A Research on Awareness and Commitment to SDGs Among
New Taipei City and Tainan City Residents

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Submitted to the Faculty of
the Department of International Affairs in partial fulfillment
of the requirements for the degree of Bachelor of
Arts in International Affairs

Wenzao Ursuline University of Languages 2023

WENZAO URSULINE UNIVERSITY OF LANGUAGES DEPARTMENT OF
INTERNATIONAL AFFAIRS

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Abstract

As the target year for the United Nations "2030 Sustainable Development Goals (SDGs)" approaches, countries worldwide are reviewing the progress of their internal operations. In order to have a better look at the process, "Voluntary Local Reviews (VLRs)" by local governments had shown up. It aims to provide reports that help the United Nations, national governments, and the public have a better understanding of the city's main goals, processes, and outcomes of the SDGs. As a case study, this research focuses on the cities of New Taipei City and Tainan City among the six major municipalities in Taiwan, which issued reports in 2019 and 2021. This study conducts a comparative analysis of the public's awareness and commitment to participate in these two cities. The research uses a questionnaire survey method and collects 216 valid responses. The main findings are: (1) Citizens of Tainan City have a higher level of self-awareness and self-assessment compared to those in New Taipei City; however, residents of New Taipei City identify higher importance of sustainable development in their self-perception compared to citizens of Tainan City (2) Through testing, it was found that citizens of Tainan City demonstrate a higher level of accuracy in urban issue assessments compared to those in New Taipei City, indicating a greater awareness of urban issues. (3) It is recommended that the New Taipei City government apply the Theory of Planned Behavior (TPB) and Governance theory to enhance governance relations with citizens. (4) After understanding the SDGs and VLRs, citizens of both cities have shown an increased willingness to participate, but the response from residents of New Taipei City is stronger. This research suggests that the New Taipei City government should increase interaction with its citizens, while the Tainan City government should put more effort into improving urban issues. Additionally, both cities should enhance their promotion and awareness of SDGs and VLRs.

Keywords: Sustainable Development Goals (SDGs), Voluntary Local Reviews (VLRs), Level of Awareness, Governance, Theory of Planned Behavior

新北市與台南市市民對 SDGs 認知與實踐意願調查研究

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摘要

　　隨著聯合國 2030 永續發展目標（Sustainable Development Goals, SDGs）期限年接近，各個國家都在審視著國家內部運行的進度。「地方政府自願檢視報告(Voluntary Local Reviews, VLRs)」的出現是為了使聯合國、國家政府以及人民更加瞭解運作過程及成果，以及提升市民的參與率進而提出的報告書。以研究目標：台灣六都中的新北市及台南市為例，兩縣市相繼在 2019 年及 2021 年時發出了報告書。本研究針對兩縣市的認知程度以及參與意願度做比較分析。此研究採用問卷調查法，並回收了 216 份有效問卷。主要研究結果為：（1）台南市市民在自我認知及評價上，相較新北市有較高的認知程度；然而新北市市民認為永續發展對自我的重要性中，相比台南市市民是有較高的認同度。（2）透過測驗得知台南市市民在城市議題測驗上，相比新北市有較高的正確度，代同時表他們對城市議題的認知程度較高。（3）建議新北市政府套用了計劃行為理論（Theory of Planned Behavior, TPB)以及政府治理（Governance）理論去提升與市民之間的治理關係。（4）兩個城市的市民在了解 SDGs 以及 VLRs 後，明顯增加了參與意願，然而在新北市市民的反應上更強烈。此份研究建議新北市政府與市民之間增加互動性，而台南市政府則應該在改善城市議題方面更加努力。同時兩座城市在推動 SDGs 和 VLRs 方面應進加強宣傳及提升。

關鍵詞：永續發展目標（SDGs）、地方政府自願檢視報告（VLRs）、認知程度、政府治理、計畫行為理論

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INTRODUCTION

In 2015, while celebrating the 70th anniversary of the United Nations, "2030 Sustainable Development Goals" were released. It includes 17 goals along with 169 targets and 234 indicators. The primary aim is to promote sustainable development in the economic, social, and environmental aspects.[1] These goals are more specific than the Millennium Development Goals (MDGs), which were established in 2000, and they contain a more comprehensive range of aspects. Additionally, with the increasing seriousness of climate change and urban issues, countries have enhanced their focus on sustainable development. As a result, governments worldwide have committed to acting and implementing corresponding measures. Establishing these goals is a collaborative task for national governments; many cities have also set their own sustainable development goals according to their specific urban issues. When crafting sustainable development goals, both nations and cities primarily consider the societal needs and the challenges they are facing, and they aim to coordinate these goals with the global Sustainable Development Goals (SDGs).

The municipal government can use Voluntary Local Reviews (VLRs) to enhance the United Nations, national governments, and the public's understanding of the contributions and achievements in sustainable development made by the government. This can even increase civic engagement and awareness among citizens. Taking Taiwan as an example, both the central government of Taiwan and city governments have followed these goals and started to establish SDGs that are suited to the specific needs of their respective regions.[2] While setting these goals, it is also essential to examine their viability and achievability. There are six special municipalities that

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[1] United Nations, "Transforming Our World: The 2030 Agenda for Sustainable Development," United Nations, 2015, https://sdgs.un.org/2030agenda.
[2] National Council for Sustainable Development, "National Council for Sustainable Development," National Council for Sustainable Development, 2018, https://ncsd.ndc.gov.tw/Fore/Vhome.

people are concerned about the most in Taiwan: Taipei City, New Taipei City, Taoyuan City, Taichung City, Tainan City, and Kaohsiung City. These cities not only have large populations and economic resources but also have their unique development challenges.

In the process of realization, various Taiwan local governments collaborate with civil organizations, academia, and the business sector to advance the achievement of SDGs. Citizens' cooperation and support play an essential role in driving these objectives. This collaborative effort can bring together the strengths of different people and groups, working together to tackle the challenges of sustainable development and promote sustainability in Taiwan.

