegini atas bangunan contoh, ni contoh lah maknanya kita boleh wujudkan taman-taman begini atas bangunan, maknanya dia boleh berjalan seiring lah maknanya nak naikkan bangunan pastikan bangunan tu atasnya tu ada unsur-unsur taman hijau di atas bangunan. Ha jadi dekat situ boleh lah sebagai alternatif kepada tanah sebab kita isu dia tanah. Bila kita nak naikkan pembangunan dan sebagainya ha tanah tu kat mana lagi nak cari. Ha tanah ni perlu dikorbankan macam saya sebut tadi tu. Jadi bila kepadatan begini inisiatif yang ada mungkin boleh wujudkan ataupun cari alternatif wujudkan taman-taman begini di atas bangunan."

"Okay, he has my view, it's just an idea, I'm not sure how to implement it, but in terms of the idea, it's okay, we can implement or create gardens like this on buildings as an example, this is an example, which means we can create gardens like this on buildings, he means can go together means to raise the building, make sure that there are elements of the green park on top of the building, so it is possible as an alternative to the land because we want to raise the development and so on Where else do you want to find it. This land needs to be sacrificed like I said earlier. So when the density is like this, it is possible to create or find an alternative to create parks like this on top of the building."

– [MR6, 42 Years Old, 11 Years of Residential]

"Oh ya green building ya, iya green building di Padang itu mungkin ada beberapa lokasi saya kurang tahu pasti juga cuma konsep green building itu ada, itu di peraturan kita, di peraturan gedung dan peraturan tata bangunan RTWT kita juga disebutkan di sana bahwa secara tipologi kita menyebutkan juga bahwa salah satu hijau itu tidak harus di tanah tapi tidak bisa green building itu - atapnya rooftopnya jadi hijau atau fungsi dinding atau wall nya ada juga dari hijau itu ada kita disebut di peraturan tata ruang kita terkait dengan penyediaan ruang terbuka hijau."

"Ada beberapa gedung yang mungkin tidak semua bagian gedung itu meng-adopsi hijau, cuma ada bagian-bagian tertentunya juga sudah bikin semacam taman gantung. Salah satu bagian dindingnya menjadi hijau gitu, kan bagian atap tertentunya sudah ada yang hijau juga cuma secara pasti gedung yang mananya saya kurang tahu seperti saya sebutkan di sini tapi

ada. Ada setidaknya gedung pemerintah, gedung swasta juga ada."

"Oh yes green building yes, yes green building in the Padang there may be some locations I don't know but the concept of green building is there, it is in our regulations, in building regulations and RTWT building regulations it is also mentioned there that typologically We also mention that one of the greens does not have to be on the ground but it cannot be a green building - the roof of the rooftop is green or the function of the wall or wall is also from the green. We mentioned it in our spatial regulations related to the provision of green open space."

"There are some buildings where maybe not all parts of the building have adopted green, but there are certain parts that have also made a kind of hanging garden. One part of the wall is green like that, certain parts of the roof are also green, but definitely the building which I don't know as I mentioned here but there are at least government buildings, there are also private buildings."

– [PO8, 44 Years Old, 43 Years of Residential, Regional Development Planning Agency]

"RTH dalam kota yang padat kalau mengingat kota yang padat, apakah nanti itu ada lahan enggak kak? Mungkinkah ada lahan kalau misalnya mungkin ada lahan beerti bisa lahan itu nanti kita alihkan jadi ruang terbuka hijau. Tapi kalau misalnya enggak ada lahan, mungkin kita bisa berinovasi. Mungkin dari bagian atas gedung bagian atas gedung bisa kita jadiin ruang terbuka hijau kayak gitu."

"RTH in a dense city, if you think about a dense city, will there be land or not, sis? Is it possible that there is land, if for example there is land, that means we can turn the land into a green open space. But if, for example, there is no land, maybe we can innovate. Maybe from the top of the building, the top of the building can be a green open space like that."

– [PR3, 21 Years Old, 21 Years of Residential]

Followed by the third most repeated theme which is pocket parks as a strategy in implementation of GOS in urbanization area.

"Kita pernah cakap juga untuk kita cari satu kita buat macam mini park kan sebab benda ni saya perasan masa saya pergi Bandung. So kita kelilingi hotel apa semua ni kan bila hari Ahad semuanya ada satu taman kat bawah tu diaorang boleh beriadah yang nak jogging, orang nak exercise apa semua berehat dengan family. Sebenarnya benda tu saya dah pernah planning lama dah dengan bekas pengarah landskap dulu sekarang ni Yang Dipertua Majlis Perbandaran Hang Tuah Jaya (YDP MPHTJ) Datin Sapiah binti Haron ha dia kata kita cari satu kita panggil DUN lah Dewan Undangan Negeri an. Satu DUN ada satu mini taman tapi plan ni betul-betul lah kalau nak buat. Itu pun saya ada bercakap balik dengan arkitek landskap MBMB. Maknanya kita tak nak tumpuan semua tumpu dekat Taman Bukit Serindit. So sekarang yang Taman Bandaraya Bukit Serindit yang selatan sekarang punya. So yang utara dia akan pergi yang sebelah Krubong sebelah Paya Rumput dia akan pergi dekat 1 Krubong punya taman kan mungkin dekat Klebang dekat Dataran Satu Malaysia. So kita nak create kan kalau nak buat taman kecil ni, dia tak payah besar. Saya rasa dalam 2 ekar you ada pun dah cukup untuk kita buat tu."

"We once said that we should find one and make it like a mini park, right? Because I noticed this when I went to Bandung. So we go around all these hotels, right? On Sundays, there's a park downstairs where people who want to jog can have fun. Do people want to exercise and relax with their families? Actually, I have been planning that for a long time with the former director of the landscape, now the Chairman of the Hang Tuah Jaya Municipal Council (YDP MPHTJ) Datin Sapiah binti Haron. The State Assembly has a mini park, but that's what I'm talking about with the MBMB landscape architect. So we don't want to focus on Taman Bukit Bukit Serindit now has one. So the one in the north he will go to the one next to Krubong next to Paya Rumput, he will go near 1 Krubong has a park, maybe near Klebang near Dataran Satu Malaysia. So we want to create, right? If we want to make this small garden, it doesn't have to be big. I think the 2 acres you have is enough for us to do that."

– [MO7, 46 Years Old, 26 Years of Residential, Engineering Department]

"Oh, kena tambah satu lagi, pada saya lena tambah satu lagi sebab menarik minat orang untuk beraktiviti lagi satu hal. Satu hal lagi kita boleh tanam lagi banyak pokok sebab tempat-tempat ni aje lah yang kita boleh tanam pokok banyak-banyak. Kalau macam kat tengah-tengah bandar bangunan

semua boleh je tanam pokok tapi macam kat tengah-tengah jalan tu je kan ha kat kawasan bangunan itu kat tepi-tepi itu je ha."

"Oh, I have to add one more thing, I feel like adding one more thing because it attracts people's interest to be more active. One more thing is that we can plant more trees because these are the only places where we can plant more trees. If it's like that In the middle of the city, all the buildings can be planted, but it's like in the middle of the road, right? In the building area, it's on the edges."

– [MR4, 32 Years Old, 33 Years of Residential]

"Okey tadi kita cerita di luar spot-spot hijau tadi, maknanya di luar lah environment di luar. Okey pada saya dalam bangunan sendiri pun kita boleh menyediakan spot-spot ni, maksudnya dalam satu bangunan katakan ada ruang untuk ruang hijau lah dalam setiap office ataupun setiap shopping kompleks ataupun setiap apa-apa lah bangunan yang ada ha maknanya boleh disediakan juga dekat situ kita boleh mengimbangi juga lah."

"Okay, we talked about the green spots outside, that means outside is the environment outside. Okay, I think we can provide these spots in our own building, which means that in one building, let's say there is a space for a green space in every office or every shopping complex or every building that is there, which means that it can be provided near there, we can compensate as well."

– [MR6, 42 Years Old, 11 Years of Residential]

"Ini khusus Kampung Tematik ya - banyak - 11 - setiap kecamatan - kalau di Pulau Puket itu Padang Barat, di Pauh - Kampung Manis, kemudian di Lubuk Kilangan itu 1000 Keripik, di Batu Gadang - Karang Puteh, Robek itu di Bukit Nobita - Bukit Nobita dipengaruhi rentam, ada view bukitnya itu, viewnya langsung ke pantai. Kalau di Padang Selatan - Bukit Metuo. Ada di 11 kecamatan."

"Seperti yang saya bilang tadi, kalau untuk Kota Padang sudah memenuhi syarat untuk kawasan ruang terbuka hijau karena Bukit Barisan, untuk di kawasan perkotaan kan sudah ada taman Imam Bonjol terus di arah itu di arah sebelah utara selatan arah utara ke sininya itu sudah ada Malvinas.

Untuk menambah lagi - kita berada di pusat ibu kota yang perubahannya tinggi. Kita berada saat ini konsentrasi pada mempertahankan - mempertahankan ruang terbuka itu. Tapi mungkin dengan membangun 11 kampung taman Tematik itu, tapi itu bagian lah dari program kita untuk menjadi menjadikan ruang terbuka hijau di situ kecematannya."

"Ye dia mini park."

"Iya. Menurut saya temanya tentang untuk orang tua - jadi ada yang mengikut umur nya - tematik sesuai tema penduduk itu. Kalau disabilitas nanti disediakan lagi jalannya di sana. Itu lebih ke mini park, tapi mungkin selain itu kan tetap berarti akan ada tumbuhan besar tentu nanti dampaknya gitu. Nanggalo kita sudah ada jadi revitalisasi lagi, tidak membangun lagi, memperbaiki."

"This is a special Thematic Village - there are many - 11 - in each sub-district - if on Puket Island it is Padang Barat, in Pauh - Kampung Manis, then in Lubuk Kilangan it is 1000 Keripik, in Batu Gadang - Karang Puteh, Robek is in Bukit Nobita - Bukit Nobita is influenced by the hill, the view is directly to the beach. If it's in Padang Selatan - Bukit Metuo. It's in 11 districts."

"As I said earlier, if the city of Padang meets the requirements for a green open space area because of Bukit Barisan, for urban areas there is already the Imam Bonjol park in that direction, in the north, south, north direction, there is already Malvinas To add more - we are in the center of the capital city where the changes are high. We are currently concentrating on maintaining the open space. But maybe by building 11 theme parks, but that is part of our program to make the space open green is where the problem is."

"Yes, it's a mini park."

"Yes. I think the theme is for the elderly - so there is something according to their age - the theme is in line with the theme of the residents. If there is a disability, there will be a path there. That's more like a mini park, but maybe other than that, it still means there will be big plants of course the impact will be like that. We already have revitalization, not building anymore, improving."

– [PO5, 38 Years Old, 20 Years of Residential, Regional Development Planning Agency]

"Nah jadi kita mungkin nanti kalau di kota sendiri kita ada goalnya tuh, kita ada goal taman Tematik namanya. Jadi kita targetkan dalam masa 5 tahun ini kita membangun 11 taman Tematik, satu skala kota, 11 skala kecamatan dan itu selesai di tahun 2023 direncanakan selesai semua. Salah satu taman Tematik yang besar itu ya di Air Pacah ini, kita ada sini ada Air Pacah ada itu kita bangunkan ada jogging track, kemudian ada monumen nya APEKSI (Asosiasi Pemerintah Kota Seluruh Indonesia) kemarin ada kegiatan - kita dirikan di sini dan itu akan memang banyak orang datang gitu."

"Ya tamannya kecil-kecil aja, taman skala lingkungan perumahan yang luasannya mungkin 500 atau 600 di perumahan. Nanti ada tema-temanya, mungkin ada tema keluarga tema apa tergantung permintaan daripada kelurahan atau wilayah tempat itu - untuk mahu jadikan apa taman nya tematik. Jadi mungkin nanti vegetasinya antara taman lain itu berbeda gitu dan fungsinya juga mungkin juga berbeda gitu."

"Well, maybe in the future if we have a goal in our own city, we have a goal called a theme park. So we aim to build 11 theme parks within 5 years, one city scale, 11 district scale and that is planned to be completed in 2023 all done. One of the big theme parks is in Air Pacah, we have here there is Air Pacah there we built a jogging track, then there is the monument APEKSI (Association of City Governments of Indonesia) yesterday there was an activity - we set it up here and that will indeed have a lot of people coming."

"Yes, the park is small, a residential neighborhood scale park with an area of maybe 500 or 600 in housing. Later there will be themes, maybe there will be a family theme depending on the request from the village or region of the place - to want to make the park thematic. So maybe later the vegetation will be different between the other parks and the function may also be different."

– [PO8, 44 Years Old, 43 Years of Residential, Regional Development Planning Agency]

4.5 Research Objective 3 (RO3): The Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development

A total of 14 themes described the strategies to increase the local government's financial stability (refer to Table 4.17, and for more details with interview and observation data refer to Table 4.18). The primary sources to finance GOS implementation included in management and maintenance aspect the local government use traditional revenue source which is from the government. Additionally, the theme park regulations and inspections were frequently mentioned. In addition, MBMB and PLG is assisted by Corporate Social Responsibility (CSR), CSR become a key theme as a local government's strategy which has reduced MBMB and PLG financial burden to finance the management and maintenance of GOS.

Table 4.17
Summary of Main Theme Development Using Comparative Analysis for Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development in Melaka and Padang

Bil.	Abbreviation	Main Theme	Melaka	Padang
1	TRS	Traditional Revenue Sources	√	√
2	PRI	Park Regulations & Inspections	√	√
3	CSR	Corporate Social Responsibility	√	√
4	IJV	Investments & Joint Ventures	√	√
5	FTA	Financial Transparency & Audit	√	√
6	DON	Donations	√	√
7	CEP	Commercialisation, Events & Programmes	√	√
8	CBO	Community-Based Organisations	√	√
9	HIF	Heritage & International Funding	√	X
10	EFC	Eco Fines & Charges	√	√
11	IFM	Infrastructure & Maintenance	√	√

12	SPO	Sponsorship	√	X
13	VCF	Visitor Contribution Fees	√	√
14	REU	Renewable Energy Use	√	X
		Total Main Theme	**14**	**11**

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

As refer based on thematic and pattern matching analysis in Table 4.18, it shows the pattern of the theme's development. Follow by constant comparative analysis for deepest analysis the difference between similar main theme between Melaka and Padang (Refer to Table 4.19.

Table 4.18
Details Summary of Main Theme Development Using Thematic and Pattern Matching Analysis for Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development in Melaka and Padang

Informant	**Main Theme**													
	TRS	**PRI**	**CSR**	**IJV**	**FTA**	**DON**	**CEP**	**CBO**	**HIF**	**EFC**	**IFM**	**SPO**	**VCF**	**REU**
MO1	√		√	√			√							
MO2	√		√	√	√				√	√				√
MO3	√	√												
MO4	√	√	√	√	√	√	√	√	√			√		
MO5	√	√	√		√	√					√	√		
MO6		√	√							√				
MO7	√	√	√	√		√								
MO8	√	√	√	√					√					
MO9	√	√			√	√								
MR1	√													
MR2	√	√	√								√			
MR3	√	√	√								√			

MR4	√	√	√	√	√	√								
MR5	√				√	√							√	
MR6	√	√	√		√	√	√					√		
MR7	√	√								√				
MR8	√	√			√									
MR9	√	√	√		√	√								
MR10	√		√		√		√							
MR11	√	√		√	√									

File / Reference	19/98	15/34	13/23	7/8	11/18	8/12	4/5	1/1	5/9	3/5	3/4	3/3	1/1	1/1
PO1	√			√						√				
PO2	√		√	√						√				
PO3	√	√	√	√	√									
PO4	√	√	√	√			√							
PO5	√	√	√	√										
PO6	√	√	√	√	√									
PO7	√	√	√	√	√	√								

PO8	√	√	√	√							√			
PR1	√	√	√	√									√	
PR2	√			√										
PR3	√	√		√	√						√			
PR4	√			√			√	√						
PR5	√	√					√							
PR6	√	√	√		√		√							
PR7	√		√	√				√						
PR8	√	√	√	√		√	√	√						
PR9	√		√	√	√			√						
PR10	√		√					√					√	
PR11								√						
PR12	√	√												
File / Reference	19/63	12/19	13/19	15/23	6/7	2/2	5/6	6/8	0/0	2/2	2/3	0/0	2/1	0/0
Total File / Reference	**38/161**	**27/53**	**26/42**	**22/31**	**17/25**	**10/14**	**9/11**	**7/9**	**5/9**	**5/7**	**5/7**	**3/3**	**3/2**	**1/1**

Abbreviation	TRS	Traditional Revenue Sources	DON	Donations	IFM	Infrastructure & Maintenance
	PRI	Park Regulations & Inspections	CEP	Commercialisation, Events & Programmes	SPO	Sponsorship
	CSR	Corporate Social Responsibility	CBO	Community-Based Organisations	VCF	Visitor Contribution Fees
	IJV	Investments & Joint Ventures	HIF	Heritage & International Funding	REU	Renewable Energy Use
	FTA	Financial Transparency & Audit	EFC	Eco Fines & Charges		

Source: Researcher Fieldwork (2024)

Table 4.19
Details of Main Theme Development Constant Comparative Analysis for Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development in Melaka and Padang

Bil.	Main Theme	Sub-Theme (Melaka)	Old / New Strategy	Sub-Theme (Padang)	Old / New Strategy
1	Traditional Revenue Sources	**Federal Budget** (e.g. Jabatan Landskap Negara, Ministry of Housing and Local Government (KPKT), Malaysia Road Record Information System (MARRIS) Budget, Ministry of Tourism, Arts & Culture (MOTAC), URBANICE (under KPKT))	Old	**Central Budget** (e.g. Anggaran Pendapatan dan Belanja Negara (APBN) [National Revenue & Expenditure Budget])	Old
		Federal Government Grant	Old	-	-
		Local Government Budget & Revenue A. MBMB Budget (Melaka City Council) (e.g. Internal Source in Maintenance [Old], Other Internal Sources [Old]) B. MBMB Revenue Streams i. Market-Based Revenue (e.g. Floating Market [New], Vending Machine [New]) ii. Property & Rental Income (e.g. Property Investments [New]; Rental Spaces (e.g. Beach Rental Space [New], Concert in GOS [New], Event Rental Space in GOS [New], Wedding Rental Space [New], Business Site Rental [Old], MBMB Rental Space [Old], Park Rental Space [Old]); Park Facilities Charges (e.g. Toilet Entrance Fee [New], Bicycle Rental [Old], Electric Scooter Rental [Old]))	New & Old	**Local Government Budget & Revenue** A. Anggaran Pendapatan dan Belanja Daerah (APBD) [Regional Revenue and Expenditure Budget] [Old] a). PLG Budget (Padang Local Government) i. Aspirational Fund [POKIR (Pokok-Pokok Pikiran DPRD) Fund] [Old] ii. Personnel Maintenance Fund [Dana Personel Pemeliharaan] [Old] b). PLG Revenue Streams i. Pendapatan Asli Daerah (PAD) [Regional Original Revenue] (e.g. Advertising Fees Collection [Old]; Facilities	New & Old

		iii. Advertising and Business Fees (e.g. Ads Fees [Old], Business License [Old]) iv. Fines & Penalties (e.g. Compound Fees [Old], Parking (e.g. High Parking Fines [New], Parking Fines [Old])) v. Park Entrance Fees [New] vi. Taxes [Old]		ii. Advance Tax System Collection [New]	
		State Budget & Revenue A. Budget (e.g. State Forestry Department Allocations [Old], Unit Kerajaan Tempatan (UKT) [Old]) B. Revenue (e.g. Caj Warisan Negeri Melaka [Cultural & Heritage Fees])	Old	-	-
2	Park Regulations & Inspections	**Complaint Channels** (e.g. Hotline Number [New], QR Codes [New], WhatsApp [Old])	New & Old	**Complaint Channels** (e.g. Padang Kiniko (Mobile Application) [Old])	Old
		Security Measures (e.g. CCTV [Old], Security Guard [New], Park Fance [New])	New & Old	**Security Measures** (e.g. CCTV [New]	New
		Minimising Vandalism (e.g. Vandalism Fines [Old], Graffiti Walls Facility to Reduce Vandalism [New], Regular Maintenance [Old], Warning Signage [Old])	New & Old	**Minimising Vandalism** (e.g Vandalism Fines [New], Graffiti Walls Facility to Reduce Vandalism [New], GOS Rules [New], Manual Records of Damages [Old])	New & Old
		Park Monitoring A. Regular Park Monitoring by Community i. Paid Community Watchdogs [New] ii. Volunteer Community Watchdogs [Old]	New & Old	**Park Monitoring** (e.g. Regular Park Monitoring by Enforcement Officer [Old], Public Watchdogs to Reduce Corruption [New])	New & Old

		B. Park Monitoring by Enforcement Officer			
3	Corporate Social Responsibility	**Adopt-a-Park Programmes** (e.g. Corporations [New], Forest Departments [New], Universities [New])	New	**CSR Contribution**	Old
		Corporate Donations A. Bank, Individuals, NGOs [Old] B. Companies (e.g. MAMEE, Sime Darby [Old])	Old		
4	Investments & Joint Ventures	**Investors** (e.g. Corporate Investor [New], International Investor [Old])	New & Old	**Investors** (e.g. International Investor [New], Publish Research to Attract International Researchers [New], Local Investors [Old])	New & Old
		Joint Ventures (e.g. Corporate Joint Venture [Old], International Joint Venture [Old])	Old	**Joint Ventures** (e.g. International Collaboration [Old])	Old
		Public-Private Partnership	-	-	-
5	Financial Transparency & Audit	**Asset Declaration**	New	-	-
		Inventory Management (e.g. Inventory for Fauna [New], Inventory for Flora [Old])	New & Old	-	-
		Asset Monitoring	Old	-	-
		Audits	Old	**Audits**	Old
		Hiring Trusted Contractors	Old	-	-
		Integrity in Financial Management	Old	-	-
		-	Old	**Transparency in Financial Management**	New

		Internal Guidelines & Compliance	Old	-	-
		Staff Monitoring (e.g. Monitoring of Financial Management Officers [Old], Monitoring of Tender Management Officers [Old])	Old	-	-
6	Donations	**Developer Donations**	New	-	-
		Community-Based Contributions (e.g. Small Business Contributions [New], Individual Donations [Old])	New & Old	-	-
		Political Donations	New	-	-
		Company Donations	Old	-	-
		NGO Contributions	Old	**NGO Contributions**	Old
7	Commercialisation, Events & Programmes	**Commercial Use of Green Spaces** (e.g. Green Spaces in Commercial Areas [New], Event Space Rentals [Old])	New & Old	**Commercialisation Use of Green Spaces** (Paid Facilities [New] (e.g. Paid Outdoor Gym [New], Café [New])	New
		Park Programmes and Events (e.g. Annual Events [New], Selawat Event [New], Wedding Events [Old])	New & Old	**Park Programmes and Events** (e.g. Park Events and Fundraising Programmes [New])	New
8	Community-Based Organisations	**Resident Volunteering Group**	New	**Resident Volunteering Group**	New
		-	-	**Public Servant Volunteer Group**	Old
9	Heritage & International Funding	**External Heritage Funds** (e.g. Local Heritage Fund [Old], National Heritage Fund [Old], International Heritage Funds – e.g. UNESCO Budget [Old])	Old	-	-

10	Eco Fines & Charges	**Developer Non-Compliance Fines** (e.g. Developer Breach Planning Permission Fines [Pelangggaran Kebenaran [Old], Merancang (KM) olh Pemaju] [Old], Developer Charges for GOS Non-Compliance [New])	Old	**Developer Non-Compliance Fines** (e.g. Developer Charges for GOS Non-Compliance [New])	New
		Plastic Use Charges	New	-	-
		Smoking Fines	New	-	-
		Sustainability Charges	New	-	-
		-	-	**Polluter Pays Principle**	Old
11	Infrastructure & Maintenance	**Use of Durable Materials**	New	-	-
		Immediate Repairs	Old	**Periodic Repairs and Replacements**	Old
		Replanting Strategies	Old	-	-
12	Sponsorship	**Developer Sponsorship**	Old	-	-
		Individual Sponsorship	Old	-	-
13	Visitor Contribution Fees	**International Tourists Entrance Fees**	New	**Local Entrance Fees**	New
14	Renewable Energy Use	**Solar Energy Use for Cost Reduction**	New	-	-

Source: Researcher Fieldwork (2024)

There are total sub-themes 41 for Melaka and 20 for Padang in development of 14 main themes, indicated that the strategies to stabilize the financial whether new or old have been and should and/or will be imposed in GOS implementation towards GCD by MBMB and PLG.

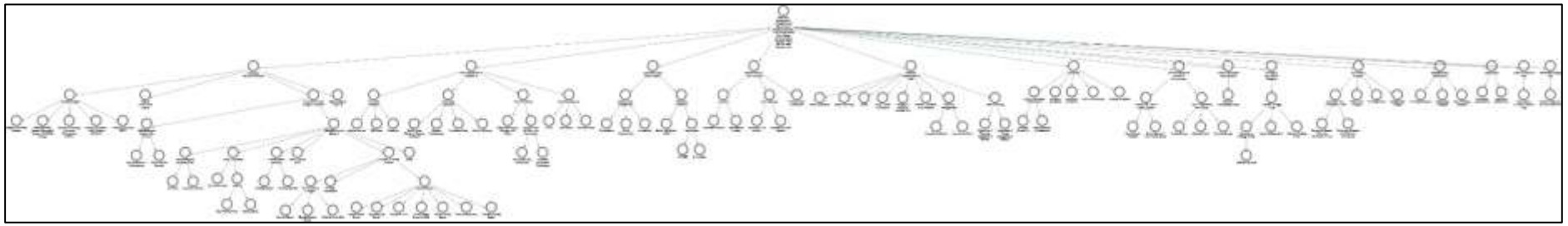

Figure 4.13 NVivo Summary of Overall Theme Development for Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development in Melaka

Note: As the image is small, please refer to Table 4.19 for clearer details.

Source: Researcher Fieldwork (2024)

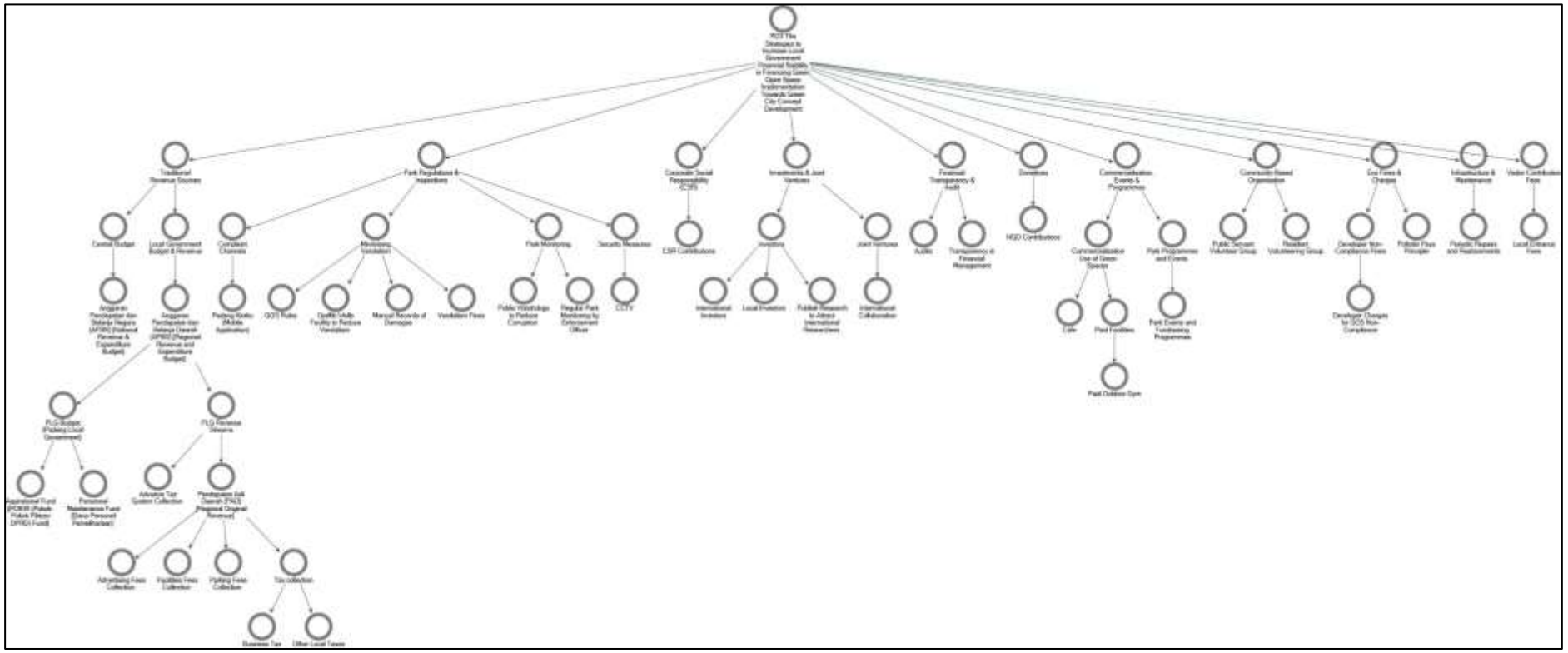

Figure 4.14 NVivo Summary of Overall Theme Development for Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development in Padang

Note: As the image is small, please refer to Table 4.19 for clearer details.

Source: Researcher Fieldwork (2024)

As explained by several informants from MO, MR, PO, and PR regarding the theme of traditional sources.

> *“…dia kalau ada pun once in a while lebih kepada orang panggil apa peruntukan Malaysian Road Record Information System (MARRIS) yang tu peruntukan lain tu peruntukan cantas pokok. Ha yang tu tak termasuk lah aha.”*
>
> *"...if there is even once in a while, it's more to people to call what the allocation of the Malaysian Road Record Information System (MARRIS) is, that's another allocation, that's the allocation of tree pruning. Ha, that's not included aha."*

– [MO3, 34 Years Old, 28 Years of Residential, Landscape & Urban Beautification Department, MBMB]

> *“Bajet jabatan ni lah bajet MBMB sendiri selain daripada Jabatan Landskap Negara dengan UKT lah Unit Kerajaan Tempatan, tiga sumber utama MBMB, UKT daripada Landskap Negara. Bajet negeri under UKT dia kalau ada saluran daripada kita, dia akan salurkan kepada kita lah pada PBT-PBT yang ada bawah Kerajaan Negeri lah untuk Jasin, MPHT ha, Alor Gajah dengan MBA lah. Selain daripada MBMB memang ada peruntukan sendiri untuk laksanakan program hijau. Satu bawah under Jabatan Perancang. Macam Landskap ni membantu kepada Jabatan Perancang untuk pelaksanaan program hijau diaorang. So kita cuma Kebun Komuniti je.”*
>
> *"This department's budget is MBMB's own budget apart from the National Landscape Department with UKT being the Local Government Unit, the three main sources of MBMB, UKT from National Landscape. The state budget under UKT if there is a channel from us, he will channel it to us in the PBT-PBT that are under the State Government for Jasin, MPHT ha, Alor Gajah with MBA. Apart from MBMB, there is indeed its own allocation to implement green programs. One under the Department of Planning. This*

kind of landscape helps the Planning Department for the implementation of their green program. So we are just a Community Garden."

– [MO5, 42 Years Old, 19 Years of Residential, Landscape & Urban Beautification Department, MBMB]

"…kita akan dapat peruntukan daripada federal lah kementerian macam KPKT, ada MOF kita ada MOTAC. Kita mohon lah…kita mohon. So kita dapat lah apa-apa projek yang kita nak rancang kita dapat permohonan benda daripada situ lah."

"...we will get allocations from federal ministries like KPKT, we have MOF, we have MOTAC. We beg...we beg. So we can get any project that we want to plan, we can get requests for things from there."

– [MO7, 46 Years Old, 26 Years of Residential, Engineering Department, MBMB]

"Kalau kata untuk projek kawasan bandar ni dia ada dua sama adanya duit daripada Kerajaan Persekutuan di bawah Projek MARRIS. Yang kedua kita gunakan duit daripada MBMB sendiri sekiranya jalan tersebut tidak didaftarkan. Mana-mana jalan yang dia telah didaftarkan di bawah MARRIS kita boleh mohon peruntukan daripada peringkat Kerajaan Persekutuan lah di bawah bajet MARRRIS dan saya percaya macam mana sebelum ni Jabatan Landskap buat. Contohnya dia buat pembelian skylift…jentera skylift kenderaan menggunakan bajet MARRIS ha yang kita dapat daripada Kerajaan Persekutuan lah. So kat situ kita dapat peruntukan daripada mereka dan boleh menambahkan kita punya kemudahan lah untuk membuat kerja kan ha. Kalau sebelum ini mungkin kita ada satu, sekarang dah ada tiga contohnya. Sangat-sangat membantu lah bajet tersebut yang dikeluarkan tersebut. Tapi di kawasan bandar kita boleh mohon bajet…ada bajet dia, tapi saya lupa apa nama bajet dia macam bajet daripada UNESCO lah ha. Kita boleh mohon bajet dia, kalau kata tak boleh guna, kita boleh guna duit MBMB sendiri lah untuk repair."

"When it comes to urban area projects, there are two funds from the Federal Government under the MARRIS Project. The second is that we use money from MBMB itself if the road is not registered. Any road that he has registered under MARRIS, we can apply for allocation from the Federal Government level under the MARRRIS budget and I believe how before this the Landscape Department did. For example, he made the purchase of a skylift... vehicle skylift machinery using the MARRIS budget that we get from the Federal Government. So there we get allocations from them and we can add that we have the facilities to do the work, right? If before we might have had one, now there are three examples. The released budget is very helpful. But in urban areas we can apply for a budget... there is a budget, but I forget the name of the budget, it's like a budget from UNESCO, ha. We can ask for his budget, if he says we can't use it, we can use MBMB's own money to repair it."