Motivation

As the 2030 SDGs deadline approaches, it prompts the author to examine and reflect on whether national and local governments are genuinely implementing sustainable development plans and whether the public has a clear understanding of it and implementing these goals. The relationship between the government and the citizens is interdependent. Achieving sustainable development will be challenging if only government support and maintenance. Same as if it only relies on citizens, it would also be challenging. Before conducting this, the author attempted to use an interview survey to ask 20 individuals about their awareness of the "2030 Sustainable Development Goals" and whether they know about the "VLRs "established by local governments and city councils. Most responses indicated a need for more understanding or complete unfamiliarity with these topics in some cases. Considering these responses encourages the author to contemplate the implementation gaps. Motivated by these concerns, the author decided to undertake this research paper to find the implementation gaps.

Purpose

As the deadline for the 2030 SDGs approaches, numerous scholars and governments globally have initiated discussions on the progress of these goals and are concurrently formulating follow-up plans for the SDGs. This has further prompted the author to delve into understanding whether cities in Taiwan are also making strides in achieving the SDGs before 2030.

In this investigation, the author has chosen New Taipei City and Tainan City as the focal points. The selection of these two cities is deliberate, as New Taipei City is the first city in Taiwan to publish Voluntary Local Reviews (VLRs), and Tainan City is among the earliest developed cities in Taiwan. Both cities possess unique strengths and weaknesses and face distinct urban issues. By choosing these two cities, the author intends to employ a comparative approach to discern the differences between them. Ultimately, by scrutinizing these disparities, the research aims to identify specific shortcomings in each city and provide theoretical recommendations for improvement.

Research question

1. Do the New Taipei City and Tainan City citizens have high SDGs awareness?
2. Do the New Taipei City and Tainan City citizens have higher awareness and commitment after the understanding of SDGs and VLRs?
3. How can the government enhance citizen participation and commitment to achieving the SDGs?

Limit

Due to the limitations of time, financial resources, and capabilities, it was not feasible to compare Taiwan with other countries, and the restricts of covering all six special municipalities in Taiwan, including Taipei City, New Taipei City, Taoyuan City, Taichung City, Tainan City, and Kaohsiung City. As a result, the research was limited to selected regions.

Delimits

Due to limitations in time, financial resources, and capabilities, the researcher focused the study on New Taipei City and Tainan City, among the six special municipalities in Taiwan. The primary research subjects were residents of New Taipei City and Tainan City. The main reason why the author chose New Taipei City is not only because it has the largest population among all cities in Taiwan but also because it was the first city in Taiwan to issue VLRs. Tainan City is not only one of the earliest developed areas in all of Taiwan, but it is full of historical and cultural heritage, which further intrigued the author to gain a deeper understanding of the city.

LITERATURE REVIEW

The progress of technology has seen significant growth since the Industrial Revolution. However, with this progress, it has brought numerous unresolved issues and disasters to the world. These include environmental pollution, social problems, economic recessions, conflicts between countries to countries, unequal healthcare distribution, gender inequality, hunger, and so on. Under the influence of these pros and cons, not only have human relationships been affected, but we also face the crises of species extinction and running out of resources. Human greed has no bounds, and in such situations, resources, species, and pristine environments will eventually become scarce. According to the ancient Roman philosopher, Seneca, "*It is not because things are difficult that we do not dare; it is because we do not dare that they are difficult.*"[3] This statement has not only sparked the attention of some people to the issues of sustainable development but has also been widely applied in the promotion of sustainable development.

Sustainable Development

Five Key Agreements and Documents

After the end of World War II, the devastating impact and consequences of the war led to various global issues worsening. This prompted the United Nations to address these challenges. In the 1992 Earth Summit in Rio de Janeiro, the United Nations observed the impacts. They applied the motto "Think globally, act locally," inspired by the Scottish urban planner Patrick Geddes in the early 20th century. [4]

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[3] Daily Sentence Management: Seneca| Manager., "Daily Sentence Management: Seneca| Manager.," ed. Seneca, www.managertoday.com.tw, 65AD, https://www.managertoday.com.tw/quotes/author/view/393?page=1.

[4] Daniel Tarantola, "Thinking Locally, Acting Globally?," *American Journal of Public Health* 103, no. 11 (November 2013): 1926–26, https://doi.org/10.2105/ajph.2013.301636.

As a response to the issues, the United Nations engaged with countries all over the world, signing five key agreements and documents: the "Rio Declaration on Environment and Development," "Agenda 21", "Convention on Biological Diversity," "Forest Principles," and the "United Nations Framework Convention on Climate Change". These agreements aimed to maintain environmental order and promote sustainable development.

Through this approach, the United Nations encouraged people worldwide to prioritize and implement actions for sustainable development. In 1993, the United Nations established the "Commission on Sustainable Development" to oversee and assist countries toward sustainable development, ensuring smooth progress.

Millennium Development Goals (MDGs)

In 2000, the United Nations presented the "Millennium Declaration" at the General Assembly, and in 2001, they introduced the Millennium Development Goals (MDGs), primarily focusing on societal aspects. The United Nations aimed to address "Eradicate Extreme Poverty and Hunger," "Achieve Universal Primary Education," "Promote Gender Equality and Empower Women," "Reduce Child Mortality," "Improve Maternal Health," "Combat Infectious Diseases," Ensure Environmental Sustainability," and "global cooperation for development." [5] They called on governments and societies worldwide to collaborate to achieve these objectives by 2015.[6]

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[5] United Nations, "Millennium Development Goals," www.un.org, 2015,
https://www.un.org/zh/millenniumgoals/.
[6] United Nations, "United Nations Millennium Development Goals," United Nations, 2015,
https://www.un.org/millenniumgoals/.

Sustainable Development Goals (SDGs)

Despite the significant progress achieved through the efforts of governments worldwide over 15 years, sustainable development could not be fully realized within such a short timeframe. Sustainable development requires ongoing and sustained efforts. In Figure 1, during the 70th year of the United Nations in 2015, the MDGs, which deadline had been reached, were replaced with the SDGs. The SDGs emphasize "economic growth," "social progress," and "environmental protection." The number of goals was expanded from 8 goals to 17 goals, from 21 targets to 169 targets, and from 60 indicators to 234 indicators.

Figure 1 SDG Logo, including Color Wheel and 17 Icons by Fred D Davis in 2015

Source: Fred D Davis, " SDG Logo, Including Colour Wheel and 17 Icons," SDG Logo and Guidelines (2015).

The revised goals not only encompass a broader range of areas but also make the objectives more specific. As shown in Table 1[7], the changes to SDGs not only place a greater focus on indicators and differentiation but also make them applicable to all countries globally. They emphasize a bottom-up approach, which involves asking for input and suggestions from the residents as a critical enhancement, with the final decisions made by the United Nations. The fundamental principle of the SDGs is

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[7] New Taipei City Government, *New Taipei a Livable & Thriving City- New Taipei City Government Sustainable Development Goals of Voluntary Local Reviews, 2019, Onlineimage.File:///Users/Diana/Downloads/108%E6%96%B0%E5%8C%97%E5%B8%82VLRs.pdf.f ile:///Users/Diana/Downloads/108%E6%96%B0%E5%8C%97%E5%B8%82VLRs.pdf, 2019.*

"Leaving no one behind." The target year for the SDGs is 2030, and the United Nations hopes that people will continue to work towards these goals during these 15 years. They also aspire for governments, businesses, individuals, and social organizations in all countries to collaborate in achieving these objectives.

Table 1 MDGs and SDGs comparison

	MDGs	SDGs
Year	2001~2015	2015~2030
Targeted Towards	Primarily at the Social Level	Balancing Social Development and Environmental Sustainability
Content	8 goals, 21 targets, 60 indicators	17 goals, 169 targets, 234 indicators
Target Audience	Developing Countries	All Countries
Discussion Method	Top-Down	Bottom-Up
Framework Development	Developed by Experts at the UN	A diverse collaboration involving 70 open working groups, civil society organizations, specialized seminars, and national workshops, among others.

Source: New Taipei City Government, " New Taipei a Livable & Thriving City- New Taipei City Government SDGs of Voluntary Local Reviews." (2019).

Voluntary Local Reviews (VLRs)

In order to ensure the implementation of Sustainable Development Goals at the national and sub-national levels while promoting consistency and comparability, the United Nations has put forward Voluntary Local Reviews (VLRs). Due to differences in geography, culture, governance, and other factors among countries, conducting reviews by the United Nations would not accurately capture the different unique needs of each region. Therefore, the review process has been delegated to national governments.

When regions plan their VLRs, they need to use the 17 goals and 169 indicators from SDGs as a foundation. This approach aims to achieve uniformity[8], allowing governments to review and improve regional policies, sustainable development plans, and other related measures. It may also involve stakeholders participating in discussions, ultimately resulting in the most suitable localized indicators. [9]

The appearance of VLRs not only brings about the government making clear standards to let people use an easy way to understand the local problem but also encourages practical implementation. It makes it easier for interested countries, especially those countries that are in the observation phase but want to join the SDGs.[10]

New Taipei City 2021 Voluntary Local Reviews (VLRs)

New Taipei City, formerly known as Taipei County, is in northern Taiwan and is one of the most populous cities in Taiwan. It is also one of the six special municipalities in Taiwan. New Taipei City combines modern urban development with diverse natural landscapes, and it is close to Taipei City. Because the two cities overlap, it is formed a prosperous metropolitan area. This region has modern business centers, shopping malls, cultural facilities, and many popular tourist attractions, which attract numerous foreign tourists for sightseeing and travel. In addition to the urban charm, New Taipei City also possesses abundant natural resources. In April 2019, New Taipei City, led by Mayor Hou You-Yi, issued the "2019 New Taipei City VLRs

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[8] United Nation, "Review of Global Guiding Elements for Voluntary Local Reviews (VLRs) of SDG Implementation," *Review of Global Guiding Elements for Voluntary Local Reviews (VLRs) of SDG Implementation,* 2020, https://sdgs.un.org/sites/default/files/2020-10/GlobalGuidingElementsforVLRs_FINAL.pdf..

[9] Riina Jussila, *Global Guiding Elements for Voluntary Local Reviews (VLRs) of SDG Implementation*, 2020.

[10] Riina Jussila, *Global Guiding Elements for Voluntary Local Reviews (VLRs) of SDG Implementation*, 2020.

on SDGs." New Taipei City became the tenth city worldwide to release VLRs and the first city in Taiwan to do so.[11]

The VLRs aim to address various issues across different aspects of the city and simultaneously, improve the quality of life for its citizens. Citizen participation is considered a vital and indispensable element in this movement. In the year of its release, New Taipei City was recognized with the Best City Sustainability Award in the "2020 Six Major Cities Sustainability City Survey" by the Business Today Magazine.[12] In 2021, New Taipei City introduced the second version of its VLRs, the "2021 New Taipei City SDGs VLRs," which primarily focused on addressing the impacts of the COVID-19 pandemic. While combating the pandemic, the city also emphasized the well-being of its citizens and sustainability goals. In the 2021 New Taipei City VLRs, the city government identified and focused on the primary implementation goals from among the 17 SDGs, which included goals 1, 2, 3, 8, 10, 12, 13, 16, and 17.

The preparation of New Taipei City's VLRs adhered to international guidelines and utilized several standards to make citizens-centric. These standards included the "Editing Focal Points Proposed by the United Nations High-Level Political Forum," the "Guiding Principles for Local Voluntary Reviews published by the United Nations in 2020," the use of "SDGs Tools for further analysis and review," the input from the "Sustainable Development Solutions Network (SDSN)," which includes data from 277 countries and various stakeholders' experiences and opinions, and the "United

11 Secretariat, New Taipei City Government, "2019 Voluntary Local Reviews," Secretariat, New Taipei City Government, November 3, 2021, https://sdgs.ntpc.gov.tw/ch/home.jsp?id=0e5a1b2e43639bf0.
12 Business Today, "New Taipei a Livable & Thriving City- New Taipei City Government Sustainable Development Goals of Voluntary Local Reviews," www.businesstoday.com.tw, 2020, https://www.businesstoday.com.tw/topic/2020/sustainable_city/.