– [MO8, 35 Years Old, 3 Years of Residential, Engineering Department, MBMB]

"Sumber yang kita perolehi mostly banyak daripada KPKT lah. Ha selain daripada tu kita ada dapat juga bantuan one off daripada MOTAC ha daripada Kementerian Pelancongan, Seni dan Budaya. Itulah dua aspek utama ni...sumber yang utama ni memang mengharapkan daripada federal untuk diorang salurkan kepada kita lah supaya kita dapat bangunkan lagi banyak fasiliti yang ada dengan kita buat penambahbaikan, kita buat pembangunan dekat kawasan tu."

"The resources we get are mostly from KPKT. Apart from that, we also get one-off assistance from MOTAC, from the Ministry of Tourism, Arts and Culture. Those are the two main aspects... the main source is that we expect from the federal government to be channeled to us so that we can develop many more facilities that we have for improvement, we do development near that area."

– [MO9, 33 Years Old, 10 Years of Residential, Engineering Department, MBMB]

“Pokok tu biasa Jabatan Perhutanan lah yang akan bagi dan dengan Jabatan Landskap.”

“Itu saya rasa mungkin daripada pihak yang terlibat lah, contoh daripada menteri daripada Ketua Menteri Melaka ataupun daripada badan-badan yang terlibat.”

"That tree is usually the Department of Forestry that will share and with the Department of Landscape."

"I think that is possible from the parties involved, for example from the minister from the Chief Minister of Malacca or from the bodies involved."

– [MR9, 39 Years Old, 10 Years of Residential]

“…dia bergantung kepada sumbangan daripada kerajaan tempatan daripada peringkat pusat iaitu daripada menteri contohnya.”

"...he depends on contributions from the local government from the central level that is from the minister for example."

– [MR3, 45 Years Old, 17 Years of Residential]

“…biasanya lah sumber ni datang daripada kerajaanlah. Maknanya kerajaan negeri atau kerajaan pusat mungkin dia ada dana ataupun dia ada peruntukan lah untuk membiayai majlis ni lah. Itu yang saya faham lah.”

"...usually this source comes from the government. It means that the state government or the central government may have funds or allocations to finance this event. That's what I understand."

– [MR6, 42 Years Old, 11 Years of Residential]

“Di DLH sendiri kalau di tata ruangnya kita enggak ada support untuk anggaran kecuali untuk sarana-prasarana seperti saluran ya itu. Tapi untuk tamannya - enggak. Untuk salurannya itu memang di Dinas PU, dana APBD, macam-macam ada dana DAK (Dana Alokasi Khusus) pusat.”

"At DLH itself, in terms of layout, we do not have support for the budget except for facilities such as the yes channel. But for the garden - no. For the channel, it is indeed in the Department of PU, APBD funds, all kinds of central DAK (Special Allocation Fund) funds."

– [PO4, 53 Years Old, 34 Years of Residential]

“Kalau sumber pendapatan mungkin dari Dana Alokasi Umum (DAU) mungkin ya, atau Dana Alokasi Khusus (DAK). Kayak kalau saya kemarin kajian saya kan tentang pariwisata ya kak ya kebetulan saya wisata. Nah kebanyakan itu dananya dari DAK dan DAU dan juga...itu dari governemnt ke? Iya dari governmentt. Ada juga dari dana yang khusus dari goverment ada juga.”

"If the source of income may be from the General Allocation Fund (DAU) maybe yes, or the Special Allocation Fund (DAK). It's like if I was studying yesterday, I was about tourism, yes, I happened to be traveling. Well, most of the funds are from DAK and DAU and also... is that from the government? It's from the government. There are also special funds from the government."

– [PR1, 22 Years Old, 4 Years of Residential]

“Saya rasa itu aja, tapi yang paling besar itu Pendapatan Asli Daerah (PAD) karena PAD ini kan bisa dari pariwisatanya juga dari fasilitas yang digunakan, fasilitas dari pemerintah yang digunakan dan itu disewakan.”

"I think that's all, but the biggest thing is the District's Natural Income (PAD) because this PAD can come from tourism as well as from the facilities used, facilities from the government that are used and that are rented out."

– [PR7, 29 Years Old, 13 Years of Residential]

4.6 Research Objective 4 (RO4): The Strategies to Increase Community Participation in Green Open Space Implementation

Eight main themes within in the dimension aim to increase community participation in developing GC through implementing GOS have been identified (Refer to Table 4.20). There are eight main themes found for Melaka City and seven main themes for Padang City. These main themes included local engagement, media and influencer engagement, diverse events and programmes, park aesthetics and appeal, proactive resident representative, green knowledge, efficient complaint handling, and accessible parks, that all can increase participation of community in GOS implementation towards GCD.

Table 4.20
Summary of Main Theme Using Comparative Analysis Development of the Strategies to Increase Community Participation in Green Open Space Implementation in Melaka and Padang

Bil.	Abbreviation	Main Theme	Melaka	Padang
1	LE	Local Engagement	√	√
2	MIE	Media & Influencer Engagement	√	√
3	DEP	Diverse Events & Programmes	√	√
4	PAA	Park Aesthetics & Appeal	√	√
5	PRO	Proactive Resident Representative	√	√
6	GKNOW	Green Knowledge	√	√
7	ECH	Efficient Complaint Handling	√	√
8	AP	Accessible Parks	√	X

Total Main Theme	**8**	**7**	

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

Table 4.21
Details Summary of Main Theme Development Pattern Macthing Analysis for Strategies to Increase Community Participation in Green Open Space Implementation in Melaka and Padang

Informant	**Main Theme**							
	LE	**MIE**	**DEP**	**PAA**	**PRO**	**GKNO**	**ECH**	**AP**
MO1	√	√		√	√		√	
MO2	√		√				√	
MO3	√	√	√	√	√	√		
MO4	√		√	√		√		
MO5	√		√	√		√		
MO6	√		√	√				√
MO7	√		√	√		√		
MO8	√					√	√	
MO9	√	√	√	√				
MR1	√	√	√					
MR2	√	√	√				√	
MR3	√		√	√		√		
MR4	√		√	√				
MR5	√	√	√	√			√	
MR6	√		√				√	
MR7	√	√		√	√			
MR8	√	√	√	√				
MR9	√	√		√	√			
MR10	√	√						
MR11	√	√	√			√		

File / Reference	20/72	11/24	15/42	13/25	4/5	7/10	6/8	1/1
PO1	√		√		√			
PO2	√	√	√		√			
PO3	√	√	√	√				
PO4	√	√		√				
PO5	√	√			√			
PO6	√	√	√		√			
PO7	√	√	√					
PO8	√	√	√	√				
PR1	√	√				√		
PR2	√	√	√				√	
PR3	√	√	√	√	√			
PR4	√							
PR5	√	√		√			√	
PR6	√	√		√				
PR7	√	√		√	√			
PR8	√	√		√	√			
PR9	√	√		√	√			
PR10	√	√	√					
PR11	√	√	√		√	√		
PR12	√	√	√					
File / Reference	20/72	18/49	11/20	9/18	9/11	2/2	2/2	0/0
Total File / Reference	**40/144**	**28/73**	**26/62**	**22/43**	**13/16**	**9/12**	**8/10**	**1/1**

Abbreviation	LE	Local Engagement	PRO	Proactive Resident Representative
	MIE	Media & Influencer Engagement	GKNO	Green Knowledge
	DEP	Diverse Events & Programs	ECH	Efficient Complaint Handling
	PAA	Park Aesthetics & Appeal	AP	Accessible Parks

Source: Researcher Fieldwork (2024)

Table 4.22
Details of Main Theme and Sub-Theme Development Using Constant Comparative Analysis for Strategies to Increase Community Participation in Green Open Space Implementation in Melaka and Padang

Bil.	Main Theme	Sub-Theme (Melaka)	Old / New Strategy	Sub-Theme (Padang)	Old / New Strategy
1	Local Engagement	**Public Involvement in Project Phases** (1. Initiation, 2. Design & Planning, 3. Execution, 4. Monitoring & control, 5. Closure)	Old	**Public Involvement in Project Phases** (1. Initiation, 2. Design & Planning, 3. Execution, 4. Monitoring & control, 5. Closure)	Old
		Community-Based Organisation (e.g. More Open to Society's Ideas [New] & Town Hall Meetings [Old])	New & Old	-	-
		-	-	**Stakeholder Engagement** (e.g. Academia Involvement, Community Group Involvement, & Private Sector Involvement)	Old
2	Media & Influencer Engagement	**Influencers Engagement** (e.g. Green Exposure to Influencers)	New	**Influencer & Public Figure Engagement** (e.g. Celebrity [New], Influencer [New], & Public Figure [Old])	New & Old
		Mass Media Engagement (e.g. Ads, Banner, Newspaper & Radio)	Old	**Mass Media Engagement** (e.g. Information signboard [New], Billboard [Old], Pamphlet or flyer [Old], Radio [Old], TV [Old], Ads [New], & Newspaper [Old])	New & Old
		Social Media Engagement (e.g. Facebook, Instagram, TikTok)	Old	**Social Media Engagement** (e.g. Instagram [New], TikTok [New], Facebook [Old], WhatsApp [Old], & YouTube [Old])	New & Old
		-	-	**Digital Media Engagement** (e.g. Online Meetings [New], Apps [Old] & Digital Marketing [Old])	New & Old
3	Diverse Events & Programs	**Community Competitions** (e.g. The Most Beautiful Greenspace & Push Bike Competition)	Old	**Community Competitions** (e.g. The Cleanest Greenspace)	New
		Environmental Programs (e.g. Community Garden Program [Kebun Kejiranan], Bandar Hilir Vehicle-Free Zone, Developer Water-Saving Program,	Old	**Environmental Programs** (e.g. Recycle-for-Reward Program)	New

		3R (Reduce, Reuse, Recycle) Program, Accumulation of Cooking Oil Program, Tree Planting, Urban Farming, Awareness Program, Green Technologies Program, Recycle-for-Reward Program, Green School)			
		Public Engagement Programs (e.g. 'Singgit Seposen' (Waste management) Program, Gotong-Royong, Dengue Awareness, Earth Hour, Corporate Social Responsibility Program, Joint Venture Events, Community Engagement Program, Special Meeting Program, YB Bersama Rakyat Program, Community Reward Program, Lucky Draw Program, Recreation Program)	Old	**Public Engagement Programs** (e.g. Events in the Park [New], Free Family Games [New], Gotong-Royong [New], Park Maintenance with Citizen Involvement [New], Luck Draw Program [New], Sense of Ownership for Public Parks [New], & External Awareness Programs for Citizens [Old])	New & Old
		-	-	Government Internal Awareness Programs	New
		Art Programs (e.g. Urban Art & Street Culture, Cultural Exhibitions, Art in Public Spaces, Collaborative Community Art Projects, Art & Eco-Sustainability)	New	-	-
		Recreational Activities (e.g. Fun Run, Outdoor Activities, Park and Ride, Recreation Program)	Old	-	-
4	Park Aesthetics & Appeal	**Attractive & Beautiful Parks** (e.g. Attractive Park & Beautiful Attraction)	New	**Attractive & Beautiful Parks** (e.g. Attractive Park & Beautiful Attraction)	New
		Diverse Park Facilities (e.g. Cycling Tracks & Libraries)	New	**Diverse Park Facilities** [e.g. Tangible Amenities Facilities (e.g. Toilet) & Multi-Use Park]	New
		Multi-Age Facilities (e.g. Children's Cycling Park, Senior Citizen Park, & 'OKU & Autism Children's Park')	New	Multi-Age Facilities	New
		Unique Park Concepts [e.g. OOTD (Outfit of the Day) [Instagrammable Spots], Latest Concept Parks, & Tree Tagging]	New	Unique Park Concepts (e.g. Latest Concept Parks)	New
		-	-	Technologies in the Park	New
5	Proactive Resident	**Announcement Channels** (e.g. Schools [New], Mosque [Old], & Door-to-Door Approach [Old])	New & Old	**Announcement Channels** (e.g. Spread by Community Groups [Old] & Face-to-Face & Online Meetings [New]	New & Old

	Representative	**Resident Representation** (e.g. Allied with Area Officers (AO) & Community Representatives)	Old	Resident Representation	New
		-	-	**Resident Communication Channels** (e.g. Word of Mouth)	Old
6	Green Knowledge & Education	Health & Green Awareness Through Information Signage	New	-	-
		Environmental Education in Higher Education	New	-	-
		Green Program Exposure & Leadership Awareness (e.g. Green Exposure to Every Leader of Department [New] & 'Educate & Expose to Resident & Tourist about Melaka Green Programs [Old])	New & Old	-	-
		Green Technologies Awareness Program (Traffic Control System)	Old	-	-
		Herbarium for Environmental Education & Awareness	New	-	-
		Promoting Community Cooperation for Green Initiatives	Old	-	-
		Self-Awareness to Join Green Programs	Old	Self-Awareness to Join Green Programs	New
7	Efficient Complaint & Feedback Systems	**QR Code for Feedback & Complaint Submission** (e.g. QR Code - Feedback Survey in Greenspace & QR Code Complaint Signage in Greenspace)	New	**QR Code for Feedback & Complaint Submission** (e.g. QR Code – Feedback & Complaint Signage in Greenspace [New])	Old
		Social Media Complaint & Feedback Channels (Complaint & Feedback via Facebook's Melaka Local Government Page & WhatsApp Complaint & Feedback Channel)	Old	**Social Media Complaint & Feedback Channels** (e.g. WhatsApp Complaint & Feedback Channels)	Old
		Fast Response via Social Media	Old	-	-
		-		Efficiency of Services Delivery	New
		Online Feedback via FGD Programs	Old	-	-
		Complaint Box in Greenspaces	New	-	-

8	Community & SME-Friendly Parks	Free Activity Zones	Old	-	-
		SME Support & Market Spaces	Old	-	-
		Open Community Use	Old	-	-

Source: Researcher Fieldwork (2024)

There are total sub-themes 21 for Melaka and 12 sub-themes for Padang indicate that MBM in Melaka have done and have come out a lot of strategies to increase community participation in their GOS implementation towards GCD compared to Padang local government.

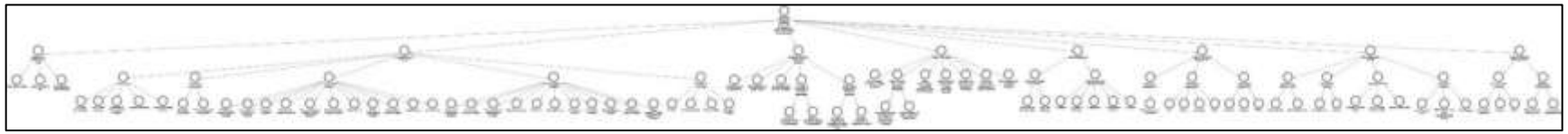

Figure 4.15 NVivo Summary of Overall Theme Development for Strategies to Increase Community Participation in Green Open Space Implementation in Melaka

Note: As the image is small, please refer to Table 4.22 for clearer details.

Source: Researcher Fieldwork (2024)

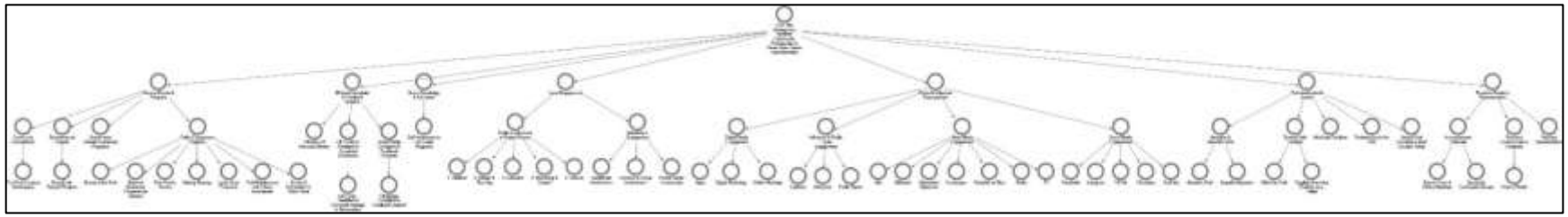

Figure 4.16 NVivo Summary of Overall Theme Development for Strategies to Increase Community Participation in Green Open Space Implementation in Padang

Note: As the image is small, please refer to Table 4.22 for clearer details.

Source: Researcher Fieldwork (2024)

Some of the selected informant's views on one of the most repeated theme, diverse events and programs.

"Ha tu lah macam saya cakap tadi kita buat komuniti engagement untuk dia participate. Dia nak apa sebenarnya dekat Taman Bukit Serindit tu. What MBMB can do to attract more people to come over to the park lah."

"Ha, that's like I said earlier, we create an engagement community for them to participate. What do they really want near Taman Bukit Serindit. What MBMB can do to attract more people to come over to the park."

– [MO6, 39 Years Old, 39 Years of Residential, City Planning Department, MBMB]

"...sediakan diaorang kemudahan. Kita masuk ya sarapan pagi. Mungkin bagi diaorang sedikit sumbangan lah. Sumbangan daripada…contoh baju untuk diaorang start aktiviti tu sebab benda ni kalau aktiviti biasa kan dana daripada kerajaan. So kerajaan pun kita faham lah daripada duit rakyat juga. Ha tu lah cadangan saya."

"...provide them with facilities. We give free breakfast. Maybe provide a small gift to them. Gifts from... for example, clothes for them to start the activity because all activities are funded by the government. So, we understand the government will use money from taxes that come from people's money. That's my suggestion."

– [MR9, 39 Years Old, 10 Years of Residential]

"Kalau pemerintah kota sekarang galakan gotong-royong – Bulan Bhakti Gotong-Royong Masyarakat (BBGRM) dan ada program walikota Padang Bergoro (Padang Bergotong-Royong). Itu biasanya Padang Bergotong-Royong dia dilibatkan aparatur kayak kami ini, masyarakat untuk bergotong-royong membersihkan kota. Biasanya dilaksanakan di hari libur. Fokusnya seluruh Kota Padang termasuk ruang terbuka hijau. Misalnya kayak gini, di Padang ini kan ada 104 kelurahan 11 kecamatan, jadi Padang Bergoro itu kelurahan itu mengajak masyarakatnya bergotong-royong di wilayahnya masing-masing. Dia dilakukan setiap minggu."

"The city government is now promoting mutual cooperation - Community

Service Mutual Cooperation Month (BBGRM) and there is a program from the mayor which is Padang Bergoro (Padang Mutual Cooperation). Usually, Padang Mutual Cooperation involves officially like us, the nearest society work together to clean up the city. Usually held on holidays. The focus is on the entire city of Padang, including green open spaces. For example, like in Padang there are 104 sub-districts in 11 sub-districts, so Padang Mutual Cooperation in each sub-district will invites its people to work together in their respective areas. It is done every week."

– [PO3, 51 Years Old, 51 Years of Residential]

"Gini, dari dulu masyarakat Kota Padang nih like a punya semacam jalan santai, yang di mana mereka cabut lotre sebagai hadiah. Jadi masyarakat Kota Padang itu berbondong-bondong untuk bergabung bersama pemerintah dengan cara melakukan jalan santai dan melakukan pembersihan – Operasi Semut iya. Operasi Semut itu adalah operasi pengumpulan sampah anorganik maupun organik di sekitar area taman. Satu bulan sekali biasanya. Jadi nanti Operasi Semut itu bakalan ada semacam pemberian achievement bagi yang pembersihannya atau tempat yang dia bersihkan tuh bagus."

"Like this, since long ago, the people of Padang City have had a kind of fun walk, where they draw a lottery as a prize. So, the people of Padang City flocked to join the government by doing a fun walk and cleaning called Operation Semut (Ants Operation), yes. Operation Semut is an operation to collect inorganic and organic waste around the park area. Usually once a month. So later Operation Semut will have a kind of achievement award for those who clean or the place they clean is good."

– [PR4, 27 Years Old, 8 Years of Residential]

4.7 Research Objective 5 (RO5): The Formulation of Green Open Space-Green City Conceptual Framework (GOS-GCCF) that Suits with Melaka and Padang Local Context

In order to propose a GOS-GCC framework that suits with the current local context which Melaka City and Padan City, the experiences and feedback from the

permanent residents is essential. The result found as per below. The most important dimensions that needed to development a GC through GOS implementation between Melaka City and Padang City can be considered through informant's feedback on their current experiences as residents (Refer to Table 4.26) as well as the 11 additional dimensions to focus on founded (Refer to Table 4.23 and Table 4.24).

4.7.1 Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Melaka and Padang

While formulated the GOS-GCCF for Melaka and Padang, the MEGOS-GCCF and PAGOS -GCCF got several informants give their feedback regarding some additional dimensions to focus on based their city current 'needs.

Table 4.23
Summary of Main Theme Development Using Comparative Analysis for Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Melaka and Padang

Bil.	Abbreviation	Main Theme	Melaka	Padang
1	LISC	Local and International Stakeholder Collaboration	√	√
2	DRMPS	Disaster Risk Management & Political Stability	√	√
3	CHHT	Cultural Heritage, History & Tourism	√	√
4	GAT	Green Awareness & Technologies	√	√
5	IEFS	Investor and External Funding & Support	√	√
6	UKO	Updated Knowledge among Officers	√	X
7	MGS	Multifunctional Greenspace	√	X
8	CP	Children's Preference	X	√
9	CM	Compliance Monitoring	X	√
10	PW	Political Will	X	√
11	TDA	Top-Down Approach	X	√
		Total Main Theme	**7**	**9**

Note: The highlighted color indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024

There 11 themes representing the additional dimensions need to focus on in GOS-GCCF of Melaka and Padang to ensure GOS implementation towards GCD based on their current city needs.

Table 4.24
Details Summary of Main Theme Development Thematic and Pattern Matching Analysis for Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Melaka and Padang

Informant	**Main Theme**										
	LISC	**DRMPS**	**IEFS**	**CHHT**	**GAT**	**UKO**	**MGS**	**CP**	**CM**	**PW**	**TDA**
MO1						√					
MO2		√			√		√				
MO3											
MO4	√		√								
MO5		√									
MO6											
MO7											
MO8											
MO9				√							
MR1											
MR2								√			
MR3	√										
MR4											
MR5											
MR6											
MR7											
MR8											
MR9											
MR10											
MR11											

File / Reference	2/2	2/2	1/2	1/1	1/1	1/1	1/1	0/0	0/0	0/0	0/0
PO1	√										
PO2											
PO3											
PO4											
PO5											
PO6	√		√								
PO7											
PO8											
PR1									√		
PR2	√										
PR3	√									√	
PR4								√			
PR5											√
PR6					√						
PR7											
PR8	√	√									
PR9											
PR10				√							
PR11	√										
PR12											
File / Reference	6/29	1/1	1/1	1/1	1/1	0/0	0/0	1/1	1/1	1/1	1/1
Total File / Reference	**8/31**	**3/3**	**2/3**	**2/2**	**2/2**	**1/1**	**1/1**	**1/1**	**1/1**	**1/1**	**1/1**

Abbreviation				
	LISC	: Local and International Stakeholder Collaboration	MGS	: Multifunctional Greenspace
	DRMPS	: Disaster Risk Management and Political Stability	CP	: Children's Preference
	CHHT	: Cultural Heritage, History & Tourism	CM	: Compliance Monitoring
	GAT	: Green Awareness and Technologies	PW	: Political Will

IEFS	: Investor and External Funding & Support	TDA	: Top-Down Approach
UKO	: Updated Knowledge among Officers		

Source: Researcher Fieldwork (2024)

Table 4.25
Details of Main Theme, Sub-Theme and Sub-Sub-Theme Development Using Constant Comparative Analysis for Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Melaka and Padang

Bil.	Main Theme	Sub-Theme	Sub-Sub-Theme	Melaka	Padang
1	Local and International Stakeholder Collaboration (LISC)	Coordination between Regional Apparatus Organizations [OPD - Organisasi Perangkat Daerah]	-	X	√
		International Collaboration	-	√	X
		Stakeholder Collaboration	-	X	√
		Academia Involvement		X	√
		Developer Involvement	-	√	X
		Community	Bureaucracy and Community Engagement	X	√
			General Public (Masyarakat)	X	√
			Land or Space Owners or Entities	X	√
			Religious and Cultural Leaders (Alim Ulama, Nenek Mamak)	X	√
			Traditional Customary Council (KAN - Kantor Kerapatan Adat Nagari)	X	√
		Government Bodies & Entities	Central Government	X	√
			Local Government (Coordination between Regional Apparatus Organizations [OPD - Organisasi Perangkat Daerah])	X	√
			Municipal Public Enterprises (PERUMDA - Perusahaan	X	√

			Umum Daerah [Local Enterprises]		
			Regional-Owned Enterprises (BUMD - Badan Usaha Milik Daerah [Regional or Provincial Public Enterprises])	X	√
			State-Owned Enterprises (BUMN - Badan Usaha Milik Nasional [National Public Enterprises])	X	√
		Non-Governmental Organizations (NGOs or LSM - Lembaga Swadaya Masyarakat)	International NGO (Greenpeace)	X	√
			Local NGOs (Public Space Advocacy)	X	√
		Private Sector	Supermarket Chains (PSM - Pasar Swalayan Muhammadiyah)	X	√
		Research Institutions	-	X	√
		Vertical Institutions (TNI - Indonesian National Armed Forces)	-	X	√
2	Disaster Risk Management & Political Stability (DRMPS)	Disaster Risk Management	-	X	√
		Political Stability	-	√	X
3	Cultural Heritage, History & Tourism (CHHT)	Culture Heritage & Tourism	-	X	√
		Heritage & History	-	√	X
4	Green Awareness & Technologies (GAT)	Green Awareness	-	X	√
		Green Technologies	-	√	X
5	Investor and External Funding & Support (IEFS)	Investor	-	√	X
		External Funding & Support	-	X	√
6	Updated Knowledge among Officers (UKO)	-	-	√	X
7	Multifunctional Greenspace (MGS)	-	-	√	X

8	Children's Preference (CP)	-	-	X	√
9	Compliance Monitoring (CM)	-	-	X	√
10	Political Will (PW)	-	-	X	√
11	Top-Down Approach (TDA)	-	-	X	√
		Total Main Theme, Sub-Theme & Sub-Sub Theme		**8**	**26**

Source: Researcher Fieldwork (2024)

There is a total of 8 and 26 by mixture with sub-theme and sub-sub-theme that represent the additional dimensions to focus on in Melaka (8) and Padang (26) through development of their GOS-GCCF indicates that Padang local government needs to focus on more in some crucial aspect that missing compared to MBMB.

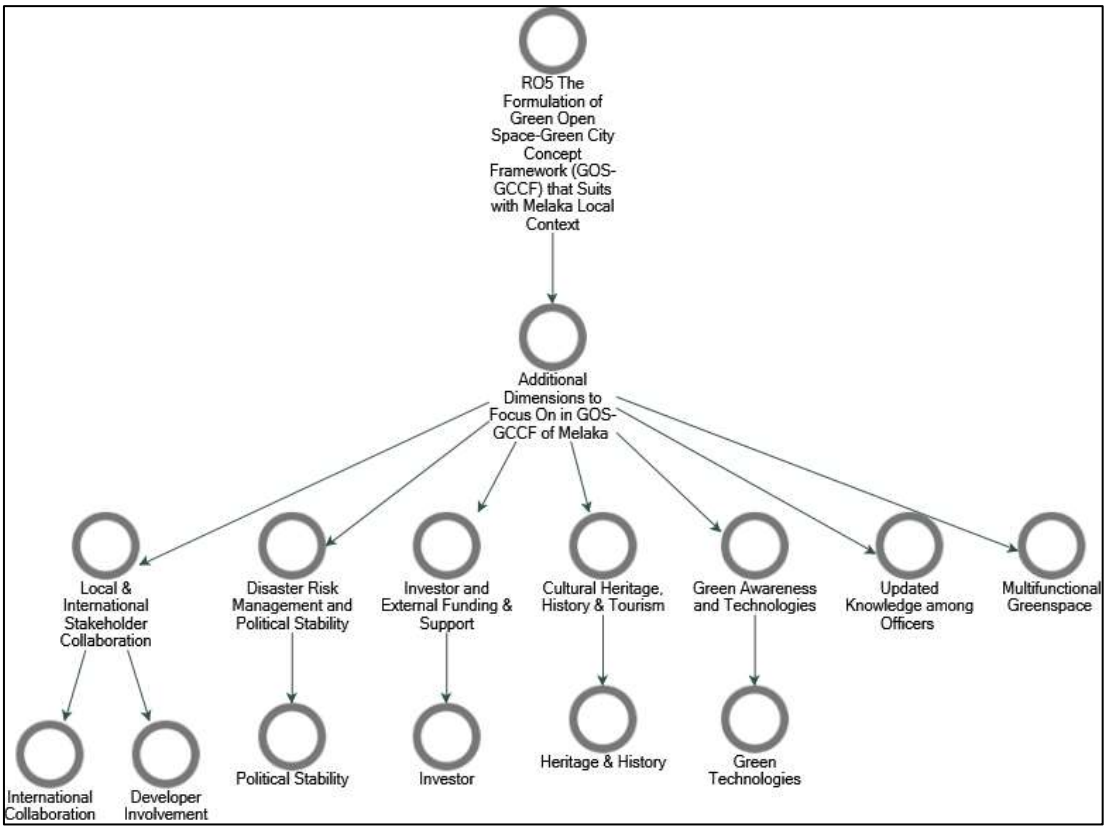

Figure 4.17 NVivo Summary of Overall Theme Development for Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Melaka

Note: As the image is small, please refer to Table 4.25 for clearer details.

Source: Researcher Fieldwork (2024)

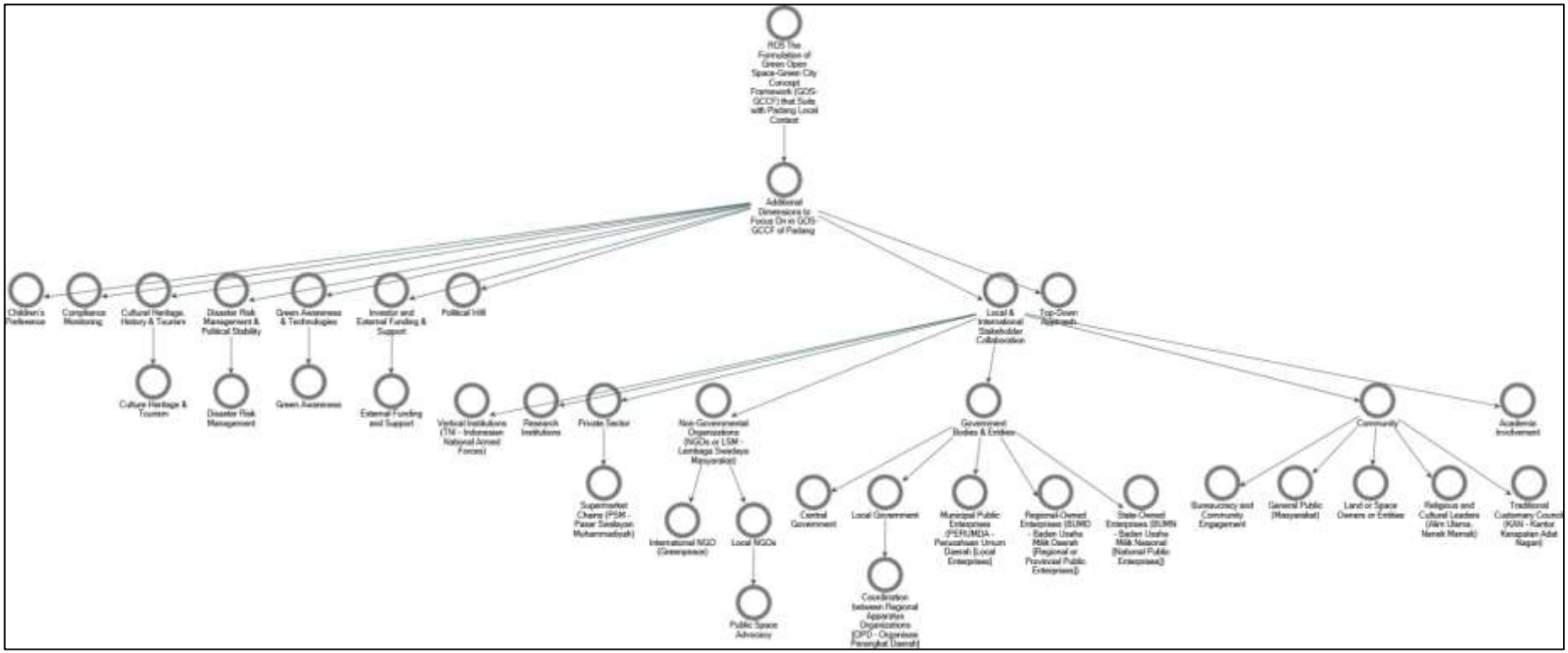

Figure 4.18 NVivo Summary of Overall Theme Development for Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Padang

Note: As the image is small, please refer to Table 4.25 for clearer details.

Source: Researcher Fieldwork (2024)

Stakeholder collaboration is the most repeated theme as the additional dimensions needed in the propose of GOS-GCCF. This theme mentioned are by three informants from Padang City.