Nations Human Settlement Programme (UN-Habitat) Principles for Urban

Planning".[13]

Tainan City 2021 SDGs VLRs

Tainan City is located in the southwest of Taiwan and is the fourth-largest city

among Taiwan's six special municipalities. Tainan's geographical location is

characterized by its proximity to mountains on the east, connecting to the Alishan

mountain range, and facing the Taiwan Strait on the west. Tainan also boasts the

largest flatland area in Taiwan, making it conducive to agriculture and natural

attractions. The city's diverse history and culture, influenced by periods such as the

Dutch, Ming Dynasty, Qing Dynasty, and Japanese colonial, have left it with

numerous historical and architectural landmarks, significantly impacting its tourism

and economic development.

In December 2021, Tainan City, under the leadership of Mayor Huang Wei-Che,

issued the first "Tainan City SDGs VLRs," which was also the first VLRs in Taiwan

to adopt a low-carbon city as a governance framework. In Tainan's VLRs, the city

government prioritized ten key implementation goals from the 17 SDGs, including

SDGs 3, 4, 6, 7, 8, 9, 11, 12, 13, and 17.

Furthermore, the government classified the 17 SDGs into six major categories:

"Three Upgrades, Three Sustainabilities." The "Three Upgrades" include "Economic

Upgrade," which is the enhancement of the industrial zone and the development of

new industries to achieve economic growth. The second one, "Transportation

Upgrade," enhances green, intelligent, and safe transportation methods, and the last

one is "Healthcare Upgrade." It is the promotion of vaccination and healthcare

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[13] New Taipei City Government, "2021 NEW TAIPEI SDGs VOLUNTARY LOCAL REVIEW,"
November 2021.

services for citizens of all ages. The "Three Sustainabilities" focus on "Environmental Sustainability," which is to control vacant properties, promote solar energy, and create a low-carbon sustainable environment, and the second one is "Warmth Sustainability." To promote community maintenance and disaster awareness, the last one is "Educational Sustainability," which provides equitable learning opportunities for individuals of all ages. The Tainan City government has established the "Low Carbon Adaptation and Sustainable Development Committee" to drive and monitor sustainable development efforts. Additionally, annual forums are held to facilitate a rolling review of the VLRs by gathering input from the mayor and relevant departments.[14]

Theories of Government-Citizen Relationship

According to United Nations Secretary-General António Guterres, as stated at the General Assembly in 2017, "Together with these reforms, it is crucial to build a new generation of partnerships, involving governments, civil society, regional organizations, international financial institutions, academia, and the business community." Furthermore, based on the research of Omisore, Akinlolu Gabriel, Grace M Babarinde, Damilola P Bakare, and Esther Olufunmilayo Asekun-Olarinmoye, the SDGs are not only directed at individual countries but also encompass the populations of all nations. They have proposed five principles: People, Prosperity, Planet, Peace, and Partnership, using the 5Ps framework to provide a more precise categorization of the 17 goals. Before the United Nations formulated the SDGs, goals and indicators were developed through professional insights and discussions from various stakeholders, including government, civil society organizations, the private sector,

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[14] Tainan City Government, "Taiana City Sustainable Development Goals Voluntary Local Review," October 2021.

scientists, scholars, and individual citizens.[15] Taiwan's National Council for Sustainable Development, under the Executive Yuan, also emphasizes that the promotion of SDGs relies on active participation from government, businesses, civil society organizations, and community members, among other relevant stakeholders.[16]

Public Value

The definition of public value first appeared in 1995 in Mark Moore's publication "Creating Public Value: Strategic Management in Government." According to Moore, public value can be categorized into three types: 1. Creating tangible goods with substantive value. 2. Legitimizing and sustaining political actions. 3. Making actions operable and manageable during implementation and management. [17]The first aspect of public value, the creation of tangible goods with substantive value, is not limited to public goods. It also encompasses addressing market failures and maintaining social market order through relevant legal systems.

Regarding the second aspect, Moore emphasizes that for managers, legitimizing their actions in creating public value is crucial to ensuring smoother and more feasible operations. Legalizing their actions is necessary because neither the public nor their officials have a broad enough perspective to understand the entire scope. Therefore, legalizing actions in management ensures a smoother process and a broader perspective from the manager's point of view, making it easier to grasp potential capabilities.

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[15] Omisore, Akinlolu Gabriel et al., "Awareness and Knowledge of the Sustainable Development Goals in a University Community in Southwestern Nigeria," in Ethiopian Journal of Health Sciences, 2017, 669–76.

[16] National Council for Sustainable Development, "Taiwan Sustainable Development Goals, National Council for Sustainable Development.," reurl.cc, 2019, https://reurl.cc/8j3x57.

[17] A Symes, "Creating Public Value: Strategic Management in Government (Cambridge, MA: Harvard University Press) by Mark Moore," International Public Management Journal 2, no. 1 (1999): 158–67, https://doi.org/10.1016/s1096-7494(00)87438-3.

In the third point, Moore underscores the importance of timing in strategy formulation and implementation. It is crucial to seize opportunities and effectively implement actions to create public value to maintain public trust in managers. Managers should not only focus on the process but also the outcomes. When the value produced reaches a certain level, it attracts people to use and participate and ultimately enhances the final value. Failing to pique the public's interest can result in an ineffective achievement of the desired outcomes.

When defining public value, managers must understand the goals of their target groups. Setting group goals should be aimed at broad populations rather than specific individuals or groups, such as the entire society and community of citizens. It should also attract public attention and make them value it, ensuring that people benefit from it, which will expedite the achievement of their goals.

According to the diagram presented in "The Realm of Public Value Creation" by Panagiotopoulos, Klievink, and Cordella (2019), public value arises through transforming technology into services.[18] This transformation includes utilizing professional capabilities and ultimately results in value production. The government does not solely provide public value; it also includes societal expectations, ultimately leading to the creation of public value.