> *"Saya catat ya ini mungkin partisipasi perguruan tinggi. Mereka kan punya dana tuh untuk apa pengadilan masyarakat, peningkatan kesadaran. Perguruan tinggi harus ada. Ini sudah ini sudah termasuk dalam ini sebenarnya oh gitu iya. Karena beda masyarakat dan perguruan tinggi tuh gimana ya - biasanya 2 stakeholder nya beda gitu. Jadi biasanya ada kalau yang namanya stakeholder itu satu itu pemerintah ini masuklah pusat, daerah, BUMN (Badan Usaha Milik Nasional), BUMD (Badan Usaha Milik Daerah) terus ada Perusahaan Umum Daerah (PERUMDA) kaya air minum itu PERUMDA terus ada Pasar Swalayan Muhammadiyah (PSM) kalau di Padang. Kayak misalnya ini Trans Kota Padang itu di bawah PSM. Nah seperti itu, ini yang saya tahu stakeholder ya terus ada masyarakat, masyarakat ini ya masuk lah di sana ada alim ulama, ada nenek mamak namanya, ada apa lagi masuk di sini Kantor Kerapatan Adat Nagari (KAN) Kota Padang seperti itulah masyarakat terus ada Lembaga Swadaya Masyarakat (LSM) terus ada perguruan tinggi gitu, tapi saya enggak pasti juga ini menurut saya gitu - nah ini yang semuanya harus bekerja sama untuk bagaimana cara menciptakan lingkungan itu lebih baik. Nah biasanya yang ini yang perguruan tinggi dia sibuk dengan penelitiannya saja. Nah hasil penelitian itu yang tidak terimplementasi secara praktikal. Nah jadi harusnya hasil penelitian ya misalnya kayak Thailand misalnya, kita bicara Thailand. Mereka penelitian tentang bagaimana cara peningkatan hasil pertanian dan akhirnya terimplementasi. Jadi makanya di Thailand itu kita bisa nemu yang semangka besar tanpa biji - kan itu hasil penelitian semua. Nah kalau di Padang maksudnya banyak perguruan tinggi kita masih sepertinya masih jalan sendiri-sendiri gitu loh. Nah kalau misalnya kita bisa duduk bersama, ya kan perguruan tinggi misalnya dosen-dosen pertanian mereka pasti akan ada penelitian bagaimana cara penanggulangan lahan kritis (land degradation control). Nah itu kolaborasi dengan pemerintah teraplikasi lah penelitian itu harusnya seperti itu. Jadi bukan penelitian hanya untuk dijadikan jurnal saja sama perguruan tinggi, tapi bisa terimplementasi teraplikasikan di real life."*

> *"I noted that this might be the participation of universities. They have funds for what community courts are for, raising awareness. Universities must be there. This is already included in this actually, oh I see. Because the*

difference between society and universities is how it is - usually the 2 stakeholders are different. So usually there is if the so-called stakeholder is one, the government, this is included in the central government, regional government, BUMN (National State-Owned Enterprises), BUMD (Regional State-Owned Enterprises) then there are Regional Public Companies (PERUMDA) like drinking water, which is PERUMDA, then there is the Muhammadiyah Supermarket (PSM) in Padang. Like for example, this Trans Kota Padang is under PSM. Well, that's how it is, this is what I know stakeholders then there is the community, this community, yes, there are religious scholars, there are grandmothers and mothers, what else is there, here the Padang City Nagari Customary Council Office (KAN) like that, the community then there are Non-Governmental Organizations (NGOs) then there are universities, but I'm not sure, in my opinion - well, all of this must work together on how to create a better environment. Well, usually the universities are busy with their research. Well, the results of the research are not implemented practically. So, the results of the research should be, for example, like Thailand, let's talk about Thailand. They do research on how to increase agricultural production and finally implement it. So that's why in Thailand we can find large seedless watermelons - those are all research results. Well, in Padang, I mean, many of our universities still seem to be running their own way. Well, if for example we can sit together, yes, for example, universities, their agricultural lecturers will definitely have research on how to deal with critical land (land degradation control). Well, that's collaboration with the government, that's how research should be applied. So, it's not just research to be used as a journal by universities, but it can be implemented in real life."

– [PO1, 41 Years Old, 35 Years of Residential, Environmental Services Department, PLG]

"Rasanya ini udah. Mungkin yang ini bukan hanya karena stabilitas uang pemerintah daerah, tapi memang dukungan itu, dukungan anggaran dari pihak-pihak yang terkait disana kan, itu kita juga tidak bisa terlalu di Imam Bonjol itu karena memang bukan milik kita kan, emang bukan hanya pemerintah daerah tapi memang pihak yang - pemilik. Ya bisa jadi pemiliknya. Tapi memang pihak yang terkait iya kan yang punya otoritas terkait itu kan ya misalnya kan itu kan terkait juga nanti instansi vertikalnya kayak TNI nya itu, atau mungkin juga dari pemerintah pusatnya kalau pemerintah daerah kan kalau pun memang dana daerah mungkin perlu, tapi kan tidak hanya daripada pemerintah daerahnya aja mungkin dari pusatnya juga kan, masuk juga instansi yang terkait itu, tidak sepenuhnya celek,

mungkin kan yang taman yang di Nanggalo tu kan masih kita secara apa."

"I think this is enough. Maybe this is not only because of the stability of local government money, but indeed the support, budget support from related parties there, we also can't be too much in Imam Bonjol because it is not ours, it is not only the local government but indeed the party - the owner. Yes, it could be the owner. But indeed the related party, yes, who has the related authority, for example, it is also related to vertical agencies like the TNI, or maybe also from the central government, if the local government, even if regional funds are needed, but not only from the local government, maybe from the center too, also related agencies, not entirely celek, maybe the park in Nanggalo is still ours in what way."

– [PO6, 55 Years Old, 30 Years of Residential, Public Works & Spatial Planning Department, PLG]

"Kayak outsourcing, apa istilahnya. Outsourcing yang, bukan outsourcing. Lembaga lah, organisasi. Tapi itu emang kayak green...green itu...green apa Greenpeace. Oh, international organisation? Iya, tapi enggak harus internasional, yang lokal itu apa punya lah pewenang tanggungjawabnya juga disini. Ini ya keterlibatan NGO? Ya NGO. Ya karena kita tuh kayak sekarang ini kita butuh yang namanya ruang publik sekarang. Ruang publik itu kayak tempat pertemuan, ruang umum tertentu tempat pertemuan. Jadi untuk mendapatkan izin-izin yang di dalam terkait kebutuhan kita di dalam misalnya kita keramaian gitu-gitu nih itu enggak harus lewat birokrasi. Kalau birokrasi sering dioper-oper bahkan kayak ada uang-uangnya gitu. Sebenarnya kan itu yang bikin masyarakat malas, malas untuk terlibat.

"Like outsourcing, what's the term. Outsourcing, not outsourcing. Institutions, organizations. But it's like green…green is…green or Greenpeace. Oh, international organization? Yes, but it doesn't have to be international, local organizations also have the authority and responsibility here. Is this the involvement of NGOs? Yes, NGOs. Yes, because we need what is called public space now. Public space is like a meeting place, a certain public space is a meeting place. So, to get permits related to our needs, for example, we have a crowd like that, we don't have to go through bureaucracy. If the bureaucracy is often passed around and even seems like there's money involved. Actually, that's what makes people lazy, lazy to get involved.

– [PR2, 22 Years Old, 4 Years of Residential]

Table 4.26
Total The Informant's Feedback – The Most Important Dimension in Researcher's GOS-GCCF

Dimension in GOS-GCCF	**Melaka City's Informant**	**Padang City's Informant**	**Number of Informants**
Local Government Financial Stability	5	6	11
Community Participation	3	6	9
Economic Sustainability	4	3	7
Environmental Sustainability	4	3	7
Social Sustainability	2	3	5
City Urbanisation Management	1	0	1

Source: Researcher Fieldwork (2024)

Table 4.27
The Informant's Feedback – The Most Important Dimension in Researcher's GOS-GCCF at Melaka City

Informant	**Dimension in GOS-GCCF**					
	Local Government Financial Stability	Community Participation	Three Pillars of Sustainability			Urbanisation Management
			Economic Sustainability	Environmental Sustainability	Social Sustainability	
MO1					√	
MO2				√		
MO3					√	
MO4			√			
MO5			√			
MO6		√				
MO7			√			
MO8				√		
MO9		√				
MR1				√		
MR2		√				
MR3						

MR4	√					
MR5	√					
MR6	√					
MR7	√					
MR8			√			
MR9				√		
MR10	√					
MR11						√
File / Reference	5/5	3/3	4/4	4/4	2/2	1/1

Source: Researcher Fieldwork (2024)

Table 4.28
The Informant's Feedback – The Most Important Dimension in Researcher's GOS-GCCF at Padang City

Informant	**Dimension in GOS-GCCF**					
	Local Government Financial Stability	Community Participation	Three Pillars of Sustainability			Urbanisation Management
			Economic Sustainability	Social Sustainability	Environmental Sustainability	
PO1		√				
PO2					√	
PO3		√				
PO4			√			
PO5					√	
PO6	√			√		
PO7		√				
PO8		√				
PR1			√			
PR2	√					
PR3		√				
PR4	√					

PR5	√					
PR6				√		
PR7	√					
PR8					√	
PR9		√				
PR10			√			
PR11				√		
PR12	√					
File / Reference	6/6	6/6	3/3	3/3	3/3	0/0

Source: Researcher Fieldwork (2024)

Table 4.29
The Informant's Feedback on Previous Melaka's GCC Framework (Green City Action Plan 2014) – The Most Dimension Needed in Current Melaka City's GCD

Informant	**Dimension in Malaysia Local GCC (Melaka City) based on Green City Action Plan in 2014**					
	Urban Forestry & Agriculture	Energy Efficiency & Renewable Energy	Water Management	Green Transportation	Zero Waste	Cultural Heritage & Tourism
	(6th Thematic)	(2nd Thematic)	(1st Thematic)	(3rd Thematic)	(4th Thematic)	(5th Thematic)
MO1	√					
MO2	√					
MO3	√					
MO4				√		
MO5	√					
MO6		√				
MO7		√				
MO8	√					
MO9	√					
MR1			√			
MR2			√			

MR3		√				
MR4	√					
MR5				√		
MR6	√					
MR7	√					
MR8						√
MR9					√	
MR10			√			
MR11	√					
File / Reference	10/10	3/6	3/3	2/2	1/1	1/1

Source: Researcher Fieldwork (2024)

Table 4.30
Total The Informant's Feedback on Previous Indonesia's GCC Framework (Indonesia Green City Development Program 2011) – The Most Dimension Needed in Current Padang City's GCD

Informant	**Dimension in Indonesia Local GCC (Padang City) based on Indonesia Green City Development Program in Year 2011**							
	Green Open Space	Green Energy	Green Waste	Green Water	Green Transportation	Green Building	Green Community	Green Planning & Design
	(2nd Attribute)	(6th Attribute)	(3rd Attribute)	(5th Attribute)	(4th Attribute)	(7th Attribute)	(8th Attribute)	(1st Attribute)
PO1				√				
PO2	√							
PO3		√						
PO4	√							
PO5	√							
PO6	√							
PO7	√							
PO8	√							
PR1			√					
PR2			√					
PR3	√							

PR4	√							
PR5	√							
PR6	√							
PR7	√							
PR8	√							
PR9	√							
PR10	√							
PR11		√						
PR12	√							
File / Reference	15/15	2/2	2/2	1/1	0/0	0/0	0/0	0/0

Source: Researcher Fieldwork (2024)

4.8 Findings Related to the research Hypotheses

Overall, this study found several main themes related to the research hypothesis. For Hypothesis 1: A sound understanding of GOS important roles increases GCCD efficiency, have 13 (three themes under economic sustainability dimension, five themes under social and environmental sustainability dimension, respectively), most repeated main themes which it be the key themes that described the functionality of GOS towards GCD by well understand these themes the policy makers (local government officer) and park users (residents) will be more support the implementation of GOS towards city sustainability, namely economic sustainability (generating resident income, increasing tourist numbers, and boosting property value); social sustainability (strengthening physical fitness, improving emotional and mental health, enriching human bonds, encouraging outdoor pedagogic, and providing a safe neighbourhood); and environmental sustainability (restoring urban biodiversity, preventing flood, filtering urban air, screening and noise reduction, cooling down urban temperature).

Meanwhile, for Hypothesis 2: Well-structured of urbanisation management based on current city urbanisation improves GOS towards GCCD. The findings have found three key themes, namely vertical green space, minimum percentage of GOS, and pocket parks. Both policy makers from both countries can practice more of these three types of themes as a strategy to implement GOS in high-density cities or face a lack of space for green areas. This will increase efficiency and quality in the implementation of GOS towards GCD.

Next, Hypothesis 3: Stable financial leads to total urban greenery through GOS implementation for GCCD. The theme of traditional revenue sources, park regulation and inspection, and corporate social responsibility (CSR) is the main strategy that be main practice of policy makers in both countries to stabilize finances in financing the implementation of GOS towards GCD. However, it needs to be improved with some innovative strategies to achieve financial sustainability.

The last hypothesis, Hypothesis 4: High community participation in the LG decision process improves GOS implementation efficiency towards GCCD. There are four key themes, namely local engagement, media and influencer engagement, diverse events and programs, and park aesthetics and appeal, which are strategies that can increase community participation in the implementation of GOS towards GCD. The theme of local engagement is given the most attention because it provides an

opportunity for park users (residents) to work together with policy makers (local government officers) to implement GOS which will facilitate and accelerate the city's achievement of green city status.

4.9 Contributions of GOS Implementation to SDG 11 Targets

The findings of this study demonstrate how Green Open Space (GOS) implementation contributes to achieving SDG 11: Sustainable Cities and Communities by addressing six key dimensions: economic sustainability, social sustainability, environmental sustainability, urbanisation management strategies, financial stability, and public participation. These dimensions are crucial in enhancing urban sustainability and resilience, ensuring that cities become more inclusive, liveable, and environmentally sustainable. First, the findings highlight the important roles of GOS in supporting the three pillars of sustainability (economic, social, and environmental sustainability) towards Green City Development (GCD). The economic sustainability dimension reveals that GOS generates resident income, increases tourist numbers, and boosts property value, directly contributing to local economic resilience. This aligns with SDG Target 11.a, which promotes economic growth through sustainable urbanisation by enhancing local business opportunities and property investments in GOS-adjacent areas. In terms of social sustainability, GOS strengthens physical fitness, improves emotional and mental well-being, enriches human bonds, encourages outdoor pedagogic activities, and provides a safe neighbourhood environment. These aspects align with SDG Target 11.7, which ensures accessible and inclusive public spaces for all societal groups, particularly vulnerable populations such as children, the elderly, and people with disabilities. Meanwhile, environmental sustainability findings demonstrate that GOS restores urban biodiversity, prevents flooding, filters urban air pollution, reduces noise levels, and helps lower urban temperatures, directly supporting SDG Target 11.6, which focuses on reducing environmental impacts in cities through sustainable urban planning and green infrastructure.

Beyond the three pillars of sustainability, this study also emphasises the role of urbanisation management, financial stability, and community participation in advancing SDG 11 objectives. The urbanisation management dimension highlights effective strategies such as vertical green spaces, maintaining a minimum percentage of GOS, and developing pocket parks, which align with SDG Target 11.3 by promoting

integrated urban planning to manage rapid urbanisation challenges. The financial stability dimension reveals that corporate social responsibility (CSR) contributions, corporate donations, and adopt-a-park programmes enhance local government financial stability, supporting SDG Target 11.a, which fosters partnerships between local governments and private sectors for sustainable urban development. Lastly, the community participation dimension demonstrates that local engagement strategies, including public involvement in government projects, community-based organisations, and influencer engagement, are highly effective in encouraging civic participation in GOS implementation. These findings align with SDG Target 11.3, which ensures inclusive decision-making processes in urban planning. Additionally, the study's comparative analysis of Melaka and Padang provides actionable insights for local governments, supporting SDG Target 11.b, which emphasises regionally adapted strategies for sustainable urbanisation. The study also underscores the importance of raising awareness about GOS among both policymakers (local governments) and users (residents), reinforcing the need for collaborative efforts towards GCD. This collective understanding and cooperation contribute to achieving Targets 11.a, 11.7, and 11.6, ensuring sustainable urban development that balances economic, social, and environmental priorities.

4.10 Chapter Summary

In summary, chapter four explained the results gained by this study using semi-structured interview and observational study. Followed by data organisation using thematic analysis by applied pattern matching analysis, constant comparative analysis and comparative analysis through NVivo Qualitative Software. The local government involved were MBMB and PLG. In addition, this study has combined all information that had been gathered from four GOS – Bunga Merdeka Park, Bukit Serindit Recreational Park, Nanggalo Park and RTH Imam Bonjol Park from two different countries (Malaysia and Indonesia). As a result, there are 70 total counts of overall main themes have been developed as refer Table 4.31. The following chapter explains the analysis and discussion of this study that focus on 25 key themes.

Table 4.31
Overview of Total Main Theme Count

Dimension	**Overall**	**RO**	**Melaka**	**Padang**	**Key Theme**
Important Roles of GOS	26	RO1	26	20	13
Economic Sustainability (ECO.S)		ECO.S	5	4	3
Social Sustainability (SOC.S)		SOC.S	9	6	5
Environmental Sustainability (ENV.S)		ENV.S	12	10	5
Urbanisation Management	11	RO2	10	6	3
Financial Stability	14	RO3	14	11	3
Community Participation	8	RO4	8	7	4
Additional Dimensions to Focus On in GOS-GCCF	11	RO5	7	9	2
Total Count of Overall Main Themes	**70**		**65**	**53**	**25**

Source: Researcher Fieldwork (2024

CHAPTER 5
ANALYSIS AND DISCUSSION

5.1 Introduction

This chapter focuses on the key effects and lessons from the research findings by drawing on significant theoretical perspective GOS-GCD. Moreover, this chapter begins by outlining the qualitative findings from the interview as well as observational study. This chapter also goes on to offer both theoretical and empirical reflections on the research findings, particularly concerning the total of six key dimensions in GOS implementation towards GCD (economic sustainability, social sustainability, environmental sustainability, urban management, financial stability, and community participation.

5.2 The Important Roles of Green Open Space in Green City Concept Development

The 70 themes found in the early stage and for the final stage total of 25 keys themes simplified for answering five research questions included in the attempt to develop Melaka City and Padang City GOS-GCCF (MEGOS-GCCF and PAGOS-GCCF) hold credibility to be improvised according to the context of Melaka City and Padang City. This credibility is determined by the frequency with which the informants repeatedly emphasised the theme included supported by observational study for RO1. The subsequent themes were illustrated by developing MEGOS-GCCF and PAGOS-GCCF based on the researchers' analysis. The MEGOS-GCCF and PAGOS-GCCF proposal was developed by researchers according to the context of Melaka City and Padang City (Refer to Figure 5.15 and 5.16). Based on Figure 5.15 and 5.16, the 'Three Pillars of Sustainability,' economic, social, and environmental sustainability, become interconnected core dimensions crucial for the successful implementation of MEGOS-GCCF and PAGOS-GCCF. "*Sustainable development is impossible without all three pillars of sustainability: economic, environmental, and social* (Cuesta et al., 2024)".

Similarly, the emphasis on three strategic dimensions is also interconnected: ensuring the maintenance of GOS through structured urbanisation management, continuous financial support to the LG to cover management and maintenance costs, and active community participation in GOS-related programmes or projects. Collectively, these strategies contribute towards achieving a GC status.

Table 5.1
Total Findings for RO1 – Important Roles of GOS in GCCD with Analytical Literature Support

No.	Dimension / Key Theme	Sub-Theme (Melaka)	Sub-Theme (Padang)	Analytical Literature Support	
				Author	**Key Point**
	Economic Sustainability				
1	Generating Resident Income	● Food & Beverage Outlets ● Retail & Services ● Event & Club Activities ● Mall & Supermarket Proximity ● Sports & Recreational Activities ● Street Hawker Stalls ● Small Traders & Businesses ● Urban Farming	● Food & Beverage Outlets ● Retail & Services ● Event Activities ● Mall & Supermarket Proximity ● Sports &Recreational Activities ● Street Hawker Stalls & Performers ● Small Traders & Businesses ● Opening Employment Opportunities	Maulia et al. (2024) [SME]; Afrilianti & Dewi (2023); & Qwasmi et al. (2022)	SME, Fun Fair & Rental Facilities
2	Increasing Tourist Numbers	● City Attraction ● Event & Program Attractions ● Nature & Recreational Attractions ● Tourism & Historical Attractions	● City Attractions ● Events Attractions ● Nature Attractions ● Tourism & Cultural Attractions	Lategan et al. (2022)	Heritage & Culture
3	Boosting Property Value	● Commercial Area Proximity ● Green Open Spaces in Heritage Areas ● Demand for Green Space ● Multi-Facilities Impact	● Commercial Area Proximity ● Green Open Spaces in Tourism Spots ● Demand for Green Space ● Multi-Facilities Impact	Samad et al. (2020)	Residential Market Value

		● City Centre Proximity			
Social Sustainability					
1	Strengthening Physical Fitness	● Sports & Physical Activities for All Ages ● Children's Fitness & Health ● Senior & Adult Fitness ● Recreational & Group Activities	● Sports & Physical Activities for All Ages ● Children's Fitness & Health ● Senior & Adult Fitness ● Recreational & Group Activities	Song et al. (2023); Shen et al. (2021); & Wang et al. (2019)	Sport & Recreational Activities
2	Improving Emotional & Mental Health	● Emotional & Mental Health Improvement ● Children's Emotional & Mental Health Support	● Emotional & Mental Health Improvement	Putri et al. (2024)	Ecotherapy
3	Enriching Human Bonds	● Social Interaction & Community Gathering ● Community Building Programmes & Activities ● Social Unity through Ukhuwwah ● Multi-Age & Multi-Cultural Engagement ● Healthy Neighbourhoods ● Promote Community's Mental Well-being	● Social Interaction & Community Gathering ● Community Building Programmes & Activities ● Social Unity through Ukhuwwah ● Civic Connection Through Public Services	Trojanowska (2021)	Social Interaction
4	Encouraging Outdoor Pedagogic	● Learning & Development for Children ● Educational Programmes & Activities	● Learning & Development for Children ● Educational Programmes & Activities	Dewiyanti et al. (2023)	Children Mingling Space

5	Providing a Safe Neighbourhood	● Mitigating Social Problems ● Youth Programmes ● Reducing Criminal ● Strengthening Neighbourhood Safety	● Mitigating Social Problems	Sypion (2023) & Venter et al. (2022)	Crime Reduction
	Environmental Sustainability				
1	Restoring Urban Biodiversity	● Fauna Conservation & Diversity ● Flora Conservation & Diversity ● Habitat Development & Preservation	● Fauna Conservation & Diversity ● Flora Conservation & Diversity ● Habitat Development & Preservation	Azahra et al. (2022) & Paudel & States (2023)	Species Flora & Fauna
2	Preventing Flood	● Water Absorption & Retention ● Infrastructure Systems for Flood Mitigation	● Water Absorption & Retention ● Infrastructure Systems for Flood Mitigation	Park et al. (2022)	Reduce Run-off
3	Filtering Urban Air	● Pollution Mitigation ● Air Quality & Health	● Pollution Mitigation ● Air Quality & Health	Ai et al. (2023)	Absorb PM2.5
4	Screening & Noise Reduction	● Natural Barriers	● Natural Barriers	Ahmad et al. (2023) & Liu et al. (2023)	Absorb Noise
5	Cooling Down Urban Temperature	● Cooling Mechanisms	● Cooling Mechanisms	Wu et al. (2021)	Absorb Heat

Source: Researcher Fieldwork (2024)

According to the researchers' analysis, implementing GOS to achieve GC is possible when these four dimensions coordinate. The GOS area, built according to the 'Three Pillars of Sustainability,' allows a city to meet the requirements for achieving SGDs [All informants from both countries]. Subsequently, the GC can be built. This finding aligns with the results of a study by Mohamed et al. (2023), which emphasises that for a GOS to assist a city in achieving GC status, the GOS implementation must possess specific characteristics or capabilities. These should provide resources to fulfil human basic needs, encompassing social and economic sustainability as well as the human-nature relationship aspect of environmental sustainability. Moreover, the presence of GOS within a city indirectly safeguards its inhabitants, flora, fauna, and urban areas from the adverse impacts of climate change (Graça et al., 2022) and natural disasters (Watson et al., 2022). However, our study revealed that total of 13 aspects was not frequently mentioned by informants in relation to GOS's roles towards GCD (refer to Figure 5.1 until Figure 5.6). Therefore, the local authority (MBMB and PLG) needs to prioritise these 13 aspects to comprehensively achieve sustainability. These aspects include strengthening local government revenue and attracting investors in the economic sustainability dimension; increasing resident awareness, nurturing green technology, creating human-nature relationship and developing strong personality in the social sustainability dimension; as well as becoming a bird migrate point, controlling odour nuisance, purifying water, remediating soil, mitigating landslide, and water conservation in the environmental sustainability dimension. Nevertheless, MEGOS-GCCF and PAGOS-GCCF must complement the three other dimensions: urbanisation management, local authority financial stability, and community participation.

Next, the comparison between two cities. Themes that have informants less than 50% of the total of 20 informants will be considered as a weak theme, meaning that theme that have informants 10 and below such theme has rarely or never occurred in the GOS located at Bunga Merdeka Park, Bukit Serindit Recreational Park, Nanggalo Park and RTH Imam Bonjol Park and it does not help as an important role in GOS implementation towards GCD in Melaka City and Padang City.

5.2.1 Economic Sustainability

In the economic sustainability of GOS's main function towards GCD in both cities, Melaka and Padang can be seen through the ability of all four GOS in generating resident income, able to increase tourist numbers, and boosting property values.

5.2.1.1 Generating Resident Income

The four GOS areas in Melaka City and Padang City, namely Bunga Merdeka Park, Bukit Serindit Park, Nanggalo Park, and RTH Imam Bonjol Park, open up opportunities for local traders to do business in or around the GOS area, especially helping small traders. This also coincides with the situation of Pagutan GOS located in Mataram City, Indonesia, where Pagutan GOS has increased the sales of Micro, Small, and Medium Enterprises (MSME) (Maulia et al., 2024) and street vendors due to the presence of many visitors and park users (Ali et al., 2021). Park users, after doing recreational activities, like to refresh by buying drinks or food nearby [MR6]. Additionally, the activity of gathering while eating among park users also helps local traders [PO2].

The presence of various types of food trucks in the GOS area at Bunga Merdeka Park, RTH Imam Bonjol Park, and Nanggalo Park shows that the demand for food and drinks from park users is high [MO7, MR6, OBP-BMP 5, OBP-RTHIBP 3, and OBP-NP 5]. A small fun fair area is also provided in RTH Imam Bonjol Park, which suits family gathering activities [OBP-RTHIBP 6]. Similarly, Bunga Merdeka Park has many activities resembling a mini-fun fair for children, such as rentals of kids' electric vehicles (animal rides, chu chu train, and KMX drift) and rabbit feeding activities [OBP-BMP 30, OBP-BMP 31, and OBP-BMP 32]. However, the type of business activity that runs in the GOS depends on the permission of the local authority [MR6]; for instance, in Nanggalo Park, any sales activities within the park are prohibited [OBP-NP 6]. Traders are only allowed to do business outside the park, around it [OBP-NP 3 and OBP-NP 5].

In Bukit Serindit Recreation Park, only simple and environmentally friendly businesses are allowed to operate, such as electric scooter rentals, rollerblades, push bikes, and similar items [MR8 and OBP-BSRP 1], to ensure that the GOS area remains clean, does not harm the park environment, and retains sufficient space for sports and

recreational activities, along with parking areas [MO5]. The emergence of small traders in and around these GOS areas has a very positive impact on the local business economy (Afrilianti & Dewi, 2023). Moreover, well-designed parks not only support local business development (Qwasmi et al., 2022), but the GOS design and good facilities also provide comfort to visitors, encouraging them to return continuously (Hidayatin et al., 2023). Continuous activities among park users in GOS areas attract more small traders, whether food and beverage vendors or rental service providers, thereby supporting the economic stability of nearby residents. Business opportunities in or around the GOS help reduce urban poverty among low-income groups and foster sustainable economic growth.

5.2.1.2 Increasing Tourist Numbers

Comparing these four GOS, the GOS that successfully functions as an international and local tourist attraction is only the GOS at Bunga Merdeka Park. This is because the park space is located in an area of historic places recognized by UNESCO as a world heritage site such as the centuries-old Ruins of Bastion and The Cross City located within the park [OBP-BMP 76, OBP-BMP 12, and OBP -BMP 17]. And a little bit of cultural attraction at RTH Imam Bonjol Park inside which is Rumah Gadang or also known as Minang, which is Rumah Bagonjong. It is a traditional house of the Minangkabau people, Indonesia [PR5, PR9, OBP-RTHIMBP 9, and OBV-RTHIBP 1]. However, the condition of RTH Imam Bonjol and Rumah Gadang is in a very poor state and does not stand out enough to be used as an international or local tourist attraction [PO1, PO2, PO4, PO8, PR6, PR7, PR8, PR12, OBP-RTHIMBP 9 and OBV -RTHIBP 1]. Bukit Serindit Recreational Park has a rather unique attraction, which is that it is not only an attraction for visitors who are active in sports and recreation with various facilities but also successfully attracts local tourists from all over Malaysia to attend the bird singing competition. Then, the GOS in Nanggalo only succeeded in attracting the interest of the surrounding community, especially at night because of the various sales that were very active around that time [PO5, PR3, and PR5].

5.2.1.3 Boosting Property Value

The increase in property value has occurred due to the existence of the GOS area in the vicinity due to the diversity of green elements located in the park (Samad et al., 2020). All informants among local government officials and residents in both cities, Melaka and Padang agree that areas with GOS can increase property values. But not all GOS have the ability to increase the value of surrounding properties. GOS Bukit Serindit Recreational Park succeeded in making the properties around it increase but not for Bunga Merdeka Park because the factors that increase the value of the properties around it are not due to the park, but it happens that the park area is in a historic world heritage area and surrounded by commercial areas [MO6 and MR3]. Likewise, with Nanggalo Park and RTH Imam Bonjol Park, these three GOS happen to be in commercial areas, filled with various types of businesses such as hotels, malls, markets, mini-marts, government offices and the like [PO1 and PR5]. In addition, the facilities and green elements found in a GOS area also affect the value of surrounding properties. Although some informants not agreed with their GOS has boosted property value, some informants do agree that their GOS does boosted the value of the property. The increase in property value occurs when developers promote the sale of houses using the advantages of facilities available in the surrounding area such as easy and nearby park access, green plants increase the quality of life of residents and so on [MR3]. That will increase the high demand.

5.2.2 Social Sustainability

In the social sustainability of GOS's main function towards GCD in both cities, Melaka and Padang can be seen through the ability of all five GOS in strengthening physical fitness, improving emotional and mental health, enriching human bonds, encouraging outdoor pedagogic, and providing safe neighbourhood.

5.2.2.1 Strengthening Physical Fitness

GOS areas in both countries in Melaka City and Padang City function as open space physical activity venues. The community makes GOS a routine area for exercising, especially in the early morning and late afternoon. Various physical activity

facilities are available in the park such as a soccer field and a running track in Bukit Serindit Recreational Park and RTH Imam Bonjol Park [MO4, MR4, OBP-BSRP 72, PO1, PR3, OBP-RTHIBP 57, OBV-RTHIBM 1]. Meanwhile, GOS in Bunga Merdeka Park and Nanggalo Park because the area is relatively small, light leisure activities are more suitable such as walking and light exercise activities [MO8, PR3, OBP-BMP 29, and OBP-NP 23]. These four GOS also have physical activity facilities for small children such as playgrounds including skateboard, roller blade, and push bike spaces at Bukit Serindit Recreational Park. Not forgetting the elderly who actively practice tai chi, yoga and the like included foot reflexology activity in the park area. This open space for physical activity is able to improve the physical health of the city's citizens which will give birth to a sustainable society. However, the characteristics of GOS affect the level of physical health of the population. A GOS study in China showed that GOS in the form of street greenery did not lower the body mass index (BMI) of park users, but it still succeeded in promoting various leisure physical activities such as walking, jogging, and cycling among residents near to the green area (Song et al., 2023). However, slightly deviated from the study by Wang et al. (2019) where the quality of GOS space environment and landscape does not affect the physical activity of park users. On the other hand, the infrastructure, space and size of the GOS including entertainment facilities in the park stimulate the physical activity of the surrounding residents (Wang et al., 2019). Coupled with access to comprehensive physical activity facilities, it affects the variety of physical activities and the level of frequency of their use (Shen et al., 2021). These elements are a major contributor to the activeness of the community exercising in GOS. Therefore, in order to ensure that the GOS can function well in strengthening the physical health of the society continuously towards achieving a successful GC status, it must have maximum sports and recreation facilities with easy access.

5.2.2.2 Improving Emotional and Mental Health

Comparing these four GOS, one park is less prominent as a function in terms of improving mental and emotional health, namely RTH Imam Bonjol Park located in Padang due to its age and green elements that are not well managed. The existence of biodiversity elements, i.e. flora and fauna in the GOS area can provide peace of nature for visitors and users of the park. According to most informants from the residents of

Padang, Nanggalo Park is able to provide a sense of tranquility due to the variety of flora elements including flowering flora. But not for RTH Imam Bonjol because of its limited and unmanaged flora elements [PR12, PR8, OBP-RTHIBP 15, OBP-RTHIBP 18]. However, the two GOS are able to provide peace and freshness of nature by resting for a while under the shade of large trees [PO8, PR9, OBV-RTHIBP 1]. Likewise, for the GOS located in Melaka City, namely Bukit Serindit Recreational Park and Bunga Merdeka Park, the diverse flora and fauna elements have made it a healing urban forest ecotherapy space [MR10, MR8, and MO5]. Not only the flora elements in the GOS can reduce the daily stress of visitors and park users, but the presence of certain fauna, especially birds, also affects their emotions by appreciating the chirping and melodious voices of birds [MO5, OBV-BMP 1, OBV-BSRP 1, OBP-BSRP 33, OBV-RTHIBP 1, OBV-NP 1]. In addition, one of the vegetation therapy activities, which is by hugging a tree while controlling breathing can prevent the problem of depression, anxiety or stress from becoming more critical where these problems are often faced by urban residents (Putri et al., 2024).