The creation of public value has multiple benefits and impacts. Firstly, by generating tangible and substantive value through the creation of goods or services, governments and organizations can earn the trust and support of the public, fostering strong relationships and enhancing institutional satisfaction. Secondly, the legalization and support of political actions contribute to maintaining societal stability and order, achieved through the legalization and implementation of legal systems. Additionally,

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[18] Panos Panagiotopoulos, Bram Klievink, and Antonio Cordella, "Public Value Creation in Digital Government," Government Information Quarterly 36, no. 4 (October 2019): 101421, https://doi.org/10.1016/j.giq.2019.101421.

public value creation extends beyond public goods to include actions addressing market failures, ensuring the effective functioning of markets within the framework of social interests. Simultaneously, the creation of goods and services with substantive value promotes economic development, stimulates the growth of related industries, and facilitates the effective utilization of public resources. In terms of management, the legalization and oversight of actions contribute to ensuring smooth operations and enhancing managerial efficiency. Additionally, regular understanding of public needs and expectations allows for better alignment of created value with societal demands, thereby improving the effectiveness of public services. Ultimately, proactive public value creation can inspire public engagement and cooperation, establishing a more robust and resilient social foundation, fostering overall societal progress and sustainable development.[19]
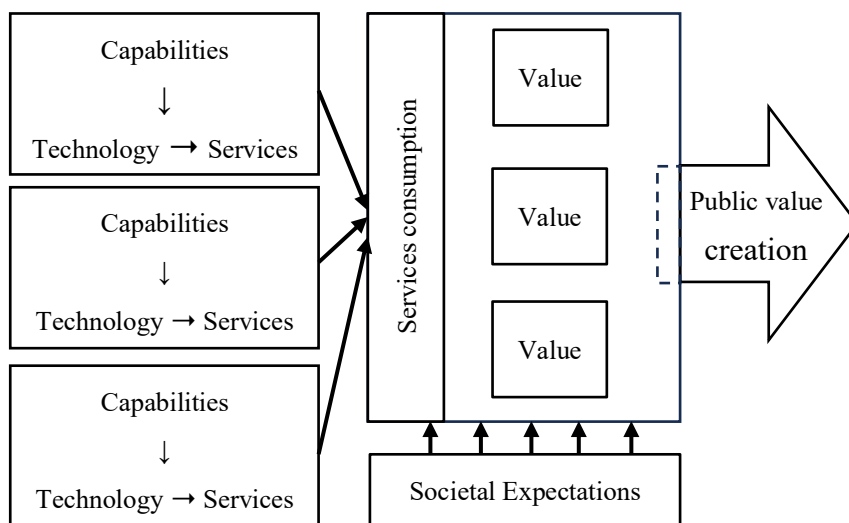
Figure 2. The realm of public value creation

Sources: Panagiotopoulos, Panos, Bram Klievink, and Antonio Cordella. "Public Value Creation in Digital Government." *Government Information Quarterly* 36 (4): 10;14;21. https://doi.org/10.1016/j.giq.2019.101421. (2019)

[19] John Alford and Janine O'Flynn, "Making Sense of Public Value: Concepts, Critiques and Emergent Meanings," International Journal of Public Administration 32, no. 3-4 (March 19, 2009): 171–91, https://doi.org/10.1080/01900690902732731.

Governance

Jan Kooiman's research describes governance as having five layers. The first layer is "interaction," considered the most critical aspect of governance. Even though citizens live in the same region, their diverse family backgrounds and educational experiences lead to various interactions and responses. These differences prompt policymakers to use these outcomes to effect change.

The second layer is "communication". Effective communication with citizens is vital, and governments can utilize social media for direct interaction with the public. Communication goes beyond language and can include surveys to understand citizen's thoughts and perceptions. By comparing this data with previous information, the government can identify differences and enhance communication. Repeated testing can make government policy changes more effective.

The third layer can be further subdivided into three categories. The first is "Self-government," which involves the ability of people to self-organize and develop collective solutions through individual perspectives. The second is "Co-government," where individuals work collaboratively, whether from public or private institutions, to develop collective solutions and address issues. The final component is "hierarchical governance," representing the most common form of government interaction with its citizens.

The fourth layer deals with how citizens respond to government policies. When facing new policies, citizens encounter corresponding challenges and may need alternative methods to oversee and address government policy challenges.

The fifth and final layer involves evaluating the proposals and conditions offered by all levels of governance, leading to discussions and changes. While these five layers introduce diversity and complexity into governance, neglecting these aspects

can exacerbate problems and lead to more significant issues. [20] The goal of

governance extends beyond changing policies; it also aims to enhance our society and

ultimately reduce urban issues.

Theory of Planned Behavior (TPB)

The theoretical framework proposed by Icek Ajzen provides a valuable basis for

researching human social behavior in various fields.[21] It is commonly applied to study

and explain people's behavior. This theory, grounded in psychology and sociology,

explains the reasons and motivations behind people's actions in specific contexts. It

can be applied to behavior and health promotion, environmental behavior, consumer

behavior, social behavior, and civic engagement, which is the focus of this article.

According to Figure 4, Ajzen divides the factors influencing behavior into three

determinants that explain behavioral intention. The first determinant is "Attitude,"

which encompasses "Behavioral Beliefs" and "Attitude Toward the Behavior".

"Behavioral Beliefs" refer to an individual's beliefs and views regarding what they

expect from a particular action and how it will impact their future behavior. For

example, suppose citizens believe that engaging in sustainable behaviors, such as

participating in environmental activities or practicing energy conservation and carbon

reduction, can reduce environmental impacts and improve their quality of life. In that

case, they are more likely to support and engage in actions related to sustainable

development.

"Attitude Toward the Behavior" refers to whether an individual likes or dislikes

a particular behavior and whether they are willing to participate in or support it. For

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[20] Kooiman, Jan Peter, "Governing as Governance" (2003).

[21] Nguyen, Thanh-Dung, "Theory of Planned Behavior as a Theoretical Framework" (2020).

example, if citizens hold a negative attitude towards sustainable behaviors, they may feel dissatisfied, unwilling to participate, or resistant to engaging in these activities.

Moving on to the second determinant, we have "The subjective norm," which includes "Normative Beliefs" and "Subjective Norms". "Normative Beliefs" refer to an individual's beliefs about social norms or the expectations of others. For example, suppose a person believes that society generally considers participation in sustainable development the right or popular thing to do. In that case, they may be more inclined to follow this normative belief. "Subjective Norms" pertain to an individual's perceived social pressure or subjective evaluation of the expectations of others. For example, it is about whether one should or should not engage in sustainable development activities based on the social pressures they perceive.