5.2.2.3 Enriching Human Bonds

GOS which is located at Bukit Serindit Recreational Park and Bunga Merdeka Park in Melaka City and RTH Imam Bonjol and Nannggalo Park in Padang City, successfully functions as a space to bridge the relationship between communities. The available park space gives local residents the opportunity to do various activities and programs either individually or in groups, successfully strengthening the relationship of the surrounding community, this was agreed by all informants. The comparison between GOS in Bukit Serindit Recreational Park and RTH Imam Bonjol Park and GOS located in Bunga Merdeka Park and Nanggalo Park is the area of the park, and this gives an advantage to GOS in Bukit Serindit Recreational Park and RTH Imam Bonjol Park. More programs and activities can be done in these two parks because the area is larger, not only sports and recreational activities, large activities and programs such as tree planting programs, competitions, exhibitions and others can be held there. In addition, the frequency of visitors and park users who come has built an indirect communication that fosters a common unity that is present through the community interacting with each other, then increasing social networking among them. This will create a healthy and safe urban neighborhood, they know, respect and care for each other [MO2, MO9, MR1,

MR6, MR 11, PO3, PO4, PO6, PO7, and PR10]. A study by Trojanowska (2021), states that a well-designed public park is the most important point in an eco-neighborhood because it becomes a bridge of interaction with the surrounding community that can support informal social life. According to Trojanowska, to further promote social bonds in an area such as a public park, the environmental design of the public park must have the characteristics of the 3e principles, namely ecology - equality - economy. Ecology refers to the green landscape of the park, equity refers to easy access for everyone, while economy refers to business opportunities that can increase the income of the surrounding residents. These three principles will strengthen social bonds in a green neighbourhood.

5.2.2.4 Encouraging Outdoor Pedagogic

GOS in Melaka and Padang functions as an outdoor learning area, it is very effective especially for small children such as inside Bunga Merdeka Park small children have the opportunity to learn the history of the opening of the City of Melaka, while at RTH Imam Bonjol Park they can learn about Minangkabau culture [MR1 and PR9]. Apart from doing sports and recreational activities in the GOS area, these young children can also improve their personality strength in terms of increasing self-confidence through interaction with the outside world, the outside community [MO9, MR6]. Meeting with small children of the same age, interacting with elders and adults, seeing the manners and behavior of people in the surrounding GOS area becomes an informal outside observation learning. Therefore, GOS becomes an important space for small children, this children mingling space will give full access to small children to play and expose them in social interaction (Dewiyanti et al., 2023). Furthermore, the frequency of taking small children to GOS can also foster a love for a healthy environment, they get to know the flora and fauna, and this creates a sense of appreciation and respect for the environment [MO3, MR5, MR9].

5.2.2.5 Providing a Safe Neighbourhood

A good GOS has the function of providing safety and security to the immediate residential environment [MO1]. The four GOS in two cities, Melaka and Padang have the ability to reduce social and criminal problems [MO2, MO3, MR1, PO4, PO6, and

PR2]. However, GOS with large areas such as Bukit Serindit Recreational Park and RTH Imam Bonjol Park also have a tendency to encourage bad or criminal activities, especially among young people, if GOS is not well managed and maintained, especially its green elements that are not taken care of [MO3, PO5, PR1, and PR7]. This coincides with a study by Sypion (2023), finding that a comparison between well-maintained green areas successfully reduces the crime rate in nearby residential areas compared to unguarded green areas where more criminal activities occur, including the mismanagement of GOS, which also encourages vandalism, problems drugs and so on. In addition, the condition of green elements such as covering trees has also encouraged property crime activities but if you look at the aspect of the existence of GOS itself in the neighbourhood it has succeeded in reducing the rate of violent crime and property crime (Venter et al., 2022). The focus is on the aspect of complete facilities in the GOS, and the attractive design can certainly attract the attention of residents to use it, here good and healthy activities can be created in the neighbourhood, thereby reducing useless activities.

5.2.3 Environmental Sustainability

In the environmental sustainability of GOS's main function towards GCD in both cities, Melaka and Padang can be seen through the ability of all four GOS in restoring urban biodiversity, preventing flood, filtering urban air, screening and noise reduction, and cooling down urban temperature.

5.2.3.1 Restoring Urban Biodiversity

GOS can restore the biodiversity of the city, i.e. flora and fauna. The existence of GOS in both cities, Melaka and Padang has successfully called back the animals to come and live in GOS [MO3, MO4, MO5, MR3, MR7, MR 11, PO1, and PR6, PR7, PR10, OBV-BSRP 1, OBV-BMP 1, OBV-NP 1, and OBV-RTHIBP 1]. This helps the urban ecosystem to be healthier. However, a GOS that is not well managed and maintained will reduce the attraction of animals to come and breed in the GOS area, especially birds, butterflies, dragonflies and the like [MR3, PR3, PR10, PR12]. A study by Azahra et al. (2022) found that the diversity of plant species in the GOS has increased the diversity of butterfly species, which shows that the GOS has successfully functioned

as a sheltered habitat for butterflies. Azahra et al., (2022) also stated that in order to ensure that the GOS becomes a shelter for butterflies continuously, the implementation of the GOS must meet two more conditions, namely (1) the plants that are in the GOS must be those that protect butterflies from strong winds and (2) the GOS design must have elements that can protect the butterfly from external disturbances. Next, the existence of lawns and meadows in the GOS can help preserve various insect pollinators which will help the plant breeding process (Paudel & States, 2023). Therefore, the availability of lawns and meadows in all four GOS in both cities, especially in Bukit Serindit Recreational Park and RTH Imam Bonjol Park will also conserve and preserve the biodiversity of Melaka and Padang [OBP-BSRP 47, OBP-RTHIMP 17, OBP-BMP, and OBP-NP 12].

5.2.3.2 Preventing Flood

The GOS at Bukit Serindit Recreational Park located within Melaka City also functions as a reservoir for excess rainwater which can reduce the risk of flooding in the city. The large lake within Bukit Serindit Recreational Park helps and facilitates the distribution of water to channels or to smaller areas [MO2, MO4, and MR2]. This can control the accumulation of excess rainwater in one place only. Meanwhile, for the other three GOS areas, namely Bunga Merdeka Park, Nanggalo Park, and RTH Imam Bonjol Park, these three GOS do not have water reservoirs, and they only depend on vegetation elements such as large trees in them [MO4, MR1, MR7, PO2, PO3, PO8, PR4, and PR7]. Vegetation elements in good condition can absorb excess rainwater and reduce run-off problems that often occur in concrete cities. This can certainly reduce the threat of flood risk in the city like the study done by Park et al. (2022), have compared green spaces in the top roof area of tall buildings known as green roofs. A study by Park et al. found that roof areas that do not have vegetation elements increase run-off problems that can cause flooding and increase water pollution. Therefore, the element of vegetation in the GOS also successfully reduces the threat of urban flooding and also the presence of lakes or ponds in the GOS is more helpful.

5.2.3.3 Filtering Urban Air

The right amount of vegetation and the right type of vegetation in a GOS area can absorb vehicle smoke, haze, small dust particles, and can also filter dirty air which allows urban air pollution to be reduced. Bukit Serindit Recreational Park, Bunga Merdeka Park, RTH Imam Bonjol Park, and Nanggalo Park which are GOS in these two different cities, Melaka and Padang can help preserve the freshness of the city's air. As stated by all the informants, most of them agree that these four GOS have succeeded in cleaning the city's air. However, the informants wanted more trees to be planted. This is also supported by a study from Ai et al. (2023), they have found that increasing the number of GOS areas in the city decreases Particulate Matter (PM2.5) which will reduce air pollution. Ai et al. (2023) added that to maximize GOS as a PM2.5 filter the design and structure of GOS should be given attention including understanding local vegetation species.

5.2.3.4 Screening and Noise Reduction

Vegetation as a barrier prevents and filters noise from outside. This has proven to be successful with studies that have been done before, green belts that are along the road of Shenzhen City traffic noise can be reduced, however that only happens if the amount of vegetation is increased along the road (Liu et al., 2023). Like RTH Imam Bonjol Park, the large and tall trees surrounding the park have reduced the traffic noise from outside, moreover RTH Imam Bonjol Park is a transit center for public transport and adjacent to the main road. Likewise, with Nanggalo Park and Bunga Merdeka Park, although these two areas are small in area, but with the existence of large trees, they still manage to absorb noise and reduce traffic noise pollution. Meanwhile, the GOS in Bukit Serindit Recreational Park next to it is busy with the construction of high-rise housing, the noise produced has been successfully reduced by the existence of various types and sizes of vegetation. Likewise with a study in Malaysia by Ahmad et al. (2023), they have built a prototype of a green noise barrier with integrated greenery that uses vegetation that creeps up and then clamps the vegetation in the middle with environmentally friendly panels around it, the researcher found that this integrated greenery prototype has absorbed traffic noise as much as 13 decibels .

5.2.3.5 Cooling Down Urban Temperature

The shade provided by the tall trees found in GOS can relieve the heat. Not only that, the existence of enough biodiversity in a city can balance the ventilation in the city and this will reduce the urban heat island problem [MO1, MO3, OBP-BSRP 55, OBP-BMP 44, OBV-BSRP 3, OBV-BMP 1, PR2, PR4, OBP-RTHIBP 33, OBV-RTHIBP 1, and OBP-NP 21]. This is proven by a study from Wu et al. (2021) found that the vegetation of trees, shrubs, and grass in pocket green spaces in Shanghai City, China showed high cooling efficiency. The four GOS, namely Bukit Serindit Recreational Park, Bunga Merdeka Park, RTH Imam Bonjol, and Nanggalo Park have various types of vegetation, and some informants admitted that the temperature of their city decreased with the addition of vegetation in the park. However, the informants asked their GOS to add more large trees, especially in RTH Imam Bonjol Park because there are still many spaces left empty and coupled with urbanization that is faster than the growth of the trees themselves, immediate attention is needed [PO2 and PR2].

5.3 The Strategies to Manage Green Open Space in Current City Urbanisation Condition

The dimension of urbanisation management highlights the importance of understanding the implementation of GOS based on current urban conditions. This understanding involves considering the prevalent density type in Melaka City and Padang City, as it influences the design of the GOS to be built. As discussed by the informants, Melaka City and Padang City suffers from traffic congestion and buildings. Nonetheless, according to informant, many GOS in residential areas are converted to cement to save costs. A large population or dense concrete construction in a city will not affect the quality of GOS in achieving a green city because, based on the world ranking by the Netherlands' IHS, most of the cities with the greenest city status are cities that have high-density – possess more than one million residents such as in Toronto City, Auckland City, London City, Paris City and many more (Brilhante and Klaas, 2018). This shows that density is not a critical problem in implementing GOS in a high-density city. It touches on the creativity of the local authority itself (MBMB and PLG) in managing the layout of GOS in a crowded and concrete city, whether by using

the vertical green spaces, applying minimum percentage of GOS, or added more pocket parks.

Table 5.2
Findings for RO2 – Strategies for Managing GOS Based on Current Urbanisation Conditions with Analytical Literature Support

No.	Key Theme	Sub-Theme (Melaka)	New / Old Strategy	Sub-Theme (Padang)	New / Old Strategy	Analytical Literature Support	
						Author	Key Point
1	Vertical Green Spaces	● Vertical Landscape	New	● Vertical Landscape	New	-	-
		● Green Rooftop	New	● Green Rooftop	New	Jim et al. (2022); Mirqaed & Saberi (2021)	Green Roof
		● GOS in Abandon Building	New	● GOS in State Gov. Building	New	-	-
		● Tiered GOS	New	● Green Building Space	New	-	-
		● Camouflaged Sightseeing Tower	New	-	-	-	-
2	Minimum Percentage of GOS	● 10% Minimum Area of GOS	Old	● 30% Minimum Area of GOS	Old	Mohamed et al., (2024); Sarofah & Herliana', (2023); Universitas Indonesia, (2022)	Mandatory Allocation of GOS to City Developer
		● Encourage Developer to Create GOS	New	-	-	-	-
3	Pocket Parks	● Pocket Park	New	-	-	Yang & Hong (2023)	Pocket Parks
		● Pocket Park Inside the Mall	New	-	-		
		● Pocket Park Inside Office Building	New	-	-		
		● Mini Park	New	● Thematic Park	Old	-	-
		● Scattered GOS	New	-	-	-	-

Source: Researcher Fieldwork (2024)

The implementation of GOS in a high-density city requires a unique strategy, which is to understand the unique needs of the city because the uniqueness of the city is different, where the implementation strategy of the GOS in a certain city is also different and each strategy needs to fit the current unique characteristics of the city. Looking at the views of informants from both cities, Melaka and Padang, the strategies that can be applied in the implementation of GOS in high-density cities are through three main strategies, namely through vertical green spaces, minimum percentage of GOS, and pocket parks.

5.3.1 Vertical Green Spaces

The implementation of GOS through the vertical green open strategy in Melaka City is easy but not in Padang City due to the risk of earthquakes, their buildings are only two stories high [PR1]. However, this strategy is still relevant in both cities for all vertical buildings. Vertical green open space has various forms, as discussed by informants from both countries, one form of vertical green open space that can be done is a green roof and it can be seen as the best alternative to face the problem of limited land in the Melaka City and Padang City [MO2, MR6, and PR3]. This also coincides with a study by Mirqaed and Saberi (2021) found that the local residents of the city of Isfahan in Iran from five different districts stated that the city of Isfahan will only obtain a good urban ecology if they practice the green roof concept in their urban landscape because according to them the green roof will provide tranquillity and green environment. As we can also see in high-density Asian countries such as China, Japan, and Singapore, they have long practiced the concept of green roofs on high-rise buildings due to limited space problems and at the same time want to rebalance the urban ecology (Jim et al., 2022). A city that is filled with concrete and lacks elements of flora and fauna will damage the urban ecological system where the city will be vulnerable to the risk of natural disasters and various pollutions (Mirqaed & Saberi, 2021). Therefore, to ensure that the biodiversity of high-density cities is not lost, to restore and sustainably preserve urban ecology, the vertical green open strategy in dense cities has become one of the latest innovations of city planners nowadays.

5.3.2 Minimum Percentage of GOS

The minimum percentage of GOS is mandatory set by local authorities in Melaka City and Padang City for each development to protect green areas in urban areas. The minimum distribution percentage of GOS is imposed as much as 10% of public green space for each development in cities in Malaysia [MO2, MO3, MO6, and MO7] (Mohamed et al., 2024) . In addition, MBMB also makes several space reservations in the city for green areas every year to support the sustainability of Melaka City [MO6]. Whereas, in Indonesia as much as 30% is allocated as a minimum percentage of GOS in each city, 10% is private green space area and 20% for public green space area [PO1, PO,4 and PO7] (Sarofah & Herliana', 2023). Although Padang City has already met the 30% minimum percentage of GOS, but according to the evaluation results from the UI Green City Metric Rankings in 2022, it was found that the minimum percentage of GOS does not refer to GOS, which is a park that can be accessed by the public including the city forest and the assessment results for both types of GOS in that year are empty (Universitas Indonesia, 2022). This means Padang City does not have a good GOS for their city residents to use. This is also agreed by PLG officers and residents of Padang City [a total of 11 informants out of 20 informants agreed], the state of GOS for the use of residents is in very poor conditions and lacks facilities. In addition, is this minimum percentage of GOS successful in protecting the city's greenery or not depending on the level and type of city density where each city's density is different according to city. As per the study of (Mohamed et al., 2024), the minimum distribution of the percentage of GOS in Malaysia is not according to the type and amount of urban density, where when the density of vertical type housing is high such as flats or condominiums, the area of GOS given is smaller than terrace type housing. This will of course limit the use of parks by residents and will also have an impact on the amount of green required by a sustainable city.

5.3.3 Pocket Parks

The existence of pocket parks has become a phenomenon in compact-sized cities in various types of locations such as in office areas, behind buildings, on the side of the road, inside malls, in parking areas and so on. As said by the informants from two cities, Melaka City and Padang City, small clusters of GOS can also be implemented in high-

density cities so that the green areas are even and balanced throughout the city. For example, one effort that has been made by PLG is to implement the GOS of mini parks called Thematic Parks in each sub-district in Padang City, until today 11 Thematic Parks have been built [PO5 and PO8]. According to Yang and Hong (2023), pocket parks have become one of the main components in urban regeneration in China. Since 2002, the China government has been very active in implementing many pocket parks in empty land areas on the edge and corners of the city center to solve the problem of urban environmental degradation and limited green space that then which this initiative has succeeded in increasing urban vatility and supporting urban regeneration of cities in Chinese (Yang & Hong, 2023).

5.4 The Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development

Subsequently, understanding the significance of the LG's financial stability is crucial. Since LG manage cities, they play a pivotal function in ensuring the effective establishment and long-term management of GOS. LG must devise innovative financial solutions to ensure that their financial stability remains intact even during budget cuts to guarantee the successful implementation and maintenance of GOS. The community-public-private financial initiative to increase LG's financial stability has become a trend nowadays (Mohamed & Vadeveloo, 2023). The LG gets financial help from the private sector and the surrounding residents through crowdfunding. In Italy, crowdfunding emerged as the foremost fundraising method, gathering contributions from various community groups, citizens, public or civic organisations, and even private companies. These entities have converged on a single platform known as Meridonare. This platform, launched in November 2019, represents the inaugural social crowdfunding platform, and it successfully funded the GOS project in March 2020, gained recognition from the Italian government, and was subsequently enshrined in Italian law (Trovato, 2021). In addition, community self-organisation or CBO has also been practised in Egypt, Albania, the United Kingdom, and the Netherlands when they faced very bad financial constraints in funding GOS implementation and maintenance (Mohamed & Vadeveloo, 2023). Nevertheless, the creativity of MBMB and PLG finding funds is limited as they are bound by existing laws.

Table 5.3
Findings for RO3 – Strategies for Local Government Financial Stability with Analytical Literature Support

No.	Key Theme	Sub-Theme (Melaka)	Old / New Strategy	Sub-Theme (Padang)	Old / New Strategy	Analytical Literature Support	
						Author	**Key Point**
1	Traditional Revenue Sources	● Federal Budget ● Federal Government Grant	Old Old	● Central Budget	Old -	Mohamed & Vadeveloo (2023)	Government Budget
		● Local Government Budget & Revenue	New & Old	● Local Government Budget & Revenue	New & Old		
		● State Budget & Revenue	Old	-	-		
2	Park Regulations & Inspections	● Complaint Channels	New & Old	● Complaint Channels	Old	Bibri et al. (2023)	Integration of Smart Technologies, such as IoT & AI
		● Security Measures	New & Old	● Security Measures	New		
		● Minimising Vandalism	New & Old	● Minimising Vandalism	New & Old		
		● Park Monitoring	New & Old	● Park Monitoring	New & Old		
3	Corporate Social Responsibility (CSR)	● Corporate Donations ● Adopt-a-Park Programmes	Old New	● CSR Contribution	Old -	Respati et al. (2022)	Private Companies Initiative

Source: Researcher Fieldwork (2024)

5.4.1 Traditional Revenue Sources

Traditional revenue sources are financial sources commonly accepted by local authorities to finance all local management expenses. These sources had come from federal budget, federal government grant, local government budget and revenue as well as state budget and revenue. While for Padang it come from central budget and local government budget and revenue. The findings of the study by Mohamed and Vadeveloo (2023) on sources of income from the government show that local governments still depend on local taxes and financial assistance from the central government to finance the implementation of GOS. However, this study points out that many local governments in developing countries face persistent financial constraints, preventing consistent maintenance of GOS. In Malaysia, for example, local tax revenue is the main source, while in Indonesia, 81% of GOS management costs are financed by the private sector through CSR programs. Both countries are still fully dependent on central government funds, causing delays in the maintenance of GOS as well as a decrease in the quality and performance of these facilities.

5.4.2 Park Regulations and Inspections

One of the main strategies to stabilize LG's finances is to reduce damage, especially damage caused by vandalism. Therefore, park regulations and inspections need to be done more often to reduce or eliminate these vandalism activities. According to Bibri et al. (2023) using integration of smart technologies, such as Internet of Things (IoT) and Artificial Intelligence (AI) can enhance safety management. According to the study of Bibri et al. (2023), the use of smart technologies such as the Internet of Things (IoT) and Artificial Intelligence (AI) in the management of GOS has the potential to significantly improve security management. This technology provides direct and real-time data that can be used to monitor security in green areas, enabling early detection of risks such as vandalism and infrastructure damage. The use of IoT for example, enables the automatic collection of data through sensors installed in the park, while AI is used to analyse these data patterns to detect potentially dangerous situations. In this way, security surveillance at GOS can be implemented more efficiently, reducing the need for continuous human intervention, and further creating a safer environment for public park users.

5.4.3 Corporate Social Responsibility

In addition to LG's dependence on financial budgets from government, LG also actively receives various types of external assistance especially from CSR programs run by large companies. This can certainly stabilize LG's finances in financing the implementation of GOS towards GCD. According to the study of Respati et al. (2022), the use of Corporate Social Responsibility (CSR) by the private sector in financing GOS helps local governments overcome financial constraints and contribute to financial stability for green urban development. This study shows that in Malang, for example, 81% of the cost of the GOS revitalization program is supported through CSR. This CSR involvement model contributes not only financially, but also involves the company in the preservation, maintenance, and development of green infrastructure. CSR promotes the involvement of the private sector in a more transparent and accountable manner in sustainable urban development. In addition, CSR initiatives can increase public trust in the private sector due to their contribution to the environment and local community well-being, which is in line with the city's sustainable development goals (Respati et al., 2022).

5.5 The Strategies to Increase Community Participation in Green Open Space Implementation

The final dimension centres on community participation achieved through awareness and cooperation by aligning citizen efforts with governmental initiatives to attain GC status. This dimension is a pillar of the successful implementation of GOS towards GCD. A development solely driven by the LG's efforts and ignored by the city's citizens is bound to fail. Diverse events and programs and aesthetics value and attractive park (Refer to Table 5.4) could be another hook to attract more people to come and use the park facilities or even participate in any LG’s green awareness program conducted inside or surrounded of GOS. But the social and mass media will be the best hook because it is a preference of the new generation nowadays. Therefore, four main themes as refer to Table 5.4 should be implemented in GOS to boost people's awareness of the importance of having an excellent green space in their neighbourhood.

Table 5.4
Findings for RO4 – Strategies to Increase Community Participation with Analytical Literature Support

No.	Key Theme	Sub-Theme (Melaka)	Old / New Strategy	Sub-Theme (Padang)	Old / New Strategy	Analytical Literature Support	
						Author	Key Point
1	Local Engagement	● Public Involvement in Project Phases	Old	● Public Involvement in Project Phases	Old	Gearin & Hurt (2024)	Park Planning Involvement
		● Community-Based Organisation	New & Old	-	-		
		-	-	● Stakeholder Engagement	Old		
2	Media and Influencer Engagement	● Influencers Engagement	New	● Influencer & Public Figure Engagement	New & Old	Mohamed et al. (2024)	Green Awareness
		● Mass Media Engagement	Old	● Mass Media Engagement	New & Old		
		●Social Media Engagement	Old	● Social Media Engagement	New & Old		
		-		● Digital Media Engagement	New & Old		
3	Diverse Events & Programs	● Community Competitions	Old	● Community Competitions	New	Anthony (2024)	Various Park Activities
		● Environmental Programs	Old	● Environmental Programs	New		
		● Public Engagement Programs	Old	● Public Engagement Programs	New & Old		
		-	-	● Government Internal Awareness Programs	New		
		● Art Programs	New	-	-		
		● Recreational Activities	Old	-	-		

4	Park Aesthetics & Appeal	● Attractive & Beautiful Parks	New	● Attractive & Beautiful Parks	New	Doğmuşöz & Vardi-Topal (2024); Afrilianti & Dewi (2023)	Natural Beauty & Visual Capability
		● Diverse Park Facilities	New	● Diverse Park Facilities	New		
		● Multi-Age Facilities	New	● Multi-Age Facilities	New		
		● Unique Park Concepts	New	● Unique Park Concepts	New		
		-	-	● Technologies in the Park	New		

Source: Researcher Fieldwork (2024)

5.5.1 Local Engagement

In Melaka City and Padang City, the community is allowed to be involved together with the local authority in the development of a new project. However, their involvement is limited. Community involvement in park planning can increase community trust and foster a sense of community ownership (Gearin and Hurt, 2024). This can create a friendly society within GOS. According to Gearin and Hurt (2024), active community involvement in the urban green space planning process has a significant impact on the success of its implementation. They show that deep and inclusive public involvement can increase public trust, reduce conflict, and create greater support for development projects. In this study, the community around Oxon Run Park was given the opportunity to share their views and suggestions regarding their use and vision of the park, involving adults, teenagers, and "returning citizens" (those who have just been released from prison). The desire to involve the public voice in planning reflects the need for planning to be more responsive to the needs and expectations of the community. The researchers concluded that an approach that emphasizes full citizen control and involvement, or "citizen control," is the most effective strategy for obtaining valuable information from the community. They found that meaningful participation can give the community a sense of ownership of the project and increase their sense of responsibility to maintain the sustainability of the existing green space. This finding is in line with the theory of "Arnstein's Ladder of Citizen Participation" which shows that the most effective involvement is when the community has full control in planning and development, not just as symbolic or tokenism (Gearin & Hurt (2024).

5.5.2 Media and Influencer Engagement

Social media can increase awareness and encourage the community in environmental activities which can contribute to more sustainable urban development. According to a study by Mohamed et al. (2024), the use of social media and marketing through influencers or viral marketing has been identified as an important strategy to increase community participation in green awareness and the implementation of GOS for green urban development. The strategy aims to connect communities with green initiatives, where engagement through social media platforms gives wide exposure to

the benefits of a greener urban environment. In addition, they stated that the presence of various events in green spaces, along with marketing through influencers, not only increases awareness but also attracts more residents to participate in green activities or programs organized by local authorities. This can help build a sense of ownership among the community, which in turn supports the goal of continuous green city development (Mohamed et al., 2024).

5.5.3 Diverse Events and Programmes

The diversity of activities in GOS can significantly increase community participation in urban development initiatives (Anthony, 2024). This engagement is essential to co-create innovative solutions that promote social sustainability and contribute to the realization of smart and sustainable cities. As is often organised by both LGs in Melaka City and Padang City, events such as sports competitions, cultural exhibitions, tree planting and so on have attracted the interest of the community to come to the GOS which has successfully fostered a sense of responsibility to get involved in their urban planning. According to a study by Anthony (2024), the organization of various events and diverse programs in green open spaces, such as public parks and recreation, is an effective strategy to attract community participation. These events not only provide space for physical activity but also encourage social interaction and provide opportunities for the community to learn about the importance of caring for the environment. Anthony found that by creating a variety of activities—from sports to environmental education workshops—the community became more involved and committed to the use and preservation of green space. This approach directly contributes to the development of green cities by strengthening green awareness among local residents and encouraging them to continue to support long-term green initiatives (Anthony, 2024).

5.5.4 Park Aesthetics and Appeal

"*This park displays a unique attraction, providing an interesting experience for its visitors* (Afrilianti & Dewi, 2023)". The aesthetic value of urban ecological areas shows that human-nature relationships built from natural beauty based on human perceptions and judgments through their visual capability have improved the Quality of

Life (QoL) of city dwellers (Doğmuşöz and Vardi-Topal, 2024). Based on a study from Doğmuşöz and Vardi-Topal (2024), the aesthetic appearance in green gardens, such as the use of colourful plant elements and the planting of canopy trees, plays an important role in attracting community interest to engage in green open spaces. Their study showed that participants were most attracted to gardens that featured a variety of colours and visually appealing plants. They found that designs with colourful plants have the highest aesthetic value, while designs with canopy trees are considered the most valuable from an ecological point of view (Doğmuşöz & Vardi-Topal). Meanwhile, Afrilianti and Dewi (2023) in a study on Teras Cikapundung in Bandung emphasized that the natural beauty and visual appeal of open green space not only attracts the community for social activities, but also promotes community awareness of the importance of environmental sustainability. Cikapundung Terrace is the main attraction where visitors can enjoy the panorama of the river, recreational activities, and comfortable natural landscape. It illustrates how visual beauty can function as a driver to encourage community involvement in environmental conservation activities, where this space has succeeded in becoming a social and cultural meeting center as well as adding economic value to the surrounding area (Afrilianti & Dewi, 2023).

5.6 The Formulation of Green Open Space-Green City Conceptual Framework (GOS-GCCF) that Suits with Melaka and Padang Local Context

Overall, by examining the formation of themes in each dimension, the formulation of the MEGOS-GCCF and PAGOS-GCCF (Refer to Figure 5.20 and 5.21) is proposed to ensure that the implementation of GOS aligns with the needs of Melaka City and Padang City as a measure towards the achievement of GC. The priority level of each theme is calculated through frequency, which shows that the informants repeat the theme to indicate the current and ongoing situation. Nevertheless, the lesser-mentioned themes by the informants show that these themes occur less or do not occur in GOS implementation. As refer to table 5.5 was the additional dimension that need to focus on in the GOS-GCCF for both cities, Melaka City and Padang City.

5.6.1 Informant's Feedback on the Additional Dimensions to Focus On in GOS-GCCF of Melaka and Padang

While formulated the GOS-GCCF for Melaka and Padang, the MEGOS-GCCF and PAGOS-GCCF got several informants give their feedback regarding some additional dimensions to focus on based their city current 'needs.

Table 5.5
Analytical Literature Support for RO5 Key Theme

Bil.	Main Theme	Sub-Theme (Melaka)	Sub-Theme (Padang)	Analytical Literature Support	
				Sub-Theme	**Author**
1	Local and International Stakeholder Collaboration	-	Coordination between Regional Apparatus Organizations [OPD - Organisasi Perangkat Daerah]	Strong Political Commitment, Effective Stakeholder Engagement, and Integrated Urban Planning	Azizi & Kouddane (2024)
		International Collaboration	-	-	-
		-	Stakeholder Collaboration	-	-
		-	Academia Involvement	-	-
		Developer Involvement	-	-	-
		-	Community	-	-
		-	Government Bodies & Entities	-	-
		-	Non-Governmental Organizations (NGOs or LSM - Lembaga Swadaya Masyarakat)	-	-
		-	Private Sector	-	-
		-	Research Institutions	Providing Research, Expertise and Innovative Solutions	Eshetu et al. (2021)

		-	Vertical Institutions (TNI - Indonesian National Armed Forces)	-	-
2	Disaster Risk Management & Political Stability	-	-	-	-
		Political Stability	Disaster Risk Management	Stable Politic	CICC Research (2022)

Source: Researcher Fieldwork (2024)

5.6.1.1 Local and International Stakeholder Collaboration

GCD that focuses on key initiatives such as the implementation of renewable energy, energy efficient buildings, sustainable mobility, and the implementation of waste management can only be carried out well if full cooperation is obtained from civil society, businesses, and NGOs including LG because this full cooperation movement is very important to create stable finances, the latest technical expertise, comprehensive knowledge sharing, and it also facilitates the implementation of green practices throughout the city (Azizi and Kouddane, 2024). According to Azizi and Kouddane (2024), Copenhagen and Amsterdam are successful GCs because any green program such as the implementation of urban parks, cycling days, including applied programs for the use of green technology and so on that are carried out by the local authorities has extraordinary support from political parties, full involvement highly effective stakeholders, and integrated urban planning practices that successfully reduce urban air pollution, restore urban biodiversity ecosystems, and improve the quality of life of urban residents. Therefore, three informants from Padang City [PO1, PO6, and PR2] stated that this additional dimension is very necessary to be established in the GOS-GCCF model because it is very little practiced in every program carried out by their LG.

An informant from Padang City [PO1] stated that academics in Padang City lacked collaboration with parties outside the campus, sharing the results of their studies to be practiced to the level of community benefit was lacking. The informant also stated that academia's involvement with the government is important to solve Padang City's food resource problems, such as how to properly establish land degradation control in the agricultural sector where crop production will be more developed. Therefore, the research results from the academics should not be left alone in the library [PO1]. According to Eshetu et al. (2021), the involvement of academics is a major contributor in the implementation of good GOS, especially in the achievement of GC because they have expertise in solving problems and are experts in providing innovative solutions, especially how the characteristics of GOS are required by GC to create a sustainable city. *"For example, the 10th master plan of Addis Ababa the capital city of Ethiopia incorporates principles such as functional diversity, connectivity and social inclusion in the development of green space, showcasing how academic input can improve a sustainable urban environment"* (Eshetu et al., 2021).

5.6.1.2 Disaster Risk Management and Political Stability

The findings highlight the importance of disaster risk management in Green City Concept Development (GCCD), particularly in Padang, which is highly vulnerable to natural disasters such as earthquakes and tsunamis. One Indonesian informant, PR8, emphasized that Green Open Space (GOS) should not only serve recreational and environmental functions but also play a critical role in disaster preparedness. PR8 suggested that strategically located parks and open spaces could function as temporary evacuation sites, providing safe refuge for communities during emergencies. This perspective aligns with previous studies that underscore the role of GOS in enhancing urban resilience by mitigating climate-related disasters (Rahman et al., 2021; Yuliastuti & Saraswati, 2023). Currently, some public parks in Padang, such as RTH Imam Bonjol Park and Nanggalo Park, are designated as emergency gathering points, but PR8 stressed the need for further enhancements, such as reinforced structures, clear evacuation routes, and sustainable drainage systems to reduce flood risks.