The third determinant is "The perceived behavioral control and self-efficacy towards the behavior," which includes "Control Beliefs" and "Perceived Behavioral Control." "Control Beliefs" represent an individual's belief in their ability or opportunity to control a specific behavior. This encompasses the person's views on the influence of external and internal factors on behavior implementation. For instance, if someone believes they have enough control capability to implement policies to achieve SDGs, their control beliefs might be optimistic.

"Perceived Behavioral Control" focuses on an individual's belief in implementing a specific behavior but places a stronger emphasis on their confidence in overcoming obstacles and achieving behavioral goals. For example, if someone believes they can easily overcome potential barriers and implement SDGs, their perceived behavioral control is high.[22] Therefore, these three factors have correlations with the TPB structure and influence behavioral intentions, ultimately affecting

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[22] Ajzen, Icek. "The theory of planned behavior." Organizational Behavior and Human Decision Processes 50 (1991): 179-211.

behavior. Through this theory, I will incorporate it into questionnaire analysis to understand whether the public is indeed influenced by these three factors when implementing the SDGs. This approach will enable the government to act based on the results and enhance public participation.

Figure 3. The TPB by Icek Ajzen in 1991
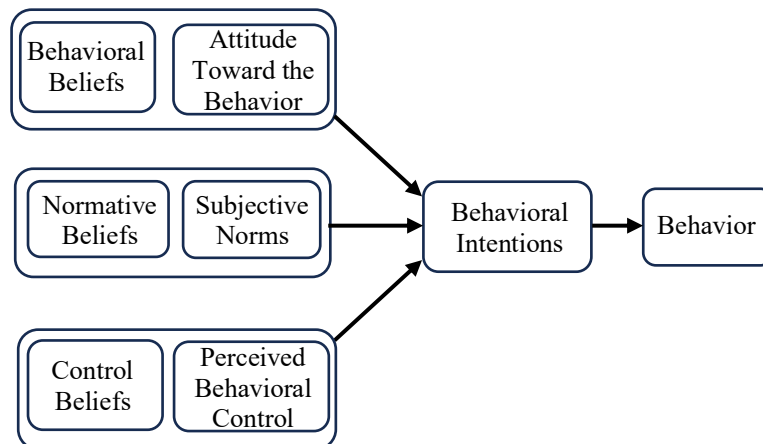
Source: Icek Ajzen. *The Theory of Planned Behavior*. *Journal of Environmental Psychology*. (1991)

Summary

The emergence of SDGs has not only increased people's attention to "Sustainable Development" worldwide but has also prompted the participation and awareness of some of the population. From the early Earth Summits to the MDGs and the current SDGs, governments, and people globally have made efforts and achieved some progress. However, achieving sustainable development requires long-term efforts to ensure everyone can enjoy social well-being. SDGs require cooperation among governments, businesses, individuals, and civil society, and they emphasize the importance of governments with authority and leadership because they can use this power to bring up their civil.

This study focuses on the cities of New Taipei City and Tainan City. While their specific VLRs may target different objectives, they share a common goal of

advancing toward SDGs. These cities can enhance their success in promoting SDGs through the following arguments and theories. First, they can elevate "Public Value" for citizens by creating tangible goods and activities to increase citizens' utilization and participation. They can also formulate relevant funding for sustainable development and carefully consider its sustainability when designing these programs. Lastly, they should review whether the terms of these programs can operate and manage efficiently. The generation of public value encourages citizen participation and emphasizes its importance.

Next is to focus on "national governance" for governments. Along with enhancing public value, governments should also incorporate the five principles of national governance to ensure that citizens have a certain level of recognition and participation in sustainable development. Lastly, using the TPB can help analyze the conditions under which citizens are more willing to participate in sustainable development. While governments may perceive progress, citizens might consider it a regression, and TPB analysis can help understand the level of citizen awareness and opinions. As the United Nations points out, SDGs cannot be achieved in the short term; they require long-term and stable planning. To build a fair, more prosperous, and sustainable future, governments should focus on citizen participation and regulatory formulation to ensure the continuous development of sustainable development.

METHODOLOGY

Research Design

The author employed a quantitative research approach to survey the public's awareness of SDGs in New Taipei City and Tainan City, as well as the perceptions generated after understanding VLRs. The author used Google Forms to create a questionnaire and divided the sections into five parts, including personal information, self-rating awareness of SDGs, the level of understanding of SDGs and VLRs, the government's actions influence commitment preferences, the changing of commitment after they understand about SDGs and VLRs and the message for the government. A "Five-point Likert Scale" was utilized to evaluate respondents' assessments of personal awareness and perspectives. Due to constraints related to geography, time, and budget, data collection was exclusively conducted online. The questionnaire was transmitted through local Facebook groups, LINE OpenChats, Dcard local boards, and Instagram.

Instrument of Research

In this study, the authors employed Descriptive Statistics and Independent Sample t-test as their research instruments. Descriptive Statistics were used to analyze individual information, and an Independent Sample t-test was subsequently utilized to investigate the research questions.
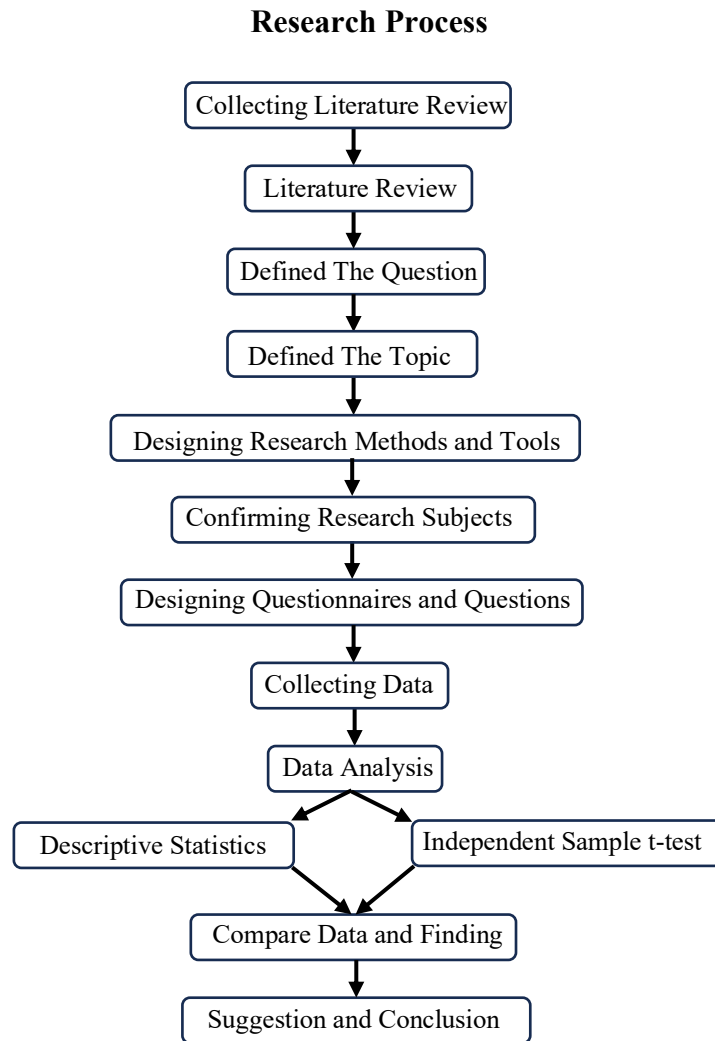
Research Process