Additionally, PR8 highlighted that disaster risk management strategies should be more explicitly incorporated into GOS policies to strengthen urban resilience. The informant suggested that GOS planning should integrate disaster-resilient infrastructure, such as elevated land areas, multifunctional green spaces, and reinforced shelters within parks. This recommendation aligns with best practices in disaster-prone cities worldwide, where green spaces are designed to serve dual purposes—enhancing urban sustainability while acting as buffer zones against natural disasters (Susanti et al., 2022). Moreover, proper maintenance and regular disaster preparedness drills within GOS can further improve community awareness and readiness. Strengthening collaboration between local governments, urban planners, and disaster management agencies can ensure that GOS contributes effectively to urban safety and sustainability. Ultimately, incorporating disaster risk management into GOS planning is essential for Padang, ensuring that green spaces serve as both ecological assets and critical components of urban disaster resilience. Disaster risk management will not be an efficiency without political stability.

CICC Research (2022), states that most developing countries often face unstable politics that has slowed down urban development. The CICC Research study also found that governance in the government administration system has a strong relationship with the successful implementation of GOS, which supports GC initiatives that include

support for urban livability, reducing the carbon footprint and improving the sustainability of the urban environment. According to CICC Research,

> *"Political stability provides a conducive environment for long-term planning and consistent enforcement of policies related to urban green spaces. Stable governance enables sustainable investment in green infrastructure, enabling cities to effectively incorporate this space into their development plans. This stability also fosters collaboration between different stakeholders, including government agencies, the private sector and communities, which is essential for the holistic development of green cities."*

This also coincides with the statement of two informants from Melaka City [PO4 and PO5] that politicians who are appointed as representatives of the people often what often happens is that every project involving green programs often changes according to the taste of the politician rather than according to the needs community or city where this will slow down the process in every city planning including the implementation of GOS towards a sustainable city and of course it also has a negative impact on the natural ecosystem of the city.

5.7 Analysis and Discussion on the Hypotheses

Based on the findings obtained, the Hypothesis 1: A sound understanding of GOS important roles increases GCCD efficiency is supported by key themes related to the functionality of GOS in GCD that comprised with Three Pillars of Sustainability Theory (economic, social and environmental). Under economic sustainability both GOS located at Melaka and Padang able to generate income for resident, increasing tourist numbers and boosting property value. This is in line with the study by Maulia et al. (2024) when GOS becomes a strategic area for small-medium-enterprise (SME) traders. In addition, with the historical and cultural elements in GOS in Melaka and Padang have attracted many visitors (Lategan et al., 2022). This also coincides with the study by Samad et. (2020) residents prefer housing with GOS or close to GOS.

Strengthening physical fitness, improving emotional and mental health, enriching human bonds, encouraging outdoor pedagogic and providing a safe neighbourhood are the main theme that support Hypothesis 1: A sound understanding of GOS important roles increases GCCD efficiency for pillars of social sustainability. This also coincides with some studies by Song et al. (2023), GOS can provide various

sports and recreational activities to visitors. GOS is also ecotherapy as a mechanism to manage emotional and mental health (Putri et al., 2024). Friendly greetings among park visitors also strengthen social interaction (Trojanowska, 2021). Not only that, GOS is used as a space for children mingling (Dewiyanti et al., 2023). This healthy atmosphere will also help the authorities to reduce crime in the neighbourhood (Sypion, 2023).

Environmental sustainability emphasizes the important functions of GOS to GCD. Supporting Hypothesis 1: A sound understanding of GOS important roles increases GCCD efficiency for pillars of environmental sustainability by strengthening understanding through five key themes that can increase the efficiency of green urban development, namely the ability of GOS restoring urban biodiversity, preventing flood, filtering urban water, screening and noise reduction, and cooling down urban temperature. By supporting with Azahra et al. (2022) stated GOS enrich flora and fauna, Park et al. (2022) found that GOS reduced run-off problems, Ai et al. (2023) found GOS can absorb PM2.5, Ahmad et al. (2023) – absorb noise and Wu et al. (2021) – absorb heat that will reduce urban heat island risk.

This shows that by understanding well the important function of GOS towards GCD can provide understanding and awareness to policy makers and park users that having GOS is important to achieve sustainability in the economic, social and environmental aspect of the city.

Hypothesis 2: Well-structured of urbanisation management based on current city urbanisation improves GOS towards GCCD supported by three key theme, vertical green spaces, minimum percentage of GOS, and pocket parks. In order to conserve and preserve green spaces in crowded city these three strategies will be the best technique use in both cities, Melaka and Padang. This also coincides with the study by Jin et al. (2022), Mohamed et al. (2024), and Yang and Hong (2023), where green roof, exact amount of GOS allocation, and practices of pocket parks can improve GOS implementation towards GCD.

Meanwhile, for the findings in support of Hypothesis 3: Stable financial leads to total urban greenery through GOS implementation for GCCD, three key themes have supported the hypothesis through the efforts of the local government which not only relies entirely on traditional revenue sources (Mohamed & Vadeveeloo, 2023), but also act quickly through park regulations and inspections to reduce bad costs (Bibri et al., 2023) and take the initiative to be actively involved in corporate social responsibility (CSR) programs from private companies to finance the management and maintenance

of GOS (Respati et al., 2022). At the same time, it helps to stabilize the finances of the LG to have more sustainable urban green areas.

Last Hypothesis 4: High community participation in the LG decision process improves GOS implementation efficiency towards GCCD supported by four key themes, which is local engagement by allowing park users involve in project phase together with policy makers and promoting Community-Based Organisations (CBO) in order to ensure the park users, have sense of ownership on their GOS. Next, diverse events and progams (Anthony, 2024) and park aesthetics and appeal (Doğmuşöz & Vardi-Topal (2024) can also attract more park users to join in any green park project by government especially in GOS implementation towards GCD.

As a short summary on analysis and discussion on four hypotheses, all hypotheses are well supported with the study findings as well as with analytical support. Thus, the GOS-GCCF have been well formulated for Melaka and Padang, known as Melaka City Green Open Space-Green City Conceptual Faremwork (MEGOS-GCCF) and Padang Green Open Space-Green City Conceptual Framework (PAGOS-GCCF) (Refer to Figure 5.1 and figure 5.2). The details followed as below.

5.8 The Formulation of MEGOS-GCCF and PAGOS-GCCF

Based on the study the formulation of GOS-GCCF for both cities as per below figure that incorporated with all theme's development. The highlighted green colour indicated differences between two cities, Melaka and Padang. Total 70 main themes included in framework with 25 key themes respectively, and 40 support themes for Melaka and 28 supporting themes for Padang.

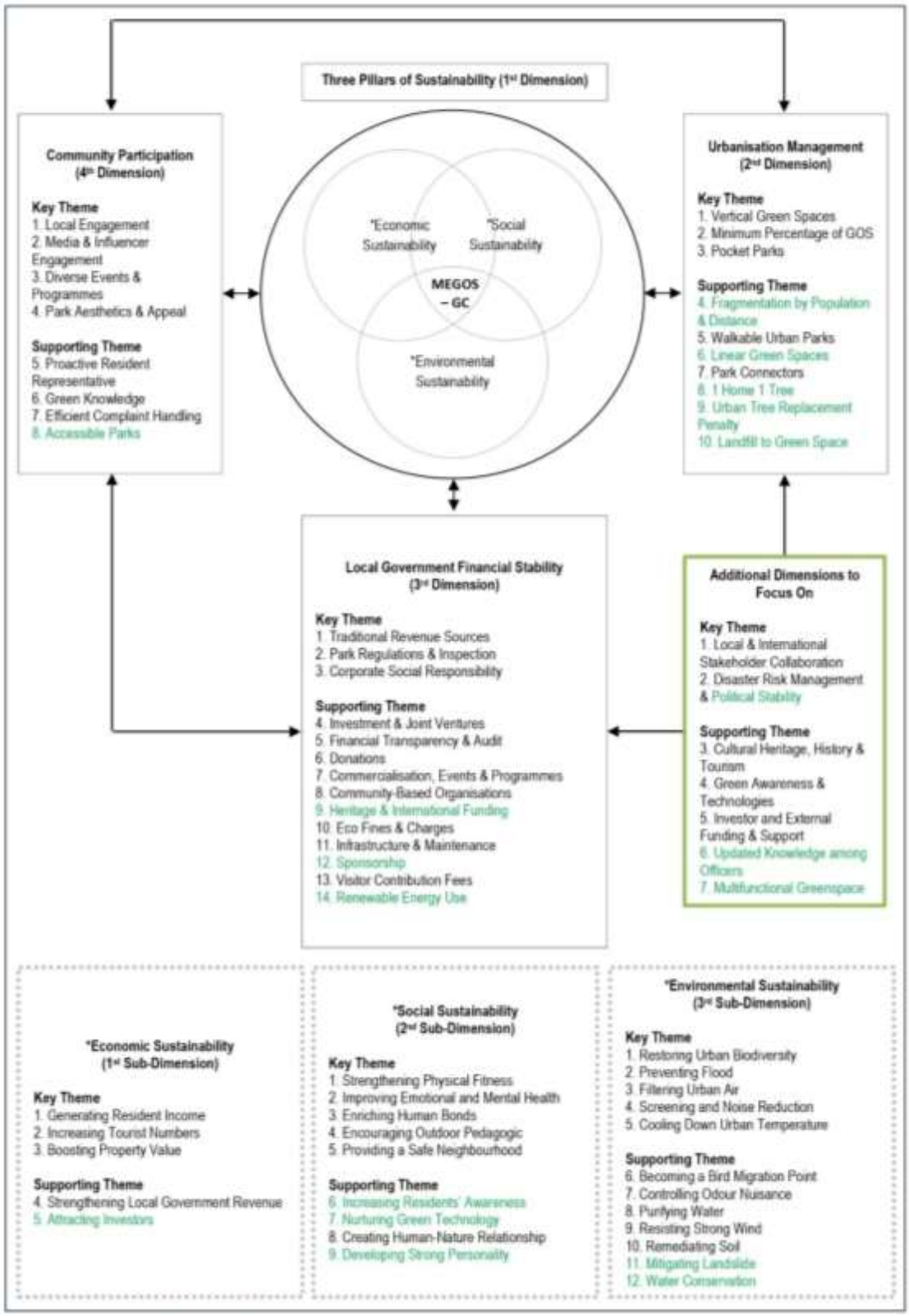

Figure 5.1 The Propose of Melaka City Green Open Space-Green City Conceptual Framework (MEGOS-GCCF) for Local Government of Melaka Historic City Council (MBMB)

Source: Researcher Analysis from Fieldwork Study (2024)

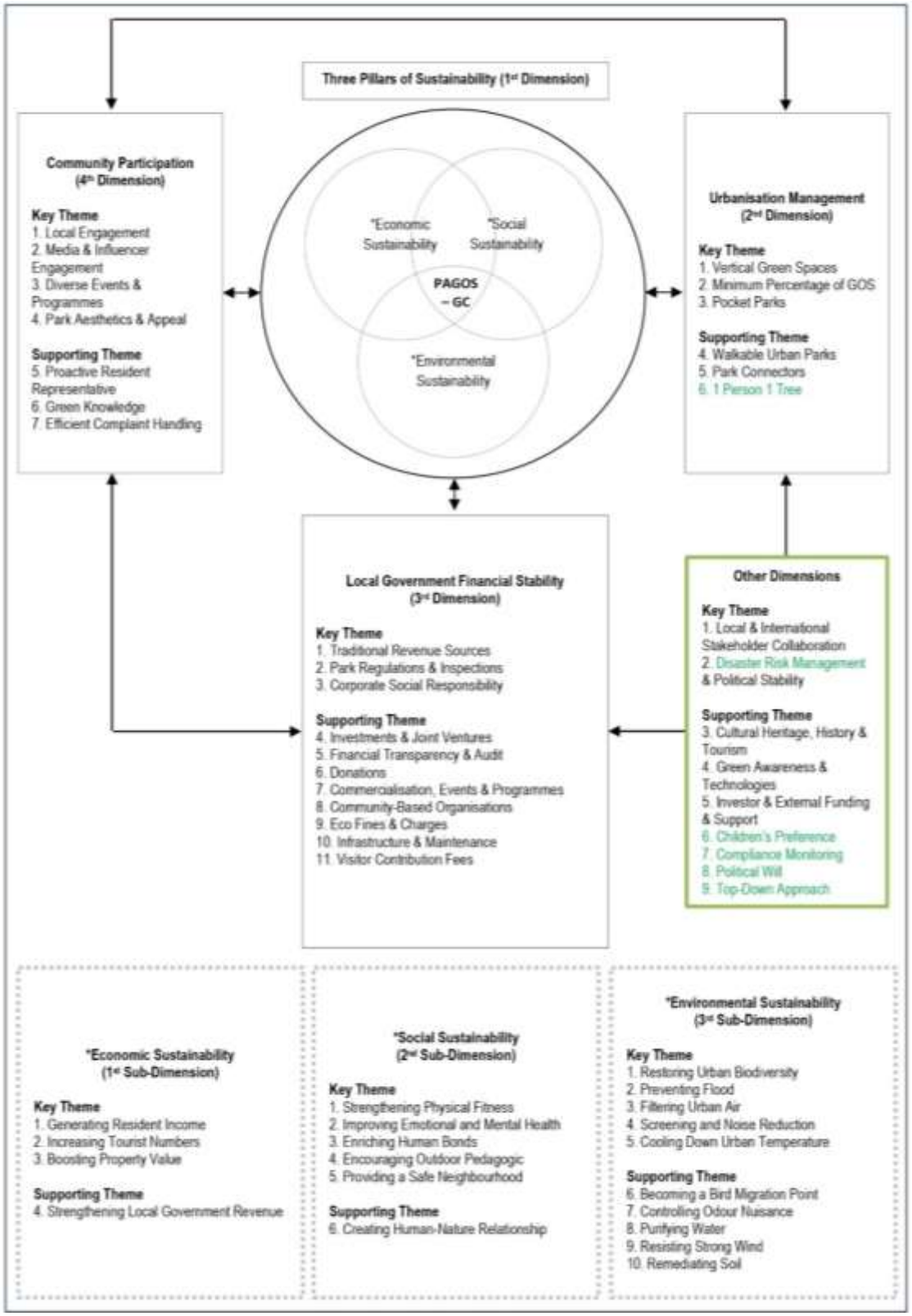

Figure 5.2 The Propose of Padang City Green Open Space-Green City Conceptual Framework (PAGOS-GCCF) for Padang Local Government (PLG)

Source: Researcher Analysis from Fieldwork Study (2024)

5.9 MEGOS-GCCF and PAGOS-GCCF the Proposed Framework Supporting SDG 11

The proposed MEGOS-GCCF (Melaka Green Open Space-Green City Conceptual Framework) and PAGOS-GCCF (Padang Green Open Space-Green City Conceptual Framework) align with SDG 11: Sustainable Cities and Communities by addressing the city-specific challenges of Melaka and Padang in Green Open Space (GOS) implementation towards Green City Concept Development (GCCD). These frameworks integrate economic, social, and environmental sustainability dimensions with urban management strategies, financial stability, and community participation, ensuring a holistic and sustainable approach to GOS planning and development. The analysis highlights how these multidimensional frameworks contribute to SDG Target 11.b, which focuses on strengthening resilience and adaptive capacity to climate-related hazards and disasters. By promoting climate-responsive urban planning, the proposed frameworks enhance GOS effectiveness in mitigating environmental risks such as flooding, air pollution, and urban heat islands, reinforcing the role of sustainable urban green infrastructure in climate adaptation strategies. Additionally, the frameworks emphasise financial stability through corporate social responsibility (CSR) contributions and diversified funding mechanisms, ensuring the long-term sustainability of GOS initiatives in both cities.

Furthermore, these frameworks incorporate localised insights from government policymakers and residents, ensuring their practical applicability in both Melaka and Padang. The participatory nature of the study aligns with SDG Target 11.3, which promotes inclusive and sustainable urbanisation through participatory, integrated, and sustainable planning and management. The community participation dimension within the frameworks highlights strategies such as local engagement in decision-making, public involvement in park management, and influencer-driven environmental awareness campaigns, which foster a sense of ownership among city dwellers and encourage long-term commitment to GOS sustainability. Additionally, the frameworks address city-specific priorities, such as disaster risk management and political stability in Padang and low-carbon initiatives in Melaka, which align with SDG Target 11.5, focusing on reducing the number of deaths and people affected by disasters. The findings underscore the importance of contextualised urban sustainability strategies, demonstrating how tailored GOS policies can enhance urban resilience while balancing

economic growth, social inclusivity, and environmental preservation. Through the MEGOS-GCCF and PAGOS-GCCF frameworks, this study offers a structured, adaptable model for integrating GOS into broader urban sustainability strategies, reinforcing the global objectives of SDG 11.

5.10 Chapter Summary

This chapter discusses the overall finding of data collection from in-depth semi-structured interview and non-participant observational at two different country, Malaysia and Indonesia at selected city council and GOS that also involve informant among local government officer and resident, both as park user was found a total 26 main themes as important roles of GOS in GCCD that categorised under Three Pillars of Sustainability theory (economic, social, and environmental sustainability) follow by 11 , 14 and 8 main themes for another three dimensions, urbanisation management, financial stability and community participation with additional dimensions to focus on in GOS-GCCF based on informant feedback on GOS-GCCF Melaka and Padang formulation provided 11 themes with the total key themes generated 25 from 70 main themes, the GOC-GCCF well formulated that can be a very best guideline in policy making for both cities

CHAPTER 6
CONCLUSION AND RECOMMENDATION

6.1 Introduction

This chapter begins with the first section which is a review of the research objectives of the study followed by the second section which is a summary of the results and implications of the study. The third section is recommendations and ended with suggestions for future research.

6.2 Overall Review of the Study

The objective in this study intended is to propose a GOS-GCCF that suits with local context of Melaka City and Padang City when implementing the GOS in their city through six dimensions that needed to be focus on which is three pillars of sustainability (economic, social, and environmental sustainability), urban management, local government financial stability, and community participation towards a successful GCD.

6.3 Summary of the Results

A total of 70 themes were identified in the development of MEGOS-GCCF and PAGOS-GCCF, but only 25 themes is the key themes (Refer to Table 6.1 and Table 6.2). These themes encompass six dimensions: sustainability pillars (economic, social, and environmental), urbanisation management, local authority financial stability, and community participation. The formation of the 25 key themes was based on the frequency of the 70 total main themes repeated by informants included supported by observational study. This study provides valuable recommendations, especially for policymakers and urban planners in Melaka City and Padang City.

Table 6.1
Summary of Overall Key Theme and Main Theme Development for RO1 to RO5 Between Melaka and Padang

RO1			**RO1**			**RO1**			**RO2**			**RO3**			**RO4**			**RO5**		
ECO.S Main Theme	**M**	**P**	**SOC.S Main Theme**	**M**	**P**	**ENV.S Main Theme**	**M**	**P**	**Main Theme**	**M**	**P**	**Main Theme**	**M**	**P**	**Main Theme**	**M**	**P**	**Main Theme**	**M**	**P**
GRI	√	√	SPF	√	√	RUB	√	√	VGS	√	√	TRS	√	√	LE	√	√	SC		√
ITN	√	√	IEMH	√	√	PF	√	√	MPG	√	√	PRI	√	√	MIE	√	√	DRMPS		√
BPV	√	√	EHB	√	√	FUA	√	√	PP	√	√	CSR	√	√	DEP	√	√	CHHT		√
SLGR	√	√	EOP	√	√	SNR	√	√	FPD	√		IJV	√	√	PAA	√	√	GAT		√
AI	√		PSN	√	√	CDUT	√	√	WUP	√	√	FTA	√	√	PRO	√	√	IEFS	√	
			IRA	√		BBMP	√	√	LGS	√		DON	√	√	GKNOW	√	√	UKO	√	
			NGT	√		CON	√	√	PC	√	√	CEP	√	√	ECH	√	√	MGS	√	
			CHNR	√	√	PW	√	√	1HT	√		CBO	√	√	AP	√		CP		√
			DSP	√		RSW	√	√	1PT		√	HIF	√					CM		√
						RS	√	√	UTRP	√		EFC	√	√				PW		√
						ML	√		LAN	√		IFM	√	√				TDA		√
						WC	√					SPO	√							
												VCF	√	√						

Overall Summary of Key Theme and Main Theme Development for RO1 to RO5

| | | |

Table 6.2
Overall Summary of Key Theme and Main Theme Development for RO1 to RO5 Between Melaka and Padang

Bil.	Abbreviation	Main Theme of RO1	Melaka	Padang
		Economic Sustainability		
1	GRI	Generating Resident Income	√	√
2	ITN	Increasing Tourist Numbers	√	√
3	BPV	Boosting Property Value	√	√
4	SLGR	Strengthening Local Government Revenue	√	√
5	AI	Attracting Investors	√	X
		Social Sustainability		
6	SPF	Strengthening Physical Fitness	√	√
7	IEMH	Improving Emotional and Mental Health	√	√
8	EHB	Enriching Human Bonds	√	√
9	EOP	Encouraging Outdoor Pedagogic	√	√
10	PSN	Providing a Safe Neighbourhood	√	√
11	IRA	Increasing Residents' Awareness	√	X
12	NGT	Nurturing Green Technology	√	X
13	CHNR	Creating Human-Nature Relationship	√	√
14	DSP	Developing Strong Personality	√	X
		Environmental Sustainability		
15	RUB	Restoring Urban Biodiversity	√	√
16	PF	Preventing Flood	√	√
17	FUA	Filtering Urban Air	√	√
18	SNR	Screening and Noise Reduction	√	√
19	CDUT	Cooling Down Urban Temperature	√	√
20	BBMP	Becoming a Bird Migration Point	√	√
21	CON	Controlling Odour Nuisance	√	√
22	PW	Purifying Water	√	√
23	RSW	Resisting Strong Wind	√	√

24	RS	Remediating Soil	√	√
25	ML	Mitigating Landslide	√	X
26	WC	Water Conservation	√	X
Bil.	**Abbreviation**	**Main Theme of RO2**	**Melaka**	**Padang**
27	VGS	Vertical Green Spaces	√	√
28	MPG	Minimum Percentage of GOS	√	√
29	PP	Pocket Parks	√	√
30	FPD	Fragmentation by Population & Distance	√	X
31	WUP	Walkable Urban Parks	√	√
32	LGS	Linear Green Spaces	√	X
33	PC	Park Connectors	√	√
34	1HT	1 Home 1 Tree	√	X
35	1PT	1 Person 1 Tree	X	√
36	UTRP	Urban Tree Replacement Penalty	√	X
37	LAN	Landfill to Green Space	√	X
Bil.	**Abbreviation**	**Main Theme of RO3**	**Melaka**	**Padang**
38	TRS	Traditional Revenue Sources	√	√
39	PRI	Park Regulations & Inspections	√	√
40	CSR	Corporate Social Responsibility	√	√
41	IJV	Investments & Joint Ventures	√	√
42	FTA	Financial Transparency & Audit	√	√
43	DON	Donations	√	√
44	CEP	Commercialisation, Events & Programmes	√	√
45	CBO	Community-Based Organisations	√	√
46	HIF	Heritage & International Funding	√	X
47	EFC	Eco Fines & Charges	√	√
48	IFM	Infrastructure & Maintenance	√	√
49	SPO	Sponsorship	√	X
50	VCF	Visitor Contribution Fees	√	√

51	REU	Renewable Energy Use	√	X
Bil.	**Abbreviation**	**Main Theme of RO4**	**Melaka**	**Padang**
52	LE	Local Engagement	√	√
53	MIE	Media & Influencer Engagement	√	√
54	DEP	Diverse Events & Programs	√	√
55	PAA	Park Aesthetics & Appeal	√	√
56	PRO	Proactive Resident Representative	√	√
57	GKNOW	Green Knowledge	√	√
58	ECH	Efficient Complaint Handling	√	√
59	AP	Accessible Parks	√	X
Bil.	**Abbreviation**	**Main Theme of RO5**	**Melaka**	**Padang**
60	SC	Local and International Stakeholder Collaboration	√	√
61	DRMPS	Disaster Risk Management & Political Stability	√	√
62	CHHT	Cultural Heritage, History & Tourism	√	√
63	GAT	Green Awareness & Technologies	√	√
64	IEFS	Investor and External Funding & Support	√	√
65	UKO	Updated Knowledge among Officers	√	X
66	MGS	Multifunctional Greenspace	√	X
67	CP	Children's Preference	X	√
68	CM	Compliance Monitoring	X	√
69	PW	Political Will	X	√
70	TDA	Top-Down Approach	X	√

Note: The highlighted colour indicating the Key Theme, which is the most repeated main theme.
Source: Researcher Fieldwork (2024)

6.4 Contribution of the Study

There three types of contribution of the study as described below.

6.4.1 Theoretical Contribution

The theoretical contributions of this research are significant in broadening the existing understanding of the relationship between Green Open Spaces (GOS) and Green City Development (GCD). In addressing Research Objective 1 (RO1), this study expands the GOS-GC theory by integrating not only social benefits but also economic and environmental benefits into the framework. This comprehensive approach builds upon previous studies, such as those by Chiesura (2004), emphasizing that GOS serves as a multifaceted tool for sustainable urban development (SUD). Furthermore, the development of the GOS-GCCF provides a robust theoretical model that synthesizes these diverse benefits, thereby addressing Research Objective 5 (RO5). By demonstrating how various sustainability pillars interact within the context of GOS, this framework enhances theoretical discourse and offers future researchers a comprehensive foundation for analyzing the impacts of green spaces on urban sustainability. The theoretical advancements presented in this study not only contribute to the academic literature but also provide a basis for understanding how GOS can be strategically utilized to achieve Green City status in various urban contexts.

6.4.2 Empirical Contribution

The empirical contributions of this study provide valuable insights into urban sustainability, particularly in the context of Malaysia and Indonesia. Through RO2, this study reveals new data demonstrating that population size does not necessarily affect GC performance. Instead, it shows that urban green areas can thrive in high-density settings when supported by effective governance and management, which corroborates the findings of Brilhante & Klaas (2018). Furthermore, through RO3, the research highlights the financial challenges faced in financing SUD projects in developing countries. It emphasizes the limited financial diversification and the varied impacts of financial development on sustainability, echoing the challenges identified by Houda & Lamia (2016) and Mohd & Kaushal (2018). Additionally, the study expands the

understanding of community participation in SUD by incorporating diverse perspectives, which leads to more comprehensive and generalizable findings in alignment with RO4. This contribution builds on previous studies, such as those by Bednarska-Olejniczak et al. (2019), and enriches the empirical base for future urban sustainability research.

6.4.3 Methodological Contribution

The methodology contribution of this research addresses a significant gap in the existing literature by overcoming the limitations of prior studies that have predominantly focused on single-country contexts. By employing a cross-country comparative framework, this study showcases how GOS implementation varies between Malaysia and Indonesia, as highlighted in RO5. This approach provides fresh insights into the influence of different national contexts on urban sustainability practices. Furthermore, the novelty of this comparative methodology enhances the generalizability of the findings, revealing how the effectiveness of GOS policies varies across different socio-economic and governance conditions. This methodological contribution allows the results to be applicable not only to Malaysia and Indonesia but also to other cities in developing regions facing similar sustainability challenges.

6.4.4 Contextual Contribution

The contextual contributions of this study address the unique challenges and opportunities faced by Malaysia and Indonesia in implementing GOS for GCD. Through RO1 to RO5, the research provides significant insights into how local governance, socio-economic conditions, and environmental factors influence GOS implementation in these countries. By analyzing the specific contexts of Melaka and Padang, this study fills a contextual gap in the literature, demonstrating the importance of understanding local dynamics in achieving successful sustainable urbanization. The findings underscore how effective local governance practices, resource availability, and public engagement play crucial roles in shaping the outcomes of GOS projects in distinct urban settings. This contextual understanding enhances the applicability of GOS strategies for other nations with similar socio-political dynamics and offers

valuable insights for policymakers aiming to adapt GC frameworks to their specific contexts.

6.4.5 Practical Contribution

The practical contributions of this study are particularly relevant to policymakers and urban planners. Through RO5, the research presents the formation of the Melaka City Green Open Space-Green City Conceptual Framework (MEGOS-GCCF) and the Padang City Green Open Space-Green City Conceptual Framework (PAGOS-GCCF). These frameworks provide actionable insights and recommendations that can be directly implemented to improve GOS strategies in diverse urban environments. The comparative analysis between Melaka and Padang offers practical strategies for enhancing GOS implementation by identifying best practices that align with local socio-economic and environmental conditions. Furthermore, the study emphasizes the importance of public participation and financial innovation in supporting sustainable urban development, providing concrete recommendations for local governments to overcome financial and logistical barriers in achieving GC status. These practical contributions are designed to inform real-world policymaking and urban management practices, ultimately enhancing the effectiveness of GOS initiatives in promoting sustainability.

6.5 Implications to the Local Government Policy and Practice

The study findings have significant implications for both the Melaka Historic City Council (MBMB) and Padang local government (PLG) in their efforts to integrate green open space (GOS) into green city development (GCD). In both cities, the role of local governments is crucial in shaping urban sustainability through well-planned and effectively managed GOS.

For MBMB, the study indicates that a more structured and comprehensive approach to GOS management could enhance Melaka's role as a heritage city that balances economic growth with sustainability. GOS in Melaka has the potential to attract tourists while simultaneously preserving the city's environmental and social fabric. PLG, on the other hand, faces challenges related to urban sprawl and population growth. Here, the findings suggest that PLG must prioritize GOS in its urban

development strategies to mitigate environmental degradation and ensure that its rapid development does not compromise sustainability.

Both local governments must develop policies that integrate GOS management with broader sustainability goals. A clear framework that coordinates the efforts of local government bodies, NGOs, the private sector, and educational institutions will foster collaborative action towards more sustainable urban environments in both Melaka and Padang.

6.5.1 Implication from Economic Sustainability Aspect

In terms of economic sustainability, GOS can serve different roles in Melaka and Padang. For MBMB, the study highlights that GOS can significantly boost the local economy by enhancing Melaka's attractiveness as a tourist destination. Green spaces such as parks and waterfronts provide ideal locations for hosting cultural events, which, in turn, support local businesses, create job opportunities, and attract international visitors. This makes GOS a valuable asset for driving tourism and economic growth in Melaka.

For PLG, the focus is on leveraging GOS to support local industries and small businesses. The findings suggest that GOS in Padang can stimulate the local economy by providing spaces for informal markets, recreational activities, and community events that encourage entrepreneurship. In both cities, local governments should implement policies that recognize the economic value of GOS, supporting tourism and local business initiatives while ensuring long-term financial sustainability.

6.5.2 Implication from Social Sustainability Aspect

From a social sustainability perspective, the study reveals that GOS in both Melaka and Padang play a crucial role in enhancing community well-being. In Melaka, the preservation and development of GOS in heritage sites provide residents with spaces for cultural and social activities, promoting a sense of pride and identity. MBMB can capitalize on this by ensuring that GOS is not only well-maintained but also accessible to all demographic groups, fostering a more inclusive society.

In Padang, where urban development is rapidly expanding, GOS serves as a vital social space for physical activity, community engagement, and mental well-being. The

study suggests that PLG should focus on increasing the availability of GOS in densely populated areas, ensuring that these spaces are equitably distributed across the city. By doing so, both MBMB and PLG can use GOS to strengthen social cohesion and promote healthier lifestyles among residents.

6.5.3 Implication from Environmental Sustainability Aspect

Regarding environmental sustainability, the study identifies the importance of GOS in addressing environmental challenges in both Melaka and Padang. In Melaka, GOS can help mitigate the effects of urban heat islands and contribute to the city's efforts to preserve its unique biodiversity, especially in areas surrounding its heritage sites. MBMB should develop policies that integrate GOS with broader environmental conservation efforts, using green spaces to enhance the ecological resilience of the city.

In Padang, where rapid urbanization threatens natural habitats, GOS is critical for maintaining biodiversity and improving air quality. The study suggests that PLG must prioritize the creation and protection of green corridors that connect urban and rural areas, supporting wildlife and reducing the environmental impact of urban development. Both local governments can use these findings to develop environmentally focused policies that ensure GOS serves as a tool for long-term ecological sustainability.

6.5.4 Implication from the Strategies to Manage Green Open Space in Current Urbanisation Conditions

The study findings indicate that urbanisation poses a significant challenge for GOS management in both Melaka and Padang. In Melaka, where heritage preservation must coexist with modern development, MBMB needs to adopt strategies that ensure GOS is preserved and expanded despite increasing urban density. The study suggests integrating GOS into urban planning processes early on to protect these spaces from being overshadowed by commercial and residential developments.

In Padang, where rapid urbanization has led to environmental degradation, PLG must implement strategies that prioritize GOS as part of urban regeneration projects. The findings suggest that GOS management must include protecting natural ecosystems and integrating green spaces into urban infrastructure. Both local governments must

address urbanization challenges by developing adaptive management strategies that ensure GOS remains a core element of their cities' sustainable growth.

6.5.5 Implication from the Strategies to Increase Local Government Financial Stability in Financing Green Open Space Implementation Towards Green City Concept Development

The financial sustainability of GOS projects is a major concern for both MBMB and PLG. The study findings highlight that both cities face budget constraints that hinder the effective implementation and maintenance of GOS. In Melaka, MBMB can explore public-private partnerships and eco-tourism as revenue-generating opportunities to finance GOS projects. This will reduce the financial burden on the local government while promoting economic activities linked to green spaces.