Figure 4. The Research Process

Resource: Created by the author

Data Collection

The author collected a total of 216 responses through online means, and upon examination, all 216 surveys were deemed valid. During the data collection period, the author used social media platforms to gather opinions and thoughts from individuals of different age groups, such as Facebook local groups (我是新北人、我是臺南人、我是三重人、我是中永和人), Line Group (北部聯盟)、Instagram, and Dcard (New Taipei City Boards, Tainan City Boards) local discussion boards as a means to collect data.

The reason to use Facebook was that the responders of the local groups on this platform were divided into three age groups: 18 years and below, 19 to 63 years, and 64 years and above, and these individuals are residents of New Taipei City and Tainan City. Instagram was chosen due to the frequent usage of the app by the author's friends, and it offered convenient sharing options, making it easy for people to share the questionnaire. The use of Line OpenChats was motivated by the fact that most Taiwanese people use this way as their primary means of communication with different people, and the recent introduction of communities on Line offers real-time interaction, encouraging citizens to get the latest information. Additionally, Line OpenChats requires approval from the group manager to join, ensuring that participants meet the requirements. The final one is Dcard, gathering various opinions from various individuals, especially the younger generation. Many users following the New Taipei City and Tainan City board sections on Dcard are primarily residents of these cities. To attract citizens to fill out the questionnaire, the author uses a strategy which is posting the questionnaire every day to increase its visibility, to get more answers, and to encourage citizens to participate in this questionnaire. The survey is also aimed at residents of New Taipei City and Tainan City, and the author conducted data analysis using SPSS after collecting the questionnaires.

DATA ANALYSIS

In the research analysis, the author has divided this chapter into six sections. The first section is to confirm the level of reliability and use descriptive statistics analyzes the background information of the research subjects, enhancing readers' understanding of the respondents. The second section is to discuss the first research question: whether citizens of New Taipei City and Tainan City have a high level of awareness of the SDGs. Next, in the third section, the author investigates the second research question, examining whether the citizens of New Taipei City and Tainan City show higher awareness and commitment after understanding the SDGs and VLRs. The fourth section, addressing the third research question, focuses on how the government can enhance citizen participation and commitment to achieving the SDGs. The fifth section covers the responses from citizens who wish to provide suggestions to their city government. In the final section, a discussion and conclusion will be provided.

Descriptive Statistics

Before beginning data analysis, the author needs to conduct reliability testing to ensure that the data is reliable. According to Lee Cronbach, in Cronbach's alpha, a good level of reliability is indicated when $0.8 < \alpha \leq 0.9$. After the author's analysis, the reliability of this dataset is found to be 0.846.

For the questionnaire, the author already collected 216 responses. To investigate more specific ways between these two cities and understand the citizen's different backgrounds. At the beginning of the questionnaire, the author asked the citizens which city they are living in now, which year they started living here, the reasons they chose to live here, gender, age, and occupation. Last but not least, during this process,

we are using descriptive analysis to analyze the differences between these two cities and find the differences.

In Table 2, we can tell from the responses that it has 216 citizens, including 112 people (51.9%) who are New Taipei citizens and 104 people (48.1%) who are Tainan citizens. However, most of the responses have come from New Taipei citizens.

Table 2. The Number of citizens in the questionnaire

City	Amount
New Taipei City	112 (51.9%)
Tainan City	104 (48.1%)

Resource: Created by the author

In Table 3, we can see the gender of the responder who conducts this questionnaire. We have 77 people (35.6%) who are biological male and 139 people (64.4%) who are biological female. As a result, most of the respondents are biological females.

Table 3. The year of living in this city from the questionnaire

Gender	Amount
biological male	77 (35.6%)
biological female	139 (64.4%)

Resource: Created by the author

In Table 4, we can see the age of the responder. Responders aged 18 years old or under 18 years old have 11 people (5.1%). Responders aged between 19 and 22 were 110 people (50.9%). Responders aged between 23 to 30 years old have 53 people (24.5%). Responders aged between 31 to 63 years old have 42 people (19.4%). Last but not least, there are no responders whose ages are 64 or above 64 years old.

Table 4. The age of respondents

Age	Amount
18 years old or under 18 years old	11 (5.1%)
between 19 to 22 years old	110 (50.9%)
between 23 to 30 years old	53 (24.5%)
between 31 to 63 years old	42 (19.4%)
64 years old or above 64 years old	0 (0%)

Resource: Created by the author

In Table 5, we can see that people who lived in New Taipei City or Tainan City before 2018 had 179 people (82.9%). In 2019 have 12 people (5.6%). In 2020 have 6 people (2.8%). In 2021 have 7 people (3.2%). In 2022 have 7 people (3.2%). In 2023 have 5 people (2.3%). Also, we can see that most of the people are living in New Taipei City or Tainan City before 2018 (inclusive).