In Padang, the local government must consider innovative financial strategies, such as community-based funding and collaborations with NGOs. The findings suggest that involving local businesses and international organizations in GOS financing could increase financial stability. By enhancing their financial strategies, both MBMB and PLG can ensure long-term sustainability for GOS projects, contributing to the overall success of their green city development plans.

6.5.6 Implication from the Strategies to Enhance Community Participation in Green Open Space Implementation

The study findings show that community participation is crucial for the success of green open space (GOS) projects in both Melaka and Padang. In Melaka, the MBMB has adopted various outreach programs to encourage local residents and businesses to take an active role in maintaining and utilizing GOS. However, the study highlights that further engagement is needed, particularly in fostering a sense of ownership among residents. By enhancing participation through public awareness campaigns, community-driven events, and partnerships with local NGOs, MBMB can ensure long-term sustainability and care for GOS areas.

In Padang, PLG has faced challenges in securing consistent community involvement in GOS initiatives. The study suggests that a more grassroots approach, involving local community leaders and residents in the planning stages, could

significantly boost participation. Both cities need to implement strategies that foster greater community involvement from the ground up, ensuring that GOS spaces are not only implemented but are actively used and cared for by local populations.

6.5.7 Implication from the Formulation of Melaka Green Open Space-Green City Conceptual Framework (MEGOS-GCCF) and Padang Green Open Space-Green City Conceptual Framework (PAGOS-GCCF)

The development of the Melaka Green Open Space-Green City Conceptual Framework (MEGOS-GCCF) and Padang Green Open Space-Green City Conceptual Framework (PAGOS-GCCF) has significant implications for both cities. The study shows that the frameworks offer a structured approach to integrating green open spaces into the overall urban development strategies of each city. In Melaka, the formulation of MEGOS-GCCF helps MBMB align its heritage conservation efforts with modern sustainable practices, ensuring that green spaces play a key role in preserving the city's environmental and cultural heritage.

In Padang, the PAGOS-GCCF framework provides a clear strategy for addressing environmental degradation and promoting resilience against natural disasters. The study findings suggest that by incorporating GOS as a central component of urban planning, PLG can enhance the city's environmental sustainability and improve the quality of life for its residents. Both frameworks serve as vital tools for their respective local governments, offering a comprehensive roadmap for achieving green city development goals.

6.6 Limitation of the Study

This study acknowledges several limitations that may impact the generalizability of its findings. Further research is recommended to address these limitations, which include contextual, temporal, theoretical, and methodological constraints.

6.6.1 Contextual Limitations

The study focuses on two cities from different countries, Malaysia and Indonesia, which are part of the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) Green City project. The local governments selected for the study were limited to the Melaka Historic City Council (MBMB) in Malaysia and the Padang Local Government (PLG) in Indonesia. Observational data were gathered from only four green open spaces (GOS), two from each city: Bunga Merdeka Park and Bukit Serindit Recreational Park in Melaka, and Nanggalo Park and RTH Imam Bonjol Park in Padang. This limited geographical and institutional scope may affect the broader applicability of the results.

6.6.2 Temporal Limitations

The study's temporal scope was constrained by selecting key informants with a minimum of two-three years of residency or involvement in local governance, particularly among local government officers (policymakers) and residents (park users). While this criterion ensured that participants had sufficient experience with the green open spaces, it may have excluded more recent perspectives, potentially limiting insights into newer policies or community engagement practices.

6.6.3 Theory Limitations

The study draws upon several theoretical frameworks, including the Urban Parks and City Sustainability Theory (Chiesura, 2004), the Three Pillars of Sustainability Theory (Barbier, 1987), the Sustainable Urbanization Index Theory (Zhong et al., 2020), the Sustainable Finance and Sustainable Development Goals Theory (Ziolo et al., 2021), and the Participatory Theory (Bednarska-Olejniczak et al., 2019). These theories collectively frame the determinants for the implementation of GOS in green city and community development (GCCD). However, the reliance on these specific frameworks may overlook other relevant theories that could provide additional insights, such as alternative urbanization models or local governance theories.

6.6.4 Methodology Limitations

The methodological design of this research was constrained to cross-country comparative case studies using an embedded multi-case study approach. The qualitative data collection was limited to semi-structured interviews and direct non-participant observation in a covert mode with structured observation protocols. While these methods provided in-depth qualitative insights, they may have missed some dynamics observable through participatory methods or more longitudinal, quantitative approaches. Moreover, the structured nature of the observation may have limited the flexibility to capture unexpected behaviours or environmental conditions in the green open spaces.

6.7 Recommendations from the Study

This study offers several recommendations aimed at enhancing the implementation of green open spaces (GOS) toward advancing green city development (GCD) in both Melaka City and Padang City. These recommendations consider the unique characteristics of each city and provide a comprehensive approach to policy, theoretical and practical frameworks, industry collaboration, and artificial intelligence (AI) integration.

6.7.1 Policy

In terms of policy and legislative strengthening, Melaka and Padang require distinct approaches due to their differing characteristics. Melaka City, as a UNESCO World Heritage Site, must prioritize the integration of green open spaces with heritage conservation. This can be achieved through the strengthening of existing green heritage management policies by focusing on the implementation of the Green Heritage Conservation Act. Such legislation should ensure that green spaces in heritage zones are preserved without compromising the historical value of the city. Furthermore, the local government in Melaka should consider the introduction of conservation incentive programs, which would encourage both public and private stakeholders to actively participate in the preservation and enhancement of green spaces within historically significant areas.

On the other hand, Padang, which lies in a high-risk zone for natural disasters like earthquakes and tsunamis, requires a different policy approach. The Padang local government should prioritize the development of green buffer zones, which could help mitigate the impact of such disasters. These green buffer zones should be strategically placed along coastal areas and other vulnerable regions to serve as protective barriers. Additionally, the integration of disaster mitigation strategies into the design of green open spaces is essential. This would involve designing green spaces not only for recreation but also for emergency evacuation and disaster response, providing pathways, shelters, and other features that contribute to the city's overall resilience.

6.7.2 Theoretical and Practical Approaches

In the context of Melaka City, the study recommends the application of New Urbanism Theory, which emphasizes walkable, community-focused neighbourhoods that blend green spaces with the urban environment. This theory can be particularly useful in Melaka by promoting the development of green spaces that enhance both the natural and historical elements of the city. For example, heritage parks could be developed that integrate historical landmarks with lush greenery, creating spaces that not only preserve Melaka's rich cultural legacy but also promote public health and community interaction. Such spaces would not only cater to locals but could also become attractions for eco-tourists. In addition, public-private partnerships (PPP) could be leveraged to maintain these heritage parks, where private entities are incentivized to participate in the conservation of green spaces, particularly those that align with the city's heritage conservation objectives.

In Padang, the study recommends the adoption of the Theory of Ecological Urbanism, which advocates for urban planning that prioritizes sustainability and resilience by placing ecosystems at the centre of development efforts. Given Padang's vulnerability to natural disasters, this theory is particularly relevant. Green open spaces in Padang should be designed with disaster resilience in mind, functioning as dual-purpose areas that provide ecological benefits and serve as disaster response zones. For example, disaster buffer parks could be developed with elevated landscapes to mitigate flooding and native vegetation to prevent soil erosion. These parks would not only offer recreational opportunities but also serve as critical infrastructure in times of disaster. Furthermore, community engagement programs could be developed to involve residents

in the upkeep and disaster readiness of these spaces, ensuring that they remain functional and resilient in the face of future natural hazards.

6.7.3 Industry Collaboration

The collaboration between local governments and industries plays a crucial role in the successful implementation of GOS. In Melaka City, the tourism and heritage industries should be actively involved in green city development. Local authorities can work closely with tourism industry players to promote eco-tourism, highlighting the city's green spaces and historical sites as key attractions. For instance, eco-friendly tourism packages could be developed, featuring walking and cycling tours that connect green corridors with heritage landmarks. These green tourism initiatives would not only contribute to the city's economy but also raise awareness about the importance of preserving both natural and historical assets.

In contrast, Padang should focus on fostering partnerships with local industries to promote environmentally sustainable practices. Encouraging industries to adopt green practices, such as reducing emissions, conserving energy, and minimizing waste, is crucial for advancing GCD in the city. Additionally, local businesses could be incentivized to contribute to the development of green open spaces. For example, through Corporate Social Responsibility (CSR) programs, industries could fund the creation or maintenance of community parks, green spaces within industrial zones, or eco-friendly infrastructure that benefits both the environment and the city's inhabitants. Such collaboration between government and industry would reinforce Padang's commitment to environmental sustainability and disaster resilience.

6.7.4 Artificial Intelligence (AI) Integration

The use of artificial intelligence (AI) presents new opportunities for optimizing the management and development of GOS in both cities. In Melaka, AI can be harnessed to enhance the city's tourism and heritage-based green space management. For instance, AI-powered visitor management systems could be employed to regulate the flow of tourists in parks and heritage areas, ensuring that these spaces do not become overcrowded, and that their natural and historical integrity is maintained. Additionally, AI-guided tourism promotions could offer personalized experiences for visitors,

recommending green and historical sites based on their preferences and helping to distribute tourist traffic more evenly across the city's green spaces.

In Padang, AI could play a pivotal role in enhancing disaster resilience through the management of green open spaces. AI systems could be used for disaster risk monitoring, allowing the local government to integrate real-time data on weather patterns, seismic activity, and other indicators into their disaster preparedness strategies. This would ensure that green spaces are ready to serve as evacuation zones when necessary. Furthermore, AI-based smart watering systems could be implemented to conserve water resources while maintaining the health of green spaces, particularly in the face of climate change and resource scarcity. Additionally, AI-powered Geographical Information Systems (GIS) could be utilized to map risk zones and identify optimal locations for new green spaces, ensuring that these areas provide maximum benefit in terms of both ecological function and disaster mitigation.

6.8 Policy Recommendations for Advancing SDG 11

This study reinforces its alignment with SDG 11: Sustainable Cities and Communities by providing practical strategies and frameworks to enhance Green Open Space (GOS) implementation in urban settings. The conclusion highlights how effective GOS planning and management contribute to sustainable urbanisation, inclusive city development, and environmental resilience, which are key components of SDG 11 objectives. The policy recommendations derived from the study focus on three core areas: (1) Enhancing urban management strategies to adapt to rapid urbanisation and climate challenges (Target 11.3), (2) Strengthening financial stability to ensure long-term sustainability of GOS maintenance (Target 11.a), and (3) Promoting community participation to foster inclusive, accessible, and community-driven urban green spaces (Target 11.7). By addressing these key areas, the study ensures that GOS implementation is integrated into broader urban sustainability strategies, facilitating a balanced approach between economic development, environmental preservation, and social well-being.

The proposed GOS-GCCF frameworks (MEGOS-GCCF and PAGOS-GCCF) serve as blueprints for cities striving to achieve SDG 11 by offering scalable and adaptable solutions that can be replicated in other urban contexts worldwide. These frameworks provide evidence-based strategies for improving urban resilience,

strengthening governance mechanisms, and fostering partnerships that align with SDG 11 targets. The findings underscore the importance of GOS as a critical urban infrastructure that supports green economy initiatives, climate adaptation measures, and public health improvements. The summary of SDG 11 alignment across key study dimensions is presented in Table 0.0, demonstrating how each dimension contributes to specific SDG 11 targets and supports broader sustainable urbanisation goals.

Table 6.3
Summary of SDG 11 Alignment Across Dimensions on Relationship Between Green Open Space (GOS) and Green City Concept Development (GCCD)

Dimension	**SDG 11 Target Alignment**	**Key Finding**
Economic Sustainability (Roles)	Target 11.a: Promoting economic growth through sustainable urbanisation.	GOS generates resident income, increases tourist numbers, and boosts property value, contributing to local economic resilience.
Social Sustainability (Roles)	Target 11.7: Ensuring accessible and inclusive public spaces.	GOS strengthens physical fitness, improves emotional and mental health, enriches human bonds, encourages outdoor pedagogic activities, and provides a safe neighbourhood.
Environmental Sustainability (Roles)	Target 11.6: Focusing on reducing environmental impacts in cities.	GOS restores urban biodiversity, prevents flooding, filters urban air, reduces noise pollution, and cools down urban temperatures.
Urbanisation Management (Strategies)	Target 11.3: Promoting integrated urban planning to manage rapid urbanisation.	Vertical green spaces, minimum percentage of GOS, and pocket parks are effective strategies in dense urban areas.
Financial Stability (Strategies)	Target 11.a: Fostering partnerships to ensure sustainable urban development.	Corporate social responsibility (CSR) contributions, corporate donations, and adopt-a-park programmes enhance local government financial stability.
Community Participation (Strategies)	Target 11.3: Ensuring an inclusive decision-making process in urban planning.	Local engagement strategies, including public involvement in government projects, community-based organisations, and influencer engagement, are effective ways to encourage public participation in GOS implementation towards GCD.

Source: Researcher Fieldwork (2024)

Throughout this study, GOS implementation has been identified as a vital mechanism for advancing SDG 11 objectives. By integrating economic, social, and environmental sustainability dimensions with urban governance, financial stability, and community participation, the study provides a comprehensive approach to sustainable city planning. The findings and recommendations offer actionable insights for policymakers, urban planners, and local governments to strengthen their urban sustainability strategies in alignment with global sustainability goals. Moreover, the study emphasises the role of inclusive decision-making and participatory governance in ensuring long-term success in GOS implementation, reinforcing the necessity of collaborative urban planning approaches. The insights derived from this research contribute significantly to enhancing urban resilience, reducing environmental impacts, and fostering inclusive and liveable cities, ensuring that future urban development aligns with the broader aspirations of SDG 11 and global sustainability frameworks.

6.9 Suggestions for Future Studies

Future research could benefit from expanding on several aspects that were either beyond the scope of this study or could provide deeper insights into GCD and GOS implementation.

6.9.1 Include Thailand in Cross-Country Comparative Studies

This study focused solely on Malaysia and Indonesia. Future research should consider including Thailand, a member of the Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT), which is working toward achieving 40 green cities by 2036. Expanding the geographical scope to Thailand will offer a more comprehensive understanding of how IMT-GT countries collaborate on sustainable urban development, particularly in relation to GOS initiatives.

6.9.2 Compare Policies Across Multiple Local Governments

This study involved only the local governments of Melaka (Malaysia) and Padang (Indonesia). Future studies could benefit from comparing GOS policies across a wider range of local governments to evaluate and analyse the unique policy

frameworks that different city administrations adopt. This could provide insights into governance models, resource distribution, and environmental challenges faced by cities of varying sizes and administrative structures.

6.9.3 Selection of Key Informants with More than 10 Years of Residency

This study selected key informants who had resided in Melaka or Padang for at least two years. Future research may consider increasing the residency requirement to ten years or more to ensure that participants have a deeper familiarity with long-term urban development and GOS policies. This approach could lead to richer data, reflecting more nuanced perspectives on the evolution of green spaces within these cities.

6.9.4 Incorporate Smart Growth Theory

While this study primarily examined the role of GOS through the lens of sustainability, future research could incorporate the Smart Growth Theory, which promotes compact, walkable urban areas with integrated green spaces. Applying this framework could offer additional insights into how GOS contributes to reducing urban sprawl and enhancing equitable access to green areas.

6.9.5 Incorporate Ecosystem Services Theory

Future studies could benefit from utilizing the Ecosystem Services Theory, which emphasizes the preservation of green spaces for both human and environmental well-being. By framing GOS within this theoretical perspective, researchers can explore the specific ecological benefits of urban green spaces, such as biodiversity conservation, climate regulation, and improved mental health for urban populations.

6.9.6 Exploring Additional Variables

This study focused on specific variables related to GOS and GCD. Future research could explore additional variables such as climate resilience, public health impacts, and social inclusivity. Investigating these factors could lead to a more

comprehensive understanding of the broader role that GOS plays in promoting sustainable urban development.

6.9.7 Considering Mixed-Methods Approaches

While this study primarily employed qualitative methods, future research could adopt a mixed-methods approach, combining both qualitative and quantitative data. Integrating qualitative interviews with quantitative data such as spatial analysis, demographic statistics, or environmental indicators could provide a more holistic understanding of GOS's contribution to urban sustainability.

6.9.8 Incorporating Longitudinal Studies

Future research may consider a longitudinal approach to study the long-term impact of GOS policies on green city development. This would provide insights into how effective policies are over time in promoting environmental, economic, and social sustainability. It would also allow researchers to track the success and challenges in implementing these policies across different phases of urban growth.

6.9.9 Incorporate Audio-Visual Data for Public Feedback

To gain a broader understanding of public perceptions of GOS, future studies could incorporate audio-visual data such as user-generated content from platforms like Google Reviews or social media. This approach would allow researchers to analyse real-time feedback from park users, helping to identify which aspects of GOS contribute most significantly to green city development from the public’s perspective.

6.10 Conclusion Based on the Hypotheses

Overall, this study supports all hypotheses, (Hypothesis 1) A sound understanding of GOS important roles increases GCCD efficiency, (Hypothesis 2) Well-structured of urbanization management based on current city urbanization improves GOS towards GCCD, (Hypothesis 3) Stable financial leads to total urban greenery through GOS implementation for GCCD, and (Hypothesis 4) High community

participation in the LG decision process improves GOS implementation efficiency towards GCCD. However, this study found that having financial stability is the main key in ensuring high efficiency in the implementation of GOS towards GCD, especially how it is managed efficiently and effectively which depends on the extent to which government officials are sincere and sophisticated systems are used to monitor their every behaviour. Therefore, MBMB and PLG can work together at the local or international level to improve the quality of their financial management and systems.

6.11 Conclusion

This study has formulated a comprehensive framework as a strategic model for implementing Green Open Space (GOS) to guide the local governments of Melaka City, through the Melaka Historic City Council (MBMB), and Padang City, through the Padang Local Government (PLG). The framework clarifies the critical role of GOS in Green City Development (GCD), aligning it with the Three Pillars of Sustainability: economic, social, and environmental. The two frameworks, named the Melaka City Green Open Space-Green City Conceptual Framework (MEGOS-GCCF) and the Padang City Green Open Space-Green City Conceptual Framework (PAGOS-GCCF), reflect the contextual needs and urban conditions of their respective cities. These frameworks break down the key dimensions necessary for the successful achievement of Green City status, based on the outcomes of five research objectives.

The formulated frameworks provide a pathway for local governments to strategically implement GOS, ensuring that green spaces are tailored to each city's context and designed to support sustainable urban development. Four critical dimensions emerged from the research. Firstly, the study emphasized the important roles of GOS in promoting economic, social, and environmental benefits. For example, GOS contributes to generating local income, improving community well-being, and restoring urban biodiversity. Secondly, strategies for managing GOS need to be responsive to urbanization trends, ensuring that GOS remains viable despite rapid city expansion. Thirdly, the study highlighted the need for local governments to implement financial strategies that enhance the stability of GOS projects. Lastly, increasing community participation in GOS planning and management is essential for fostering local ownership and ensuring long-term success.

The findings contribute to the theoretical understanding of Green City Development by introducing the Green Open Space-Green City Conceptual Framework (GOS-GCCF). This framework integrates the Three Pillars of Sustainability into urban planning and GOS management, offering a new theoretical perspective on urban sustainability. It extends existing theories by harmonizing the economic, social, and environmental roles of GOS in promoting Green City goals. This theoretical contribution adds depth to the current literature by showing how GOS can act as a vehicle for sustainable urban development, providing both a holistic view and a specific strategic framework for local governments.

In practical terms, this study offers actionable recommendations for policymakers in Melaka and Padang. The frameworks serve as a guide for implementing GOS initiatives that respond to the unique urban challenges of each city. By aligning GOS strategies with the demands of urbanization, local governments can prioritize their resources more effectively and develop GOS that contribute to long-term urban sustainability. The frameworks also offer financial strategies to improve local government stability through GOS-related initiatives and suggest ways to boost community engagement, making GCD both feasible and sustainable.

This research underscores the importance of contextualizing GOS implementation within the specific urban conditions of Melaka and Padang. While the broad principles of GOS management are applicable across cities, the study demonstrates that each locality requires a customized approach. The Melaka City and Padang City frameworks provide context-specific strategies that take into account the economic, social, and environmental particularities of each city. By doing so, the study contributes to the growing body of research that advocates for localized solutions in the field of urban sustainability.

Despite its contributions, the study acknowledges several limitations. Firstly, the research focuses on two specific cities, limiting the generalizability of the findings to other urban contexts. Although the frameworks provide valuable insights for Melaka and Padang, further research is needed to assess their applicability elsewhere. Secondly, the study's qualitative approach, while providing a deep exploration of the issues, could be complemented by quantitative data to further validate the formulated frameworks. Additionally, the study primarily involved policymakers and residents as participants, and the inclusion of other stakeholders, such as private developers, could have offered additional perspectives. Lastly, the study lacks long-term data on GOS performance,

which limits the ability to predict the long-term impacts of the founded strategies on Green City Development.

Based on the findings, several recommendations are made for both cities. First, local governments are advised to integrate the GOS strategies into their broader urban development plans, ensuring that GOS occupies a central role in future city planning initiatives. Second, the governments should explore partnerships with the private sector to enhance the resources and expertise available for GOS development. Third, financial innovation is necessary to sustain GOS projects, with local governments encouraged to explore mechanisms such as public-private partnerships, green taxes, and tourism revenue linked to GOS. Lastly, the study strongly recommends involving residents in the GOS planning process, fostering a sense of ownership and encouraging community-led initiatives to support GOS implementation and management.

Future research could expand upon the findings in several ways. One avenue is to conduct similar studies in other cities, both within and beyond Malaysia and Indonesia, to assess the applicability of the GOS-GCCF frameworks in different cultural, political, and economic contexts. Additionally, future research could benefit from incorporating mixed methods, combining qualitative and quantitative approaches to provide a more robust understanding of the relationship between GOS and Green City Development. For example, quantifying the economic, social, and environmental impacts of GOS could offer further insights. Furthermore, there is potential to explore how technological tools, such as Geographic Information Systems (GIS) and artificial intelligence (AI), can be leveraged to optimize GOS planning and management. Longitudinal studies are also recommended to monitor the long-term effects of the founded GOS strategies on urban sustainability. Finally, future research could explore additional variables, such as climate resilience, tourism potential, and public health impacts, which may influence the effectiveness of GOS in achieving Green City goals.

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APPENDICES

APPENDIX 1

Letter of Appoinment as an Expert to Validate the Research Instrument

www.uitm.edu.my

UNIVERSITI TEKNOLOGI MARA | Fakulti Sains Pentadbiran dan Pengajian Polisi

Our Ref : 500-FSPPP(PT.23/4/1)
Date : 16 January 2023

Dr Marni Hj. Ghazali
Senior Lecturer
Faculty of Administrative Science and Policy Studies
Universiti Teknologi MARA (UiTM)
Cawangan Negeri Sembilan
Kampus Seremban 3
Persiaran Seremban Tiga 1, Seremban 3
70300 Seremban, NEGERI SEMBILAN

Dr,

APPOINMENT AS AN EXPERT TO VALIDATE THE RESEARCH INSTRUMENT

The above matter refers.

Name	:	**Nabilaa Binti Mohamed**
Student ID	:	**2020741323 (AM990)**
Research Area	:	**Administrative Science**
Research Title	:	**Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments**
Supervisors	:	**1) Dr Thenmolli A/P Vadeveloo** **2) Dr Zarina Binti Mohd Zain** **3) Dr Roni Ekha Putera**

We are pleased to appoint you as the expert to validate the research instrument for the above-mentioned researcher. Your expertise is highly valuable to ensure the validity and quality of the research instrument.

Attached herewith, please find the related documents for your kind perusal.

Please contact the researcher at 0182174418 or email at nabilaamohamed@gmail.com should there be any further clarification needed.

Your assistance and cooperation on this matter are highly appreciated.

Thank you.

Yours faithfully,

DR. ASIYAH KASSIM
Head of Postgraduate Studies

cc. 1) Main Supervisor, Dr Thenmolli A/P Vadeveloo
2) Researcher, Nabilaa Binti Mohamed
3) KPPS File, FSPPP

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UiTM di hatiku

APPENDIX 2

Approval Letter – UiTM Research Ethics Committee

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UNIVERSITI TEKNOLOGI MARA

Pejabat
Timbalan Naib Canselor
(Penyelidikan dan Inovasi)

Reference : 600-TNCPI (5/1/6)
Our reference : REC/02/2023 (PG/MR/39)
Date : 7 February 2023

Dr Thenmolli a/p Vadeveloo
(Nabilaa binti Mohamed – 2020741323)
Faculty of Administrative Science & Policy Studies
Universiti Teknologi MARA
40450 Shah Alam
SELANGOR

Dear Dr Thenmolli,

APPROVAL LETTER - UiTM RESEARCH ETHICS COMMITTEE

Thank you for submitting your research proposal to the Research Ethics Committee (REC). After considering your application, the Committee approved your proposal titled "Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments" in Melaka, Shah Alam, Padang, Indonesia and Green Open Space (GOS) (Taman Bukit Serindit, Taman Bunga Merdeka, RTH Imam Bonjol, Taman Nanggalo, Taman Tasik Shah Alam Sek. 14 and Sek.7)

Details of the approval are as follows:

Ref. number:	REC/02/2023 (PG/MR/39)
Approval Period:	7 February 2023 until 25 August 2023
Authorised personnel:	1. Dr Thenmolli a/p Vadeveloo 2. Nabilaa binti Mohamed 3. Dr Zarina binti Mohd Zain 4. Dr Roni Ekha Putera

The UiTM Research Ethics Committee operates in accordance to the ICH Good Clinical Practice Guidelines, Malaysian Good Clinical Practice Guidelines and the Declaration of Helsinki. The approval of this project is conditional upon your continuing compliance with these guidelines and declaration.

We draw to your attention the requirement that a report on this research, must be submitted every 12 months from the date of the approval or on the completion of the project, whichever occurs first. Failure to submit reports will result in withdrawal of consent for the project to proceed. Amendments, if any, to the study documents are to be submitted to the REC for approval.

If you require further information, please contact the REC Secretariat at 03-55448069/03-55442794 or email at recsecretariat@uitm.edu.my.

Yours sincerely,

EMERITUS PROFESSOR DATO' DR RAYMOND AZMAN ALI
Chairman
UiTM Research Ethics Committee

c.c.: Dean, Faculty of Administrative Science & Policy Studies, UiTM

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APPENDIX 3

Letter of Application to Authorize Data Collection for the Purpose of Research Study (Doctor of Philosophy Programme)

www.uitm.edu.my

UNIVERSITI TEKNOLOGI MARA | Fakulti Sains Pentadbiran dan Pengajian Polisi

Our Ref : 100-FSPPP (PT. 30/7)
Date : 9th February 2023

TO WHOM IT MAY CONCERN

Dear Sir,

APPLICATION TO AUTHORIZE DATA COLLECTION FOR THE PURPOSE OF RESEARCH STUDY (DOCTOR OF PHILOSOPHY PROGRAMME)

This is to confirm that Nabilaa binti Mohamed with an ID: 2020741323 is a postgraduate student from Doctor of Philosophy (Administrative Science), Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA, Malaysia.

In partial of the requirements for the above Master's Degree, the student needs to complete the dissertation titled **"Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments"**. All information given will be treated in the strictest confidence and will be used for academic purposes only.

Your cooperation in authorizing the above student's request to gather the required data at your esteemed organization is highly appreciated.

Thank you.

Yours faithfully,

DR. ASIYAH KASSIM
Head of Graduate Studies

Fakulti Sains Pentadbiran dan Pengajian Polisi
Universiti Teknologi MARA
Cawangan Negeri Sembilan
Kampus Seremban
Persiaran Seremban Tiga/1, Seremban 3
70300 Seremban, Negeri Sembilan, MALAYSIA

APPENDIX 4

Letter of Research Permit



BRIN

DIREKTORAT TATA KELOLA PERIZINAN RISET DAN INOVASI DAN OTORITAS ILMIAH
Gedung B.J. Habibie, Jalan M.H. Thamrin No. 8, Jakarta Pusat 10340
Telp: 081110646768 Surel: deputi.fr@brin.go.id Laman: https://brin.go.id/

SURAT IZIN PENELITIAN
(LETTER OF RESEARCH PERMIT)
Nomor : 204/SIP/IV/FR/4/2023

Badan Riset dan Inovasi Nasional dengan ini memberikan izin untuk melakukan penelitian kepada:
(National Research and Innovation Agency hereby granted permission to):

Nama *(Name)*	:	**Ms. Nabilaa binti Mohamed**
Tempat dan tanggal lahir *(Place and date of birth)*	:	Johor Bahru, 30 May 1991
Warga Negara *(Nationality)*	:	Malaysia
Jabatan *(Position)*	:	PhD Candidate
Institusi *(Institution)*	:	Faculty Administrative Science and Policy Studies (FSPPP), Universiti Teknologi MARA (UiTM)
Nomor Paspor *(Paspport no.)*	:	
Judul Penelitian *(Research Title)*	:	*"Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments"*
Bidang Penelitian *(Field of Research)*	:	Kebijakan Publik
Lama Penelitian *(Research Duration)*	:	6 (enam) bulan, mulai 1 Mei 2023 s.d. 31 Oktober 2023 *(month, starting from)*
Daerah Penelitian *(Research Location)*	:	Sumatera Barat (Kota Padang)
Mitra Kerja *(Counterpart)*	:	Fakutas Ilmu Sosial dan Ilmu Politik (FISIP), Universitas Andalas (Dr. Roni Ekha Putera, M.PA)

dengan ketentuan sebagai berikut *(with the following norms as stated in the following)* :

1. Melaporkan kedatangan dan maksud penelitiannya kepada pemerintah daerah, instansi keamanan setempat serta instansi pemerintah terkait lainnya dengan menunjukan Surat Izin Penelitian ini, segera setelah ia tiba ditempat tujuannya. Peneliti asing juga harus melaporkan diri sebelum meninggalkan daerah penelitiannya kepada Pemerintah Daerah, Mitra Kerja di Indonesia, instansi keamanan dan instansi pemerintah terkait lainnya.
   (The foreign researcher should report his/ her arrival and his/ her purpose of activities to the Local Governments and other local authorities, as soon as he/ she arrive by showing this Letter, and reporting back before leaving the area)
2. Berbuat positif terhadap bangsa Indonesia, dan mentaati peraturan-peraturan hukum yang berlaku di Indonesia, khususnya yang berlaku di daerah penelitiannya. Untuk penelitian yang dilakukan pada kawasan konservasi di Indonesia, perlu perhatian khusus, terutama pasal-pasal yang harus dipatuhi pada Surat Ijin Masuk Kawasan Konservasi (SIMAKSI).
   (To conduct positively towards Indonesian people, to obey the rules, especially those in the area of research. Research in conservation areas should obey the rules as stated in the Permit for Entering Conservation Area- SIMAKSI)
3. Menjaga tata tertib, keamanan, kesopanan dan kesusilaan serta menghindari pernyataan-pernyataan baik dengan lisan maupun tulisan/ lukisan yang dapat melukai/ menyinggung perasaan, adat istiadat atau menghina agama, dari sesuatu golongan penduduk di Indonesia.
   (The foreign researcher should perform good/ agreeable manner, tolerant, and obey all custom rules in every area in Indonesia)
4. Menyerahkan Laporan Pertengahan Jangka Waktu Riset, dan Laporan Akhir Pelaksanaan Riset sebelum meninggalkan Indonesia, kepada Badan Riset dan Inovasi Nasional.
   (The foreign researcher has to submit a mid term report and final report once he/ she finishes the research project in Indonesia)
5. Tidak dibenarkan membawa barang-barang atau bahan-bahan yang menurut peraturan yang berlaku dilarang untuk dibawa ke luar negeri, kecuali dengan izin instansi yang berwenang menurut peraturan yang berlaku, dan dilengkapi dengan perjanjian alih material/*Material Transfer Agreement* (MTA).
   (It is prohibited to bring any specimen/ samples abroad without the stakeholder permission and should be equipped by Material Transfer Agreement signed by all parties)

6. Apabila penelitian yang akan dilakukan ....
   (The foreign researcher should make an agreement with the counterpart for any patent ....)

6. Apabila penelitian yang akan dilakukan diperkirakan akan menghasilkan hak milik *Intellectual Property Rights* (IPR) seperti paten, hak cipta dan merk harus dibuat perjanjian tertulis dengan Mitra Kerja, dengan memperhatikan peraturan Perundang-undangan yang berlaku di Indonesia.
(The foreign researcher should make an agreement with the counterpart for any patent, intellectual property rights, brand, and registered mark as resulted from the research, referring to the existing Indonesian law)
7. Diwajibkan bagi peneliti asing dan mitra kerja di Indonesia untuk mempublikasikan bersama hasil penelitiannya baik berupa Jurnal nasional maupun internasional.
(To publish jointly with the Indonesian researcher, the result of the research in an International or National Journals)
8. Memberikan salinan dari tulisan-tulisan (Thesis/Disertasi, Makalah, Laporan atau Publikasi lain) mengenai hasil penelitiannya tersebut kepada Badan Riset dan Inovasi Nasional.
(To submit copies of research result include thesis/ dissertation, paper, report, or another publication to National Research and Innovation Agency)
9. Memberikan 1 (satu) copy foto-foto, slide/microfilm dan film/video casette, casette sebagai hasil penelitian kepada Badan Riset dan Inovasi Nasional (kalau ada).
(To submit one copy of photo, slide/ microfilm, video cassette, and cast as research result to National Research and Innovation Agency)
10. Surat Izin Penelitian ini hanya berlaku selama visa penelitian dari Direktorat Jenderal Imigrasi R.I. masih berlaku.
(This Letter is only valid as long as the Visa of research from the Directorate General of Immigration RI is valid)
11. Permohonan perpanjangan dan atau perubahan daerah penelitian harus diajukan kepada Badan Riset dan Inovasi Nasional selambat-lambatnya satu bulan sebelum Surat Izin Penelitian habis masa berlakunya dengan melampirkan surat rekomendasi dari mitra kerja di Indonesia.
(Extention of this Permit, or amandement of Location, should be requested to National Research and Innovation Agency, at the latest one month before expiry date of the Research Permit Letter, with recommendation letter from the counterpart)
12. Setelah penelitian selesai diharapkan supaya Surat Izin Penelitian ini dikembalikan kepada Deputi Bidang Fasilitasi Riset dan Inovasi..
(At the end of the research, this Letter of Research Permit should be returned to the Research and Innovation Facilitation)
13. Penelitian yang menggunakan Kapal Riset, pesawat survey udara, atau wahana apapun di wilayah Teritorial RI dan ZEE, serta wilayah udara RI, juga harus memperoleh *Security Clearance* dan didampingi *Security Officer*.
(Research using Vessel Research, Airborne Survey Flight, or any other vehicles in Indonesian territorial and EEZ as well as aerospace territory, should obtain Security Clearance and accompanied by Security Officers)
14. Izin Penelitian dapat dibatalkan/ dicabut apabila Peneliti Asing melakukan pelanggaran terhadap peraturan perundangan yang berlaku.
(Annulment and/ or revocation of the permit shall be applied if the foreign researcher violates the provisions of the prevailing laws and regulations)
15. Pelaksanaan penelitian dalam masa pandemik COVID-19 harus mematuhi protokol kesehatan yang diterbitkan oleh Kementerian Kesehatan dan instansi lain yang berwenang.
(Implementation of fieldwork in the pandemic of COVID-19 time shall follow the Health Protocol issued by Ministry of Health and other authorized agencies)

Demikian **Surat Izin Penelitian Nomor : 204/SIP/IV/FRI/4/2023, tanggal 26 April 2023,** untuk dapat dipergunakan sebagaimana mestinya. Kami mohon dengan hormat kiranya instansi-instansi Pemerintah/Swasta maupun perorangan yang dihubungi untuk memberikan bantuannya kepada yang bersangkutan sesuai dengan peraturan yang berlaku.
(Herewith the Letter of Research Permit is issued to be used accordingly. We request the Government and private institution or individual that receive the bearer of this letter to provide assistance in accordance with the rules)

Dikeluarkan di *(Issued in)* : JAKARTA
Tanggal *(date)* : 26 April 2023

a.n. Deputi Bidang Fasilitasi Riset dan Inovasi
(on behalf Research and Innovation Facilitation)
Plh. Direktur Tata Kelola Perizinan Riset dan Inovasi dan Otoritas Ilmiah

TT ELEKTRONIK

Wiku Lukus Widodo
NIP. 198103012005011004

Penerima Surat Izin Penelitian
(Bearer of Permit Letter)



Ms. Nabilaa binti Mohamed

Dokumen ini ditandatangani secara elektronik menggunakan sertifikat dari BSrE, silahkan lakukan verifikasi pada dokumen elektronik yang dapat diunduh dengan melakukan scan QR Code

APPENDIX 5

Letter of Ethical Clearance Decision

KOMISI ETIK BIDANG SOSIAL HUMANIORA
BADAN RISET DAN INOVASI NASIONAL
Gedung B.J. Habibie Lantai 8
Jalan M.H. Thamrin No. 8, Jakarta Pusat 10340
Laman: https://klirensetik.brin.go.id/, email: klirensetik@brin.go.id

ETHICAL CLEARANCE DECISION LETTER
Social Studies and Humanities Research
Ref No.: 095 /KE.01/SK/04/2023

Herewith The Ethics Committee on Social Studies and Humanities National Research and Innovation Agency (NRIA) informs that,

Research Title	:	Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments
Application Number	:	
Unit/Institution	:	Universiti Teknologi MARA (UiTM)
Research Coordinator	:	Nabilaa Mohamed

Has been evaluated in the meeting on March 30th, 2023 .

Based on the results of the meeting, the Ethics Committee on Social Studies and Humanities NRIA has made the decision: **The research with the application number has met the ethical clearance requirements with a period of research from May to October 2023.**

Researchers remain obligated to:

a. Comply with health protocols related to Covid-19 Pandemic that apply at the research locations.
b. Submit a new application shall there be amendment to research design or research subject.
c. Submit a report when the field research has been completed.
d. Provide information if there is a change in location, research time and/or termination ahead of schedule.

The Ethical Committee on Social Studies and Humanities NRIA has the right to conduct monitoring during the research.

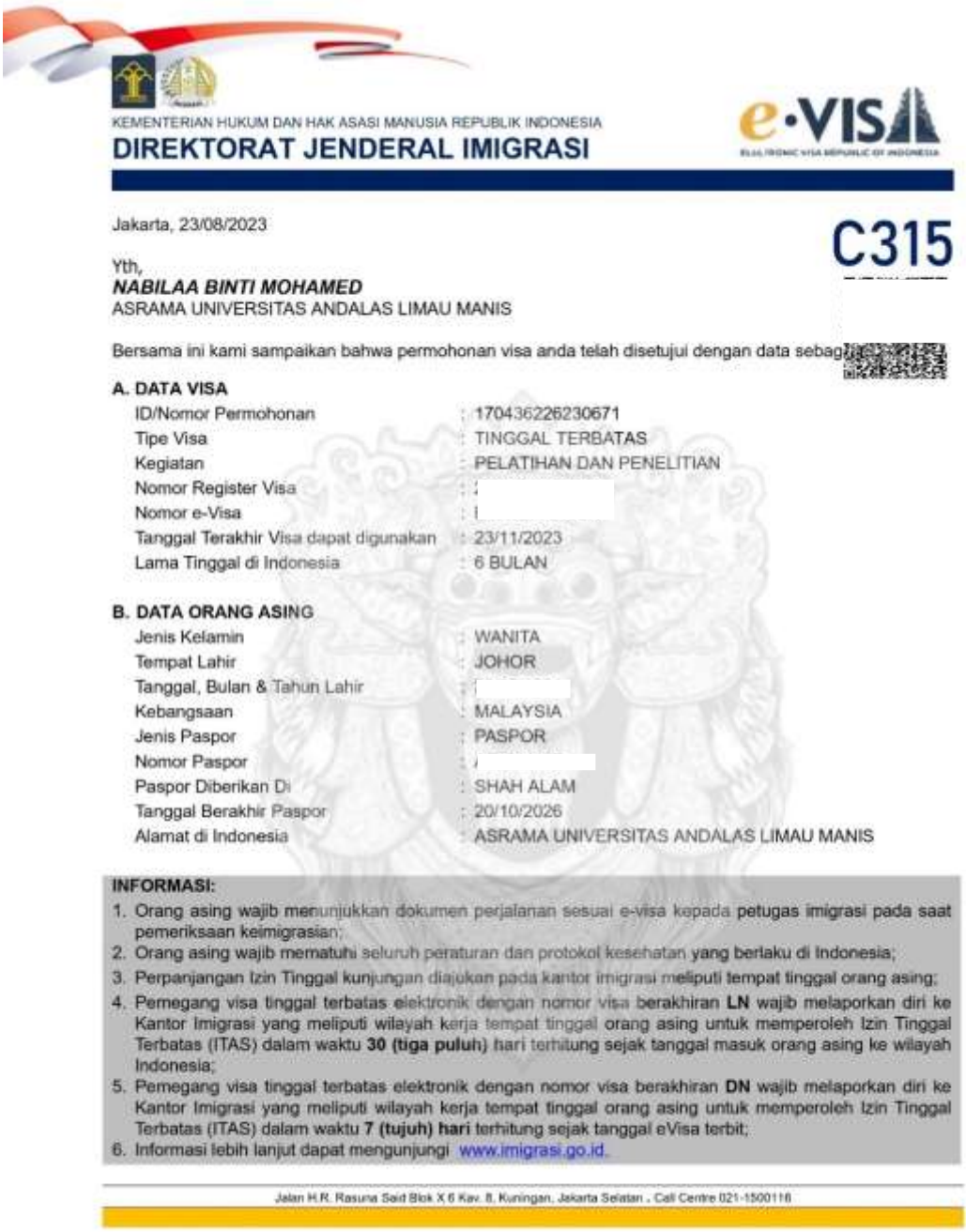
Jakarta, 3rd of April 2023
Chief of Ethical Committee on Social Studies
and Humanities
National Research and Innovation Agency

TT ELEKTRONIK

Dr. Augustina Situmorang, M.A.

APPENDIX 6

Research Visa from Indonesia



KEMENTERIAN HUKUM DAN HAK ASASI MANUSIA REPUBLIK INDONESIA
DIREKTORAT JENDERAL IMIGRASI

e-VISA

Jakarta, 23/08/2023

C315

Yth,
NABILAA BINTI MOHAMED
ASRAMA UNIVERSITAS ANDALAS LIMAU MANIS

Bersama ini kami sampaikan bahwa permohonan visa anda telah disetujui dengan data sebag

A. DATA VISA

ID/Nomor Permohonan	: 170436226230671
Tipe Visa	: TINGGAL TERBATAS
Kegiatan	: PELATIHAN DAN PENELITIAN
Nomor Register Visa	:
Nomor e-Visa	:
Tanggal Terakhir Visa dapat digunakan	: 23/11/2023
Lama Tinggal di Indonesia	: 6 BULAN

B. DATA ORANG ASING

Jenis Kelamin	: WANITA
Tempat Lahir	: JOHOR
Tanggal, Bulan & Tahun Lahir	:
Kebangsaan	: MALAYSIA
Jenis Paspor	: PASPOR
Nomor Paspor	:
Paspor Diberikan Di	: SHAH ALAM
Tanggal Berakhir Paspor	: 20/10/2026
Alamat di Indonesia	: ASRAMA UNIVERSITAS ANDALAS LIMAU MANIS

INFORMASI:

1. Orang asing wajib menunjukkan dokumen perjalanan sesuai e-visa kepada petugas imigrasi pada saat pemeriksaan keimigrasian;
2. Orang asing wajib mematuhi seluruh peraturan dan protokol kesehatan yang berlaku di Indonesia;
3. Perpanjangan Izin Tinggal kunjungan diajukan pada kantor imigrasi meliputi tempat tinggal orang asing;
4. Pemegang visa tinggal terbatas elektronik dengan nomor visa berakhiran **LN** wajib melaporkan diri ke Kantor Imigrasi yang meliputi wilayah kerja tempat tinggal orang asing untuk memperoleh Izin Tinggal Terbatas (ITAS) dalam waktu **30 (tiga puluh)** hari terhitung sejak tanggal masuk orang asing ke wilayah Indonesia;
5. Pemegang visa tinggal terbatas elektronik dengan nomor visa berakhiran **DN** wajib melaporkan diri ke Kantor Imigrasi yang meliputi wilayah kerja tempat tinggal orang asing untuk memperoleh Izin Tinggal Terbatas (ITAS) dalam waktu **7 (tujuh) hari** terhitung sejak tanggal eVisa terbit;
6. Informasi lebih lanjut dapat mengunjungi www.imigrasi.go.id.

Jalan H.R. Rasuna Said Blok X 6 Kav. 8, Kuningan, Jakarta Selatan , Call Centre 021-1500116

APPENDIX 7

Letter of Request for Interview Session

10 FEBRUARI 2023

Kepada:

YBhg. Datuk Hj. Shadan bin Hj. Othman
Datuk Bandar Majlis Bandaraya Melaka Bersejarah (MBMB)
Graha Makmur, No.1 Jalan Tun Abdul Razak,
Ayer Keroh, Hang Tuah Jaya, 75450 Melaka.
Email: db@mbmb.gov.my / No. Tel.: 06-2859702

U/P:

1. **TPr. Zuhaila binti Ahmad Zubel** (Pengarah Perancangan, Jabatan Perancangan Bandar)
2. **Moahzam bin Asari** (Arkitek Landskap, Bahagian Landskap, Jabatan Kesihatan Persekitaran)
3. **Khairul Anam bin Moktar** (Pegawai Kesihatan Persekitaran, Jabatan Kesihatan Persekitaran)

Salam Sejahtera YBhg. Datuk/Tuan/Puan,

PER: PERMOHONAN SESI TEMU BUAL BAGI PENGUMPULAN DATA KAJIAN BAGI PENGAJIAN DOKTOR FALSAFAH (PhD)

Merujuk kepada perkara di atas.

2. Pihak Fakulti Sains Pentadbiran dan Pengajian Polisi, UiTM Shah Alam ingin memohon izin daripada pihak YBhg. Datuk/Tuan/Puan untuk temu bual bersama-sama dengan pengarah, penolong pengarah dan para pegawai yang terpilih daripada pihak MBMB bagi menjayakan pengumpulan data bagi kajian PhD Cik Nabilaa binti Mohamed (No. Pelajar: 2020741323) untuk tesis beliau yang bertajuk *"Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments"*.

3. Maklumat sesi temu bual adalah seperti berikut:

Bil.	Orang yang Ditemu Bual	Jabatan	Cadangan Tarikh & Waktu Temu Bual	Email/No. Tel.
1.	Pengarah Perancangan TPr. Zuhaila binti Ahmad Zubel	Jabatan Perancangan Bandar	20 Mar 2023, sesi pagi	zuhaila@mbmb.gov.my / 06-2859700
2.	Penolong Pengarah (Perancang) Mohamad Zulikhram bin Zulibrahim		20 Mar 2023, sesi petang	mzulikhram2@gmail.com / 06-2859700
3.	Arkitek Landskap LAr. Mohamad Faizdzul Shawqy bin Ibrahim	Bahagian Landskap, Jabatan Kesihatan Persekitaran	21 Mar 2023, sesi pagi	mofash69@gmail.com / 06-2859700
4.	Pen. Arkitek Landskap Kanan Tertinggi Suryati binti Sunamiah		21 Mar 2023, sesi petang	kayumanis5777@yahoo.com / 06-2859700
5.	Pegawai Kesihatan Persekitaran Khairul Anam bin Moktar	Jabatan Kesihatan Persekitaran	22 Mar 2023, sesi pagi	jkp@mbmb.gov.my / 06-2859700
6.	Penolong Pengarah Nur Hafizah binti Abd Aziz		22 Mar 2023, sesi petang	nur.hafizah@mbmb.gov.my / 06-2859700

4. Disertakan dengan soalan temu bual serta surat kebenaran kajian daripada pihak fakulti dan Research Ethics Committee UiTM untuk rujukan pihak MBMB. Perhatian, budi bicara, dan keizinan daripada pihak MBMB sangat kami hargai. Terima Kasih.

Yang Benar,

Dr. Thenmolli a/p Vadeveloo
Penyelia/ Pensyarah Kanan/ Koordinator Pascasiswazah (Penyelidikan)
Fakulti Sains Pentadbiran dan Pengajian Polisi
Universiti Teknologi MARA (UiTM), 40450 Shah Alam
Email: thenm020@uitm.edu.my / No. Tel: [illegible]

cc. TPr. Zuhaila binti Ahmad Zubel (zuhaila@mbmb.gov.my / 06-2859700)
cc. Moahzam bin Asari (moahzam@mbmb.gov.my / 06-2859700)
cc. Khairul Anam bin Moktar (jkp@mbmb.gov.my / 06-2859700)

APPENDIX 8

Letter of Request for Interview Session

10 MEI 2023

Kepada:

Tuan Ir. Mansor bin Mohamad
Pengarah Jabatan Kejuruteraan
Majlis Bandaraya Melaka Bersejarah (MBMB),
Graha Makmur, No.1 Jalan Tun Abdul Razak,
Ayer Keroh, Hang Tuah Jaya, 75450 Melaka.
Email: jk@mbmb.gov.my / No. Tel.: 06-2859878

Salam Sejahtera Tuan,

PER: PERMOHONAN SESI TEMU BUAL BAGI PENGUMPULAN DATA KAJIAN PENGAJIAN DOKTOR FALSAFAH (PhD)

Merujuk kepada perkara di atas.

2. Pihak Fakulti Sains Pentadbiran dan Pengajian Polisi, UiTM Shah Alam ingin memohon izin daripada Tuan untuk sesi temu bual secara atas talian melalui Zoom Meeting bersama-sama dengan beberapa pegawai yang terpilih bagi menjayakan pengumpulan data untuk kajian PhD Cik Nabilaa binti Mohamed (No. Pelajar: 2020741323) untuk tesis beliau yang bertajuk *"Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments"*.

3. Maklumat sesi temu bual adalah seperti berikut:

Bil.	Orang yang Ditemu Bual	Cadangan Tarikh & Waktu Temu Bual	Email/No. Tel.
1.	Penolong Pengarah Kejuruteraan Kanan (Pengurusan Projek), Puan Siti Asurah binti Ab. Ghani	16 Mei 2023 9.30 – 11.00 Pagi	06-2859700 / sitiasurah@mbmb.gov.my
2.	Penolong Jurutera (Pengurusan Lalulintas & Alam Sekitar), Tuan Mohd Zaki bin Mohd Kalid	18 Mei 2023 9.30 – 11.00 Pagi	06-2859700 / mzk_ki@yahoo.com.my
3.	Penolong Jurutera (Pengurusan Projek), Tuan Mohd Zaidi bin Mohd Yunus	19 Mei 2023 9.30 – 11.00 Pagi	06-2859700 / zaidi_797@yahoo.com
4.	Penolong Jurutera Kanan (Penantauan), Tuan Marhalim bin Bain	22 Mei 2023 9.30 – 11.00 Pagi	06-2859700 / m_halim68@yahoo.com.my
5.	Penolong Jurutera (Infrastruktur Awam), Tuan Mohd Rafizan bin Idris	17 Mei 2023 9.30 – 11.00 Pagi	06-3175661 / rafizan@mbmb.gov.my

4. Dilampirkan soalan temu bual serta surat kebenaran kajian daripada pihak fakulti dan Research Ethics Committee UiTM untuk rujukan Tuan. Budi bicara dan kesudian daripada pihak Tuan sangat kami hargai.

Terima Kasih.

Yang Benar,

Dr. Thenmolli a/p Vadeveloo
Penyelia/ Pensyarah Kanan/ Koordinator Pascasiswazah (Penyelidikan)
Fakulti Sains Pentadbiran dan Pengajian Polisi
Universiti Teknologi MARA (UiTM), 40450 Shah Alam
Email: thenm020@uitm.edu.my / No. Tel:

cc. En. Mohd Norikhmal bin Reme
Penolong Pegawai Tadbir Kanan
Jabatan Pengurusan Sumber Manusia,
Bahagian Latihan (ikhmalremy@mbmb.gov.my / 06-2859747)

APPENDIX 9

Letter of Request for Interview Session

7 JUN 2023

Kepada:

Tuan Ts. Adi Asharie bin Sani
Pengarah Jabatan Teknologi Maklumat
Majlis Bandaraya Melaka Bersejarah (MBMB)
Graha Makmur, No.1 Jalan Tun Abdul Razak,
Ayer Keroh, Hang Tuah Jaya, 75450 Melaka.
Email: adiasharie@mbmb.gov.my; adi.mbmb@gmail.com / No. Tel.: 06-2859700 ext 6739

Salam Sejahtera Tuan,

PER: PERMOHONAN SESI TEMU BUAL BAGI PENGUMPULAN DATA KAJIAN PENGAJIAN DOKTOR FALSAFAH (PhD)

Merujuk kepada perkara di atas.

2. Pihak Fakulti Sains Pentadbiran dan Pengajian Polisi, UiTM Shah Alam ingin memohon izin daripada Tuan untuk sesi temu bual bersama bagi menjayakan pengumpulan data untuk kajian PhD Cik Nabilaa binti Mohamed (No. Pelajar: 2020741323) untuk tesis beliau yang bertajuk *"Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments"*.

3. Maklumat cadangan tarikh dan waktu sesi temu bual adalah seperti berikut:

Tarikh : 20 Jun 2023 (Selasa)
Masa : 2.30 Petang – 4.00 Petang
Platform: Online Zoom Meeting

4. Dilampirkan soalan temu bual serta surat kebenaran kajian daripada pihak fakulti dan Research Ethics Committee UiTM untuk rujukan Tuan. Budi bicara dan kesudian daripada Tuan sangat kami hargai.

Terima Kasih.

Yang Benar,

Dr. Thenmolli a/p Vadeveloo
Penyelia/ Pensyarah Kanan/ Koordinator Pascasiswazah (Penyelidikan)
Fakulti Sains Pentadbiran dan Pengajian Polisi
Universiti Teknologi MARA (UiTM), 40450 Shah Alam
Email: thenm020@uitm.edu.my / No. Tel:

cc. En. Mohd Norikhmal bin Reme
Penolong Pegawai Tadbir Kanan
Jabatan Pengurusan Sumber Manusia
Bahagian Latihan (ikhmalreme@mbmb.gov.my / 06-2859747)

APPENDIX 10

Letter of Request for Interview Session

23 JANUARI 2023

Kepada:

Walikota Hendri Septa, B.Bus. (Acc), M.I.B.
Walikota Padang
Balaikota: Jl. Bagindo Azis Chan No. 1
Aie Pacah – Kota Padang, Sumatera Barat
Email: Tidak dijumpai / No. Tel.: 0751 4640800

U/P:

1. **Ir. H. Mairizon, M.S.i.** (Kepala Dinas Lingkungan Hidup)
2. **Ir. Tri Hadiyanto** (Kepala Dinas Pekerjaan Umum dan Penataan Ruang)
3. **Tidak dijumpai** (Kepala Dinas Kebersihan dan Pertamanan)

Salam Sejahtera Walikota/Tuan/Puan,

PER: PERMOHONAN SESI TEMU BUAL BAGI PENGUMPULAN DATA KAJIAN BAGI PENGAJIAN DOKTOR FALSAFAH (PhD)

Merujuk kepada perkara di atas.

2. Pihak Fakulti Sains Pentadbiran dan Pengajian Polisi, UiTM Shah Alam ingin memohon izin daripada pihak Walikota/Tuan/Puan untuk temu bual bersama-sama dengan pengarah, penolong pengarah dan para pegawai yang terpilih daripada pihak MBMB bagi menjayakan pengumpulan data bagi kajian PhD Cik Nabilaa binti Mohamed (No. Pelajar: 2020741323) untuk tesis beliau yang bertajuk *"Green City Concept Development in Malaysia and Indonesia: A Cross-country Comparative Analysis on the Implementation of Green Open Space at Local Governments"*.

3. Maklumat sesi temu bual adalah seperti berikut:

Bil.	Orang yang Ditemu Bual	Jabatan	Cadangan Tarikh & Waktu Temu Bual	Email/No. Tel.
1.	Head of Environmental Department / Kepala Dinas Lingkungan Hidup **Ir. H. Mairizon, M.S.i.**	Padang City Environmental Department / Dinas Lingkungan Hidup Kota Padang	1 Mei 2023, sesi pagi	085274755959
2.	Director of Landscaping and Environmental Maintenance / Kepala Bidang Pertamanan dan Pemeliharaan Lingkungan Hidup **Afrialdi Masbiran, S.H., M.Hum.**		1 Mei 2023, sesi petang	Tidak dijumpai
3.	Officer of Landscaping and Ornaments/ Kasi Pertamanan dan Ornamen **Indun Nuraini, SP**		2 Mei 2023, sesi pagi	Tidak dijumpai
4.	Director of Regulation and Enforcement of Environmental Law / Kepala Bidang Penataan dan Penegakan Hukum Lingkungan **Drs. H. Jasry Desriza, M.Si.**		2 Mei 2023, sesi petang	Tidak dijumpai
5.	Head of Public Work and Spatial Planning / Kepala Dinas Pekerjaan Umum dan Penataan Ruang **Ir. Tri Hadiyanto**	Padang City Public Work and Spatial Planning Department / Dinas Pekerjaan Umum dan Penataan Ruang Kota Padang	3 Mei 2023, sesi pagi	+62813638387 58
6.	Director of Spatial Planning Management / Kepala Bidang Penataan Ruang Tidak dijumpai		3 Mei 2023, sesi petang	Tidak dijumpai
7.	Officer of Spatial Planning Management / Asisten Penataan Ruang Tidak dijumpai		4 Mei 2023, sesi pagi	Tidak dijumpai
8.	Director of Building and Environmental Management / Kepala Bidang Gedung dan Penataan Lingkungan Tidak dijumpai		4 Mei 2023, sesi petang	Tidak dijumpai
9.	Director of Urban Space Control Management / Kepala Bidang Pengawasan Ruang Kota Tidak dijumpai		5 Mei 2023, sesi pagi	Tidak dijumpai

10.	Head of Sanitation and Landscaping Department/ Kepala Dinas Kebersihan dan Pertamanan Tidak dijumpai	Padang City Sanitation and Landscaping Department / Dinas Kebersihan dan Pertamanan	5 Mei 2023, sesi petang	Tidak dijumpai

4. Disertakan dengan soalan temu bual serta surat kebenaran kajian daripada pihak Research Ethics Committee UiTM untuk rujukan pihak Walikota/Tuan/Puan. Perhatian, budi bicara, dan keizinan daripada pihak Walikota/Tuan/Puan sangat kami hargai. Terima Kasih.

Yang Benar,

Dr. Thenmolli a/p Vadeveloo
Penyelia/ Pensyarah Kanan/ Koordinator Pascasiswazah (Penyelidikan)
Fakulti Sains Pentadbiran dan Pengajian Polisi
Universiti Teknologi MARA (UiTM), 40450 Shah Alam
Email: thenmi020@uitm.edu.my / No. Tel: (

cc. Ir. H. Mairizon, M.S.i. (email/ no. tel.)
cc. Ir. Tri Hadiyanto (email/ no. tel.)
cc. Tidak dijumpai (email/ no. tel.)

APPENDIX 11

Semi-Structured Interview Questions for Local Government Officer and Residents together with Observational Protocol and Interviewee Consent Letter

Confidential/Konfidensial

UNIVERSITI TEKNOLOGI MARA

Dear Informant, / *Informan yang terhormat,*

I am Nabilaa Mohamed, S3 candidate at the Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA (UiTM). Currently, I am reading up on the Green City Concept Development (GCCD) specifically on implementing Green Open Space (GOS) by local government at Melaka City, Malaysia and Padang City, Indonesia. / *Saya Nabilaa Mohamed, kandidat S3 Fakultas Ilmu Administrasi dan Studi Kebijakan, Universiti Teknologi MARA (UiTM). Saat ini saya sedang meneliti tentang Pembangunan Konsep Kota Hijau (PKKH) khususnya tentang implementasi Ruang Terbuka Hijau (RTH) oleh pemerintah daerah di Kota Melaka, Malaysia dan Kota Padang, Indonesia.*

The objectives of the study are: / *Tujuan dari penelitian ini adalah:*

1) To examine the important roles of GOS in GCCD. / *Untuk mengkaji peran penting RTH dalam PKKH.*
2) To identify local government's strategies in managing GOS based on current city urbanisation conditions. / *Mengidentifikasi strategi pemerintah daerah dalam mengelola RTH berdasarkan kondisi urbanisasi kota saat ini.*
3) To identify local government's strategies to increase financial stability on GOS implementation towards GCCD. / *Mengidentifikasi strategi pemerintah daerah untuk meningkatkan stabilitas keuangan dalam implementasi RTH menuju PKKH.*
4) To suggest strategies to increase community participation in GOS implementation. / *Menyarankan strategi untuk meningkatkan partisipasi masyarakat dalam implementasi RTH.*
5) To formulate the GOS-GC concept framework based on the local context. / *Merumuskan kerangka konsep RTH-KH berdasarkan konteks lokal.*

It would be very grateful if you could spare some valuable time to participate in this interview. This interview should take approximately one hour 30 minutes to complete and will use a recorder to record the conversations during the interviews. All data provided by the informant is **STRICTLY CONFIDENTIAL** and will be used only for academic purposes. You have the right to withdraw from participating in this study at any time. Your cooperation and participation in this interview is appreciated. Thank you for your kind cooperation. / *Akan sangat berterima kasih jika Anda dapat meluangkan waktu yang berharga untuk berpartisipasi dalam wawancara ini. Wawancara ini akan memakan waktu sekitar satu jam 30 menit untuk diselesaikan dan akan menggunakan perekam untuk merekam percakapan selama wawancara. Semua data yang diberikan oleh informan SANGAT KONFIDENSIAL dan hanya akan digunakan untuk kepentingan akademik. Anda berhak untuk mengundurkan diri dari keikutsertaan dalam penelitian ini kapan saja. Kerja sama dan partisipasi Anda dalam wawancara ini sangat kami hargai. Terima kasih atas kerja sama anda.*

Yours sincerely, / *Dengan hormat,*

Name / Nama: Nabilaa binti Mohamed
Hp: (

1/8

INTERVIEW PROTOCOL / *PROTOKOL WAWANCARA*

RESEARCH TITLE / *JUDUL PENELITIAN*

GREEN CITY CONCEPT DEVELOPMENT IN MALAYSIA AND INDONESIA: A CROSS-COUNTRY COMPARATIVE ANALYSIS ON THE IMPLEMENTATION OF GREEN OPEN SPACE AT LOCAL GOVERNMENTS / *PEMBANGUNAN KONSEP KOTA HIJAU DI MALAYSIA DAN INDONESIA: ANALISIS PERBANDINGAN LINTAS NEGARA TERHADAP IMPLEMENTASI RUANG TERBUKA HIJAU PADA PEMERINTAH DAERAH*

Date / *Tanggal*	:
Time of Interview / *Masa Wawancara*	:
Interview Place / *Tempat Wawancara*	:
Department Name / *Nama Departemen*	:
Interviewee / *Orang yang Diwawancarai*	:
Email / *Surel*	:
Tel. No. / *No. Telp.*	:
Interviewer / *Pewawancara*	**: Nabilaa binti Mohamed**

Semi-structured questionnaire(s) for an in-depth interview with local government officers of Padang City related to the Green Open Space (GOS) implementation towards Green City Concept Development (GCCD) / *Kuesioner semi-terstruktur untuk wawancara mendalam dengan pejabat pemerintah daerah Kota Padang terkait implementasi Ruang Terbuka Hijau (RTH) menuju Pembangunan Konsep Kota Hijau (PKKH)*

This questionnaire comprises six main parts. The first part starts with collecting information on the informant's background and the research topic. The second part examines the important roles of GOS towards GCCD in '3 Pillars of Sustainability'. The third part identifies the strategies adopted by local governments in managing GOS based on current city urbanisation conditions. Subsequently, the fourth part identifies the strategies of local governments in increasing the financial stability in financing GOS implementation. The fifth part acquires feedback to suggest strategies to increase community participation in GOS implementation towards Green City Development (GCD). Lastly, the final part focuses on formulating the concept framework of GOS-GC based on the local context of Padang City.

The interviews are targeted at selected local government officers involved in GOS implementation towards GCD. /

Kuesioner ini terdiri dari enam bagian utama. Bagian pertama dimulai dengan mengumpulkan informasi tentang latar belakang informan dan topik penelitian. Bagian kedua mengkaji peran penting RTH terhadap PKKH dalam '3 Pilar Keberlanjutan'. Bagian ketiga mengidentifikasi strategi yang diadopsi oleh pemerintah daerah dalam mengelola RTH berdasarkan kondisi urbanisasi kota saat ini. Selanjutnya, bagian keempat mengidentifikasi strategi pemerintah daerah dalam meningkatkan stabilitas keuangan dalam pembiayaan implementasi RTH. Bagian kelima memperoleh umpan balik untuk menyarankan strategi meningkatkan partisipasi masyarakat dalam implementasi RTH menuju Pembangunan Kota Hijau (PKH). Terakhir, bagian akhir berfokus pada perumusan kerangka konsep RTH-KH berdasarkan konteks lokal Kota Padang.

Wawancara ditujukan kepada petugas pemerintah daerah terpilih yang terlibat dalam implementasi RTH menuju PKH.

PART 1: Background of the Informant and Research Topic

BGN1: Latar Belakang Informan dan Topik Penelitian

1. When is your year of birth? / *Tahun lahir kamu kapan?*
2. How long have you been living in Padang City? / *Sudah berapa lama Anda tinggal di Kota Padang?*
3. Have you visited GOS Taman Imam Bonjol and/or Taman Nanggalo? / *Pernahkah Anda mengunjungi RTH Taman Imam Bonjol dan/atau Taman Nanggalo?*
4. As a government officer/staff, how long have you been in your current position? / *Sebagai petugas, berapa lama Anda berada di posisi Anda saat ini?*
5. As a user or resident are you a member of any community or park group that manages and maintains GOS? / *Sebagai pengguna atau penduduk, apakah Anda anggota komunitas atau grup taman yang mengelola dan memelihara RTH?*
6. Have you ever been involved in a GCD project through the implementation of GOS? / *Apakah Anda pernah terlibat dalam proyek PKH melalui implementasi RTH?*
7. What is your understanding of a green city? Please explain further. / *Apa pemahaman Anda tentang kota hijau? Tolong jelaskan lebih lanjut.*
8. Could you share with me your understanding of GOS? Please explain further. / *Bisakah Anda berbagi dengan saya pemahaman Anda tentang RTH? Tolong jelaskan lebih lanjut.*

PART 2: The important roles of Green Open Space (GOS) in Green City Development (GCD)

BGN.2: Peran Penting Ruang Terbuka Hijau (RTH) dalam Pembangunan Kota Hijau (PKH)

Economy Sustainability / *Keberlanjutan Ekonomi*

1. In your observation, how GOS in Padang City can help locals increase their income (e.g. food stalls, food trucks, vendor street, commercialisation of park adventures/water park, event space rental, etc.)? Please explain further. / *Dalam pengamatan Anda, bagaimana RTH di Kota Padang dapat membantu penduduk setempat meningkatkan pendapatan mereka (mis. warung makan, truk makanan, pedagang kaki lima, komersialisasi taman petualangan/taman air, penyewaan ruang acara, dll.)? Tolong jelaskan lebih lanjut.*

2. How does GOS in Padang City stimulate the economic growth of Padang City (e.g. the existence of a productive GOS has attracted local and international tourists, increased property values nearby, GOS becoming a hub for food production or production of clean water and energy, etc.)? Please explain further. / *Bagaimana RTH di Kota Padang merangsang pertumbuhan ekonomi Kota Padang (misalnya keberadaan RTH yang produktif telah menarik wisatawan lokal dan internasional, peningkatan nilai properti di sekitarnya, RTH menjadi pusat produksi pangan atau produksi air bersih dan energi, dll.)? Tolong jelaskan lebih lanjut.*

Social Sustainability / *Keberlanjutan Sosial*

1. In your observation, in terms of psychological health, how can GOS in Padang City help the community to have stable mental and emotional health? Please explain further. / *Dalam pengamatan Anda, dari segi kesehatan psikologis, bagaimana RTH di Kota Padang dapat membantu masyarakat untuk memiliki kesehatan mental dan emosional yang stabil? Tolong jelaskan lebih lanjut.*

2. In your observation, in terms of physical health, how can GOS in Padang City help the community to have a healthy body? Please explain further. / *Dalam pengamatan Anda, dari segi kesehatan fisik, bagaimana RTH di Kota Padang dapat membantu masyarakat untuk memiliki tubuh yang sehat? Tolong jelaskan lebih lanjut.*

3. In your observation, how can GOS in Padang City strengthen community relations? Please explain further. / *Dalam pengamatan Anda, bagaimana RTH di Kota Padang dapat mempererat hubungan masyarakat? Tolong jelaskan lebih lanjut.*

4. In your observation, how can GOS in Padang City reduce social problems, especially among teenagers? Please explain further. / *Dalam pengamatan Anda, bagaimana RTH di Kota Padang dapat mengurangi permasalahan sosial khususnya di kalangan remaja? Tolong jelaskan lebih lanjut.*

5. In your observation, how can GOS in Padang City help the development of children? Please explain further. / *Dalam pengamatan Anda, bagaimana RTH di Kota Padang dapat membantu tumbuh kembang anak? Tolong jelaskan lebih lanjut.*

Environmental Sustainability / *Keberlanjutan Alam Sekitar*

1. In your observation, how can GOS in Padang City reduce the problem of environmental pollution in Padang City? Please explain further. (eg, noise pollution, air, water, soil, etc.) / *Dalam pengamatan Anda, bagaimana RTH di Kota Padang dapat mengurangi masalah pencemaran lingkungan di Kota Padang? Tolong jelaskan lebih lanjut. (misalnya, polusi suara, udara, air, tanah, dll.)*

2. In your observation, how can GOS in Padang City reduce the problem of natural disasters caused by extreme weather in Padang City? Please explain further. (e.g., flood disaster, haze, storm, landslide, soil liquefaction, etc.) / *Dalam pengamatan Anda, bagaimana RTH di Kota*

Padang dapat mengurangi permasalahan bencana alam akibat cuaca ekstrim di Kota Padang? Tolong jelaskan lebih lanjut. (misalnya bencana banjir, kabut asap, badai, tanah longsor, likuifaksi tanah, dll.)

3. In your observation, how can GOS in Padang City increase the number of urban flora and fauna species? / *Dalam pengamatan Anda, bagaimana RTH di Kota Padang dapat meningkatkan jumlah spesies flora dan fauna perkotaan?*

PART 3: The Strategies in managing GOS based on current city urbanisation condition

BGN.3: Strategi pengelolaan RTH berdasarkan kondisi urbanisasi kota saat ini

1. What type of urban density often occurs in Padang City? (e.g., density of the type of population, traffic congestion, tourists, housing, business area buildings or industrial buildings such as factories, etc.). Please explain further. / *Jenis kepadatan kota apa yang sering terjadi di Kota Padang? (misalnya kepadatan jenis penduduk, kemacetan lalu lintas, wisatawan, perumahan, bangunan kawasan bisnis atau bangunan industri seperti pabrik, dll). Tolong jelaskan lebih lanjut.*
2. How does the density affect the implementation of GOS in Padang City? Please explain further. / *Bagaimana pengaruh kepadatan terhadap implementasi RTH di Kota Padang? Tolong jelaskan lebih lanjut.*
3. In your opinion, what new strategy should Padang City local government do in implementing GOS in high-density cities? Please explain further. / *Menurut Anda, strategi baru apa yang harus dilakukan pemerintah daerah Kota Padang dalam mengimplementasikan RTH di kota-kota dengan kepadatan tinggi? Tolong jelaskan lebih lanjut.*
4. Based on the current density of the city, in your opinion, what is the new strategy that Padang City local government should take to distribute the GOS area evenly within Padang City so that the GOS is balanced and sufficient? Please explain further. / *Berdasarkan kepadatan kota saat ini, menurut Anda, bagaimana strategi baru yang harus dilakukan oleh pemerintah daerah Kota Padang untuk mendistribusikan luas RTH secara merata di dalam Kota Padang agar RTH seimbang dan mencukupi? Tolong jelaskan lebih lanjut.*

PART 4: The Strategies to increase financial stability in financing GOS implementation

BGN.4: Strategi meningkatkan stabilitas keuangan dalam pembiayaan implementasi RTH

1. According to your current general knowledge, list Padang City local government's existing financial resources in finance the management and maintenance of GOS? (eg, state budget, corporate donations, public donations, CSR, site rentals, park entrance fees, advertising fees, fines, taxes, etc.)? / *Menurut pengetahuan umum Anda saat ini, sebutkan sumber keuangan pemerintahan daerah Kota Padang yang ada dalam membiayai pengelolaan dan pemeliharaan RTH? (misalnya anggaran negara, sumbangan perusahaan, sumbangan publik, CSR, sewa tempat, biaya masuk taman, biaya iklan, denda, pajak, dll.)?*
2. In your opinion, what are the new sources of finance that Padang City local government should practice to finance the management and maintenance of GOS continuously for the long term? Please explain further. / *Menurut Anda, apa saja sumber pembiayaan baru yang harus dilakukan pemerintahan daerah Kota Padang untuk membiayai pengelolaan dan pemeliharaan RTH secara berkelanjutan dalam jangka panjang? Tolong jelaskan lebih lanjut.*
3. In the implementation of quality GOS, how should Padang City local government protect finances or GOS assets from fraud, waste, abuse, damage, or loss? Please explain further. / *Dalam implementasi RTH yang berkualitas, bagaimana seharusnya pemerintahan daerah Kota*

Padang melindungi keuangan atau aset RTH dari penipuan, pemborosan, penyalahgunaan, kerusakan, atau kerugian? Tolong jelaskan lebih lanjut.

PART 5: The strategies to increase community participation in GOS implementation

BGN.5: Strategi untuk meningkatkan partisipasi masyarakat dalam implementasi RTH

1. In the 5 phases of the project management cycle of GOS implementation towards GCD, at which stage are residents allowed to engage with Padang City local government? **(refer to Appendix 2)** / *Pada 5 fase siklus pengelolaan proyek implementasi RTH menuju PKH, pada tahapan manakah warga diperbolehkan untuk berhubungan dengan pemerintah daerah Kota Padang?* ***(lihat Lampiran 2)***
2. At the stage of the project management cycle phase, what activities can residents do together with Padang City local government officials? Please explain further. / *Pada tahapan fase siklus pengelolaan proyek, kegiatan apa saja yang dapat dilakukan warga bersama petugas pemerintah daerah Kota Padang? Tolong jelaskan lebih lanjut.*
3. Based on your current general knowledge, please list the existing strategies that have been used by Padang City local government to increase community involvement in GOS implementation projects towards GCD? / *Berdasarkan pengetahuan umum Anda saat ini, sebutkan strategi yang ada yang telah digunakan oleh pemerintah daerah Kota Padang untuk meningkatkan keterlibatan masyarakat dalam proyek implementasi RTH menuju PKH?*
4. In your opinion, what are the new strategies that Padang City local government should use to increase community participation in the phase of the GOS implementation project cycle towards the GCD? Please explain further. / *Menurut Anda, apa saja strategi baru yang sebaiknya dilakukan pemerintah daerah Kota Padang untuk meningkatkan partisipasi masyarakat dalam fase siklus proyek implementasi RTH menuju PKH? Tolong jelaskan lebih lanjut.*

PART 6: The GOS-GC Concept framework that suits with local context of Padang City

BGN.6: Kerangka Konsep RTH-KH yang sesuai dengan konteks lokal Kota Padang

1. Has GOS in Padang City succeeded in making Padang City greener than before? / *Apakah RTH di Kota Padang berhasil menjadikan Kota Padang lebih hijau dari sebelumnya?*
2. Which GOS element has the biggest impact on GCD at Padang City? **(refer to Appendix 1)** / *Elemen RTH manakah yang memiliki dampak terbesar terhadap PKH di Kota Padang?* ***(lihat Lampiran 1)***
3. What other elements should be added in the GOS-GC framework? **(refer to Appendix 1)** / *Elemen apa lagi yang harus ditambahkan dalam kerangka RTH-KH?* ***(lihat Lampiran 1)***
4. Why did you choose those additional elements? Please explain further. / *Mengapa Anda memilih elemen tambahan tersebut? Tolong jelaskan lebih lanjut.*
5. Based on the Padang City Green City Framework, GOS implementation is on the sixth strategy (**refer to Appendix 3**). According to the needs of the current state of Padang City, should Padang City local government revise the framework by focusing more on the implementation of GOS towards GCD? / *Berdasarkan Kerangka Kota Hijau Kota Padang, implementasi RTH berada pada strategi keenam* ***(lihat Lampiran 3)****. Sesuai dengan kebutuhan kondisi Kota Padang saat ini, apakah pemerintahan daerah Kota Padang harus merevisi kerangka dengan lebih fokus pada implementasi RTH terhadap PKH?*

6. If your answer is YES, why should Padang City local government focus more on the implementation of GOS towards GCD? Please explain further. / *Jika jawaban Anda YA, mengapa Pemda Kota Padang lebih fokus pada implementasi RTH terhadap PKH? Tolong jelaskan lebih lanjut.*

7. If your answer is NO, why should the implementation of GOS not be the main focus? Please explain further. / *Jika jawaban Anda TIDAK, mengapa penerapan RTH tidak menjadi fokus utama? Mohon penjelasan lebih lanjut.*

- End - / - Berakhir -

Observation Protocol

Data Collection Protocol for Observation

1. Entering the Field
The field area involved is a selected GOS or also known as a public park. Entering the GOS area is free and does not require permission from the authorities. Observations are carried out during peak hours in the afternoon between 5 pm and 7 pm.
2. Data Collection
Data was collected by using direct non-participant observation in an overt mode by using structured observation where the observation is only focused on a few areas that have elements that touch on the study variables only so that the findings can answer research question number one: What are the important roles of Green Open Space (GOS) in Green City Concept Development (GCCD)? The variables are the 3 Pillars of Sustainability which comprise economic, social, and environmental sustainability that have been proposed by previous research as practiced essentially in GCCD (refer to Chapter 2 Literature Review). For example, researchers will look at GOS areas that have water catchment elements (i.e, lake, pond, fountain, dam, etc.) that function as rainwater catchment in order to increase city environmental sustainability to become more resilient to facing a natural disaster like urban flash flood that vital in GCCD. Observational data will be recorded through field notes, photography, and video recording.
3. Retreat from the Field
Observation ends when all GOS elements are recorded through field notes, photography, and video recording. Then, all the data is organised for coding, interpretation, theme identification, synthesizing, and generalisation. NVivo software is the main tool for analysing observation data. This data will also be checked for validation and reliability measurement.

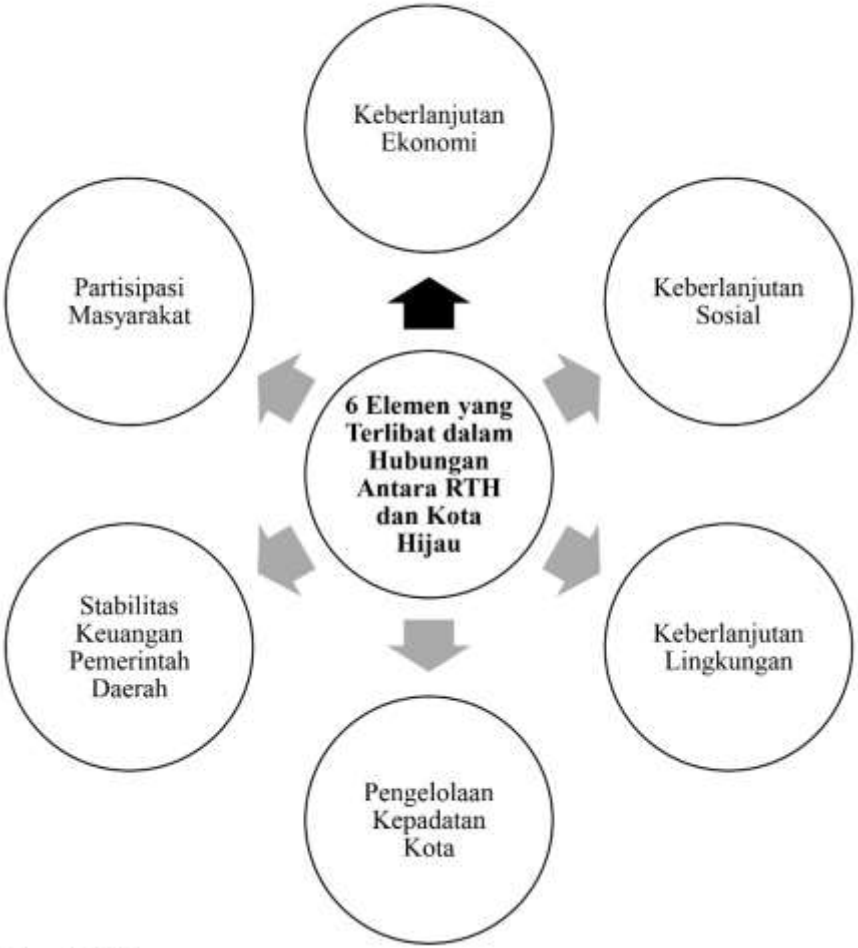
As referred to Lebar (2018); Suhaimi (2018)

Observational Field Note Form

Date: **Time:** **GOS/Park Name:**		
Observation Objective:	To examine the important roles of Green Open Space (GOS) in Green City Concept Development (GCCD).	
Photo	**Researcher Reflection**	
Element Observed:	Economic Sustainability	
	Social Sustainability	
	Environmental Sustainability	
Video Recording	**Researcher Reflection**	
Element Observed:	Economic Sustainability	
	Social Sustainability	
	Environmental Sustainability	

As referred from Hasan (2021); Fox (1998)

Lampiran 1: Elemen Inti Kerangka Konsep Ruang Terbuka Hijau-Kota Hijau
Sumber: Analisis Peneliti

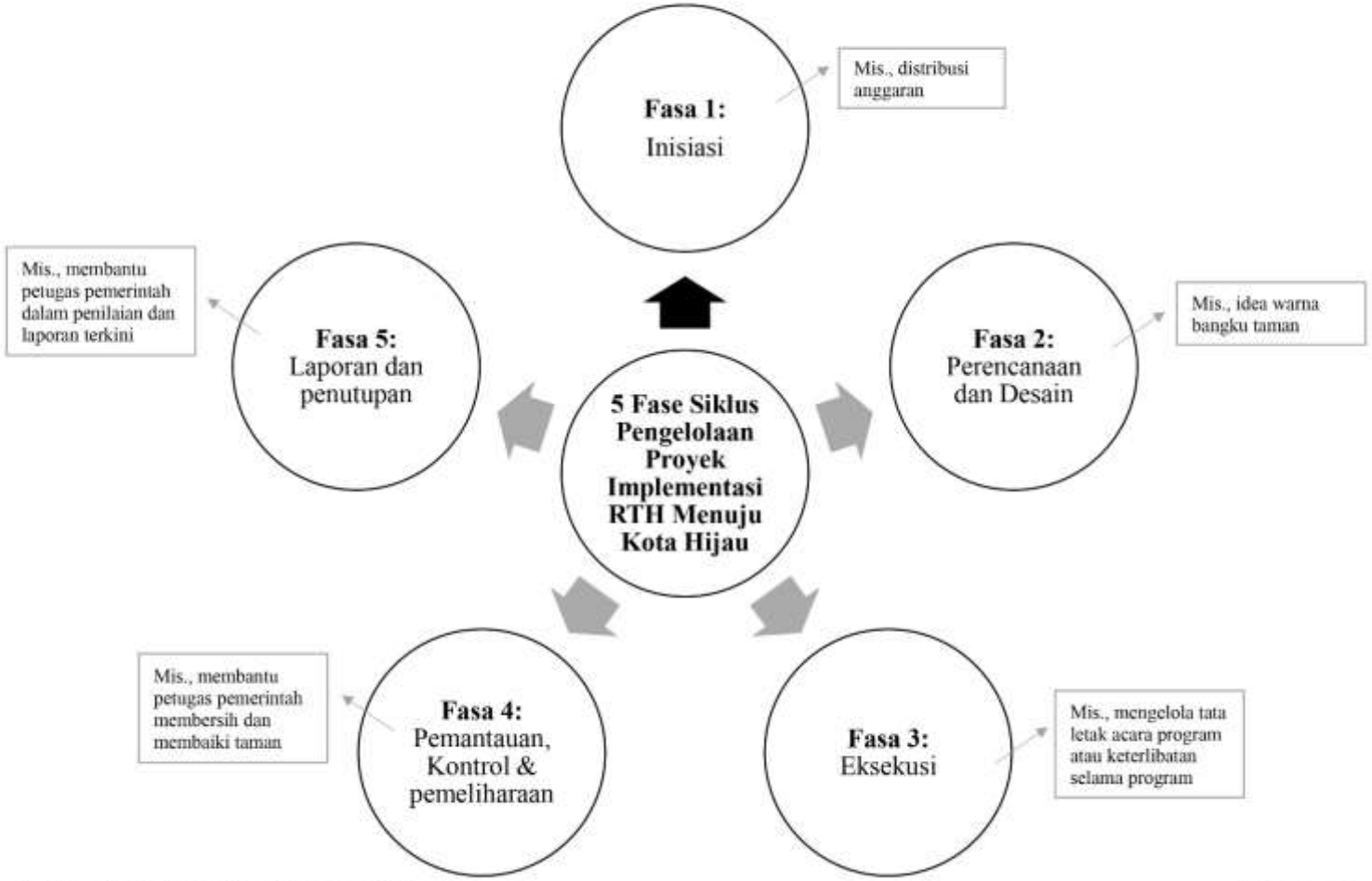


Analisis olh Peneliti: Nabilaa Mohamed, 2023

Konfidensial

Lampiran 2: Lima Fase Siklus Pengelolaan Proyek Implementasi Ruang Terbuka Hijau Menuju Pembangunan Kota Hijau

Sumber: Analisis Peneliti



Analisis olh Peneliti: Nabilaa Mohamed, 2023

Konfidensial

Lampiran 3: Elemen-elemen Inti di dalam Kerangka Konsep Kota Hijau

Similarities and Differentiation of Green City Concept Development Core Elements in Local Governments within Padang City-Melaka City, and Institute for Housing and Urban Development Studies-Green City Conceptual Framework (IHS-GCCF)

Indonesia Local GCC (Padang City) based on Indonesia Green City Development Program in 2011 (Kementerian Pekerjaan Umum, 2013; Thrisyanti, 2019; Sudiar, 2020)	**Malaysia Local GCC (Melaka City) based on Green City Action Plan in 2014** (Asian Development Bank, 2014)	**IHS-GCCF - Worldwide (Selected 50 Cities) in 2018** (Brilhante & Klaas, 2018)
• Green Energy (6th Attribute)	Energy Efficiency & Renewable Energy (2nd Thematic)	• Energy Efficiency or Renewable Energy in All Sectors (1st Core)
• Green Open Space (**2nd Attribute**)	Urban Forestry & Agriculture (**6th Thematic**)	• Greenery Extensive Use in All Sectors (**2nd Core**) • Green Infrastructure - Storm Water System (7th Area) • Greening Urban Agricultural-Green Vertical Farms (2nd Area)
• Green Planning and Design (1st Attribute)	-	• Spatial Planning with Land Compactness / Mix Use / Social Mix (3rd Core)
• Green Water (5th Attribute)	Water Management (1st Thematic)	• Environmental Quality / Water Security (3rd Area) • Greening of Public Services - Drinking Water and Sanitation (6th Area)
• Green Waste (3th Attribute)	Zero Waste (4th Thematic)	-
• Green Transportation (4th Attribute)	Green Transportation (3rd Thematic)	• Green Transport and TOD (1st Area)
-	-	• Green Growth and Equity Principles (4th Core)
• Green Community (8th Attribute)	-	-
• Green Building (7th Attribute)	-	• Green Building (5th Area)
-	Cultural Heritage & Tourism (5th Thematic)	-
-		• Green Technologies / Smart ICT (4th Area)

*The yellow colour denotes GOS implementation.

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40450 PADANG
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Formulir Informasi Peserta

Judul penelitian

Pembangunan Konsep Kota Hijau di Malaysia dan Indonesia: Analisis Perbandingan Lintas Negara Terhadap Implementasi Ruang Terbuka Hijau pada Pemerintah Daerah

Pendahuluan penelitian

Berkurangnya jumlah kawasan hijau di kawasan permukiman terutama di kota-kota besar semakin mengkhawatirkan sehingga diadakan Peduli Lingkungan pada tahun 1972 pada Konferensi Perserikatan Bangsa-Bangsa. Konsep Kota Hijau (KKH) sebagai panduan untuk membangun kembali kawasan hijau di kota telah dikembangkan pada abad ke-21. Ruang Terbuka Hijau (RTH) yang merupakan elemen terpenting kedua dalam KKH menjadi sorotan untuk membangun kota hijau. RTH mengacu pada kawasan hijau seperti taman yang terletak di tengah kota yang bergerak cepat atau dekat dengan kota yang sering digunakan oleh penduduk setempat untuk pembangunan sosial, keberadaannya memperkaya flora dan fauna serta membantu memperkuat ekonomi lokal. Implementasi RTH menuju Green City Development (PKH) telah menjadi misi nasional pemerintah Malaysia dan Indonesia agar kawasan hijau di kota dapat dipulihkan dan dilestarikan. Sayangnya, keadaan RTH yang tidak produktif telah melemahkan ekosistem kota dan mempengaruhi perkembangan kota-kota hijau seperti di China, Singapura, negara-negara Afrika sub-Sahara termasuk Malaysia dan Indonesia. Hal ini terjadi karena daerah perkotaan yang tidak stabil, kendala keuangan, dan kurangnya keterlibatan warga lokal dalam pelaksanaan RTH. Oleh karena itu, studi kasus komparatif lintas negara akan dilakukan melalui metode kualitatif dengan teknik wawancara tatap muka dan observasi.

Tujuan penelitian

Tujuan dari penelitian ini adalah untuk mendapatkan pemahaman tentang 'apa yang terjadi' dan bukan 'apa yang menyebabkan ini' melalui bagaimana pelaksanaan RTH oleh pemerintah daerah melalui empat aspek utama yang kemudian berujung pada PKKH yaitu (1) pemahaman yang baik peran RTH pada PKH, (2) implementasi RTH yang diselenggarakan berdasarkan wilayah perkotaan saat ini, (3) pendanaan yang stabil, (4) keterlibatan aktif masyarakat, dan aspek terakhir (5) mengusulkan kerangka konseptual RTH-KH berdasarkan konteks lokal sebagai rekomendasi pedoman terbaru untuk pemerintah daerah.

Prosedur penelitian

Data primer akan dikumpulkan dari wawancara tatap muka dan observasi lapangan. Petugas pemerintah daerah dan warga setempat di Kota Melaka dan Kota Padang akan dilibatkan sebagai informan. Informan dipilih melalui convenience sampling untuk memastikan pengumpulan data yang dapat diandalkan dan surat izin akan dikirimkan kepada informan terlebih dahulu sebelum diwawancarai. Sebanyak 10 petugas Dewan Kota Melaka Bersejarah dan 10 pejabat pemerintah daerah Kota Padang termasuk 12 warga setempat yang menggunakan Taman Rekreasi Bukit Serindit dan Taman Bunga Merdeka dan 12 warga setempat yang menggunakan Taman Imam Bonjol dan Taman Nanggalo telah terpilih. Selanjutnya juga dilakukan observasi nonpartisipatif di kawasan keempat taman tersebut. Beberapa foto dan video akan diambil untuk mengukur kondisi taman saat ini. Data yang

terkumpul akan dianalisis melalui analisis tematik dan perbandingan menggunakan perangkat lunak NVivo.

Keterlibatan dalam penelitian

Partisipasi Anda dalam penelitian ini bersifat sukarela. Anda berhak untuk menolak tawaran keterlibatan ini atau menarik diri dari penelitian ini kapan saja tanpa penalti.

Manfaat penelitian

Informasi yang diperoleh dari penelitian ini akan bermanfaat bagi pemerintah, masyarakat, industri dan lingkungan termasuk untuk kemajuan ilmu pengetahuan dan penelitian di masa mendatang.

1. Pemerintah: Praktik kebijakan terbaik meningkatkan tingkat kualitas pembangunan dan pengelolaan RTH.
2. Komunitas: RTH produktif meningkatkan kesehatan fisiologis dan psikologis manusia.
3. Industri: Meningkatkan ketahanan pangan, meningkatkan nilai real estate, dan meningkatkan sektor pariwisata.
4. Lingkungan: Meningkatkan ketahanan dan ekologi kota.

Kontribusi Pengetahuan:

1. Kontribusi Teoritis: Mampu mengembangkan teori RTH-KKH melalui '3 Pilar Keberlanjutan' dengan penambahan variabel baru (Urbanisasi, stabilitas keuangan, & keterlibatan masyarakat) dapat mengurangi tantangan.
2. Kontribusi metodologi: Melalui studi banding lintas negara dapat memperkuat temuan penelitian dengan menggeneralisasikan hasil penelitian.
3. Kontribusi Praktis: Meningkatkan efisiensi dan efektivitas penyelenggaraan pemerintahan daerah dalam pelaksanaan RTH terhadap PKH.

Risiko penelitian

Tidak ada resiko dalam penelitian ini, semua data tidak akan terungkap, dan nama informan akan diganti dengan simbol penomoran seperti 'Informan 1'.

Konfidensial

Informasi Anda akan dirahasiakan oleh para peneliti dan tidak akan diungkapkan kecuali diwajibkan oleh hukum.

Dengan menandatangani formulir persetujuan ini, Anda akan mengesahkan peninjauan catatan, analisis, dan penggunaan data yang timbul dari penelitian ini.

Jika Anda memiliki pertanyaan tentang penelitian ini atau hak Anda, silakan hubungi Nabilaa binti Mohamed di [redacted]

Formulir Izin[1]

Untuk berpartisipasi dalam penelitian ini, Anda atau wali yang sah harus menandatangani Formulir Persetujuan ini.

Saya dengan ini menyatakan bahwa saya telah memenuhi persyaratan usia dan dapat bertindak atas nama saya sendiri/sebagai wali saya yang sah dalam hal-hal berikut:

1. Saya memahami karakteristik dan ruang lingkup penelitian ini.
2. Saya telah membaca dan memahami semua syarat keikutsertaan dalam penelitian ini.
3. Saya puas dengan jawaban atas pertanyaan saya tentang penelitian ini.
4. Saya dengan sukarela setuju untuk berpartisipasi dalam penelitian ini dan mengikuti semua program serta memberikan informasi yang diperlukan kepada peneliti sesuai permintaan.
5. Saya dapat mengundurkan diri dari penelitian ini kapan saja tanpa memberikan alasan.
6. Saya telah menerima salinan Formulir Informasi Peserta dan Formulir Izin.
7. Terlepas dari kerugian yang disebabkan oleh kelalaian dan kecerobohan peneliti, dengan ini saya membebaskan dan membebaskan UiTM dan seluruh peneliti dari segala tanggung jawab sehubungan dengan, yang timbul dari atau terkait dengan keterlibatan saya. Saya setuju untuk membebaskan mereka dari bahaya atau kerugian yang mungkin saya alami sebagai akibat dari keterlibatan saya.

Nama Informan/ Wakil Resmi yang berkuatkuasa	Tanda tangan
No. Identitas	Tanggal
DR. RONI EKHA PUTERA	
Nama Saksi[3]	Tanda tangan
No. Identitas	Tanggal
NABILAA BINTI MOHAMED	
Nama Peneliti/Pengambil Izin	Tanda tangan
No. Identitas	Tanggal

[1] *Salinan asal disimpan oleh Peneliti Utama dan satu salinan diserahkan kepada informan.*
[2] *Potong mana yang tidak berkenaan.*
[3] *Saksi dimestikan beri izin secara lisan.*

APPENDIX 12

Observational Study Photos (Economic Sustainbility Dimension)



OBP-BSRP 1 (Rental Scooter)



OBP-BMP 5 (Food Truck)



OBP-BMP 24 (Coconut Shake)



OBP-BMP 33 (Duck Tour)



OBP-BMP 30 (Feeding Rabbit)



OBP-BMP 31 (Rabbit Park)



OBP-BMP 32 (Mini Fun Fair)



OBP-BMP 1 (Cycle Rickshaw)



OBP-NP 3 (Stall)



OBP-NP 3 (Food Truck)



OBP-NP 6 (No Trading Signboard)



OBP-RTHIBP 3 (Food Truck)



OBP-RTHIBP 2 (Stall)



OBP-RTHIBP 6 (Mini Fun Fair)

APPENDIX 13

Observational Study Photos (Social Sustainbility Dimension)



OBP-BMP 86 (Cycling)



OBP-BMP 87 (Swimming)



OBP-BSRP 74 (Playing hockey)



OBP-BSRP 76 (Playing Scooter)



OBP-NP 23 (Walking & Jogging)



OBP-NP 18 (Playing Playground)



OBP-RTHIBP 56 (Playing Softball & Doing Foot Reflexology)



OBP-RTHIBP 57 (Playing Football)

APPENDIX 14

Observational Study Photos (Environmental Sustainbility Dimension)



OBP-BMP 43 (Heritage Trees)



OBP-BMP 36 (Aquatic Plants)



OBP-BSRP 18 (Aquatic Life)



OBP-BSRP 34 (Birdsong Area)



OBP-NP 17 (Trees)



OBP-NP 9 (Flowers)



OBP-RTHIBP 33 (Grass & Trees)



OBP-RTHIBP 17 (Grass & Trees)

AUTHOR'S PROFILE



Nabilaa Mohamed obtained her Bachelor of Administrative Science (Hons.) in 2014 and Executive Master of Administrative Science in 2017 from Universiti Teknologi MARA (UiTM), Shah Alam. In 2020, she began her journey as a PhD candidate and served as a Graduate Research Assistant (GRA) at the Faculty of Administrative Science and Policy Studies (FSPPP), UiTM Shah Alam, supporting a two-year government-funded project entitled "A Proposed Model of Green City Concept: An Analysis of Local Governance in Malacca," funded by the Ministry of Education Malaysia (MOE) under the Fundamental Research Grant Scheme (FRGS). She recently concluded her appointment as a UiTM Postgraduate Teaching Assistant (UPTA) in January 2025, a role she held since 2022, and is currently serving as a Research Assistant focusing on book publishing coordination for a two-month research project on the Agensi Antidadah Kebangsaan (AADK) Research Report at the same faculty. In parallel, she lectures part-time at two institutions: Kolej Pengajian Tinggi Islam Al-Insaniah Malaysia (KPTI), Sg. Buloh branch, and Innovative University College, Petaling Jaya. Beyond academia, Nabilaa has accumulated over seven years of corporate administrative experience. She previously worked as an Administrative Executive at I-Max Financial Sdn Bhd, managing insurance, investment, and client documentation, as well as preparing business reports, coordinating meetings, and supervising interns and new financial advisors. She has held various administrative roles, including Freelance Admin HR at Novus Partners Sdn Bhd, where she provided HR support, handled client relations, and managed financial documentation; and Freelancer at ASC Synergy Sdn Bhd, where she oversaw tax filing, document labelling, data key-in, and general administrative duties. Currently, she holds the position of Operation Executive at CK Cleaning Services Sdn Bhd, overseeing procurement,

manpower planning, operations, and HR coordination. Additionally, she worked as a Freelance Editorial Operations Manager at Penerbitan Buku Pena, managing manuscript editing, book layout design, and author coordination within the local publishing industry. Apart from her academic and professional commitments, Nabilaa is also active in the sport climbing industry, having served as a climbing coach, guide, and routesetter at various gyms including Camp5 Utropolis, Project Rock Gurney, Hangout 1, and Urban Playz Midvalley. She has participated in national climbing competitions since 2013, reflecting her passion for outdoor leadership, physical endurance, and youth development. Her core strengths span academic teaching and research coordination, administrative and operational management, project support and documentation, event organisation, stakeholder engagement, and editorial work—blending multidisciplinary expertise with a commitment to academic and professional excellence.

List of Publication:

Mohamed, N., Vadeveloo, T., Mohd Zain, Z., & Putera, R. E. (2024). *Pembangunan bandar hijau: Pelaksanaan ruang terbuka hijau oleh kerajaan tempatan meningkatkan kemampanan ekonomi bandar* [Green city development: Implementation of green open spaces by local governments enhancing urban economic sustainability]. In Alauddin Sidal (Chief Ed.), S. Ismail, J. E. Andrew, & P. Gunasekaran (Eds.), *Prosiding Kolokium Penyelidikan* (pp. 287-297). Institut Tadbiran Awam Negara (INTAN).

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