Table 5. The year of living in these two cities

Year	Amount
Before 2018 (inclusive)	179 (82.9%)
2019	12 (5.6%)
2020	6 (2.8%)
2021	7 (3.2%)
2022	7 (3.2%)
2023	5 (2.3%)

Resource: Created by the author

In Table 6, we can see the reason why people live in this city. 54 people (25%), including 39 New Taipei citizens and 15 Tainan citizens, lived here because of job opportunities. 136 people (63%), including 59 New Taipei citizens and 77 Tainan citizens, lived here because of family factors. 70 people (32.4%), including 43 New Taipei citizens and 27 Tainan citizens, lived here because of school education. 48 people (22.2%), including 24 New Taipei citizens and 24 Tainan citizens, lived here because of quality of life. 36 people (16.7%), including 13 New Taipei citizens and 23 Tainan citizens, lived here because of Housing costs. 49 people (22.7%), including 45 New Taipei citizens and 4 Tainan citizens, lived here because of the convenient

transportation. 16 people (7.4%), including 7 New Taipei citizens and 8 Tainan citizens, lived here because of the cultural and entertainment options. 10 people (4.6%), including 6 New Taipei citizens and 3 Tainan citizens, lived here because of community safety. 10 people (4.6%), including 5 New Taipei citizens and 3 Tainan citizens, lived here because of the natural environment. 32 people (14.8%), including 20 New Taipei citizens and 11 Tainan citizens, lived here because of social circles. 3 people (1.4%), including 1 New Taipei citizen and 1 Tainan citizen, lived here because of medical facilities. None of the people living in this city because of government policies. 21 people (9.7%), including 7 New Taipei citizens and 10 Tainan citizens, lived here because of cultural diversity. 4 people (1.9%), including 4 New Taipei citizens and 0 Tainan citizens, lived here because of economic development. 16 people (7.4%), including 2 New Taipei citizens and 10 Tainan citizens, lived here because of personal preferences. 5 people (2.4%), including 2 New Taipei citizens and 3 Tainan citizens, were living here because of other reasons. We can tell that people have multiple reasons that make them live in the city. From the lowest to highest, the top five reasons people choose the most are quality of life, convenience of transportation, job opportunities, school education, and family factors. For each city, New Taipei City and Tainan City, because of the difference in government background and environment, they also have different top five reasons. From the lowest to highest, the top five reasons for New Taipei City are quality of life, job opportunities, school education, convenient transportation, and family factors. From the lowest to highest, the top five reasons for Tainan City are job opportunities, housing costs, quality of life, school education, and family factors.

Table 6. The reasons for living in this city (each person only can choose three reasons)

Reason	Total Amount	New Taipei City	Tainan City
Job opportunities	54 (25%)	**39**	**15**
Family factors	136 (63%)	**59**	**77**
School education	70 (32.4%)	**43**	**27**
Quality of life	48 (22.2%)	**24**	**24**
Housing costs	36 (16.7%)	13	**23**
Convenience of transportation	49 (22.7%)	**45**	4
Cultural and entertainment options	16 (7.4%)	7	8
Community safety	10 (4.6%)	6	3
Natural environment	10 (4.6%)	5	3
Social circles	32 (14.8%)	20	11
Medical facilities	3 (1.4%)	1	1
Government policies	0 (0%)	0	0
Cultural diversity	21 (9.7%)	7	10
Economic development	4 (1.9%)	4	0
Personal preferences	16 (7.4%)	2	10
Other	5 (2.4%)	2	3

Resource: Created by the author

In Table 7, we can see what their occupation is. From the response, we have 6 options. The first one is primary industry (Primary production, including agriculture, forestry, fishing, and mining), but none of the responders worked in primary industry. The second one is the manufacturing industry (Manufacturing, encompassing the processing and production of all products.), which has 20 people (9.3%). The third one is the service industry (Services sector, including retail, finance, education, healthcare, and more.) which has 72 people (33.3%). The fourth is students, which has 114 people (52.8%). The fifth one is retired, which none of the responders choose. Last but not least is other kinds of occupation we did not mention above; this opinion has 10 people (4.6%). We can tell from the data that most of the responders are students, and the second is in the service industry. None of the people working in the

primary industry are already retired, which means we cannot know about their

opinions, and we also cannot use their responses to compare with other occupations.

Table 7. Occupation of respondents

Occupation	Amount
Primary industry	0 (0%)
Manufacturing industry	20 (9.3%)
Service industry	72 (33.3%)
Student	114 (52.8%)
Retired	0 (0%)
Others	10 (4.6%)

Resource: Created by the author

New Taipei City and Tainan City citizens have high SDGs awareness

In this section, the researchers aim to investigate the extent of citizens'

awareness of sustainable development and propose government improvements using

theory, which corresponds to our first research question. This section will be broadly

divided into four sections. The first part will assess citizens' self-rated awareness

levels. The second part will test awareness levels related to urban issues. The third

and fourth parts will examine citizens' acceptance of the TPB and Governance

theories. In those sections, we used the Likert scale and True or False questions to do

the testing, and we will employ Descriptive Analysis and Independent Sample t-test to

do the data analysis.

Self-rating of Awareness Level

According to Table 8, it is from question 1 in the questionnaire: "I think I have a

high level of understanding of the 2023 SDGs." $t(214) = -1.928$, $\rho=0.055$. The

impact levels on New Taipei citizens (M=2.98, SD=0.910) and Tainan citizens

(M=3.21, SD=0.832) showed no significant difference, with a Mean difference= -

0.229. From this data, we can conclude that Tainan citizens, on average, rate their

self-perceived awareness of sustainable development higher than New Taipei citizens. However, it is evident from the average values in both cities that citizens generally consider their awareness of sustainable development high.

Table 8. Self-rating of awareness kevel- Self-awareness

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Self-awareness	2.98(0.910)	3.21(0.832)	-0.229	214	-1.928	0.055

Resource: Created by the author

According to Table 9, it is from question 2 in the questionnaire: "I think the 2030 SDGs are important to me." t (214) ＝4.247, ρ=0.026. The impact levels on New Taipei citizens (M=3.88, SD=0.791) and Tainan citizens (M=3.64, SD=0.775) showed a significant difference, with a Mean difference= 0.24. From this data, we can tell that New Taipei citizens, on average, have a higher level of agreement when rating the importance of sustainable development to themselves compared to Tainan citizens. However, we can tell from the evidence of the average levels in both cities that citizens generally consider sustainable development vital to them.

Table 9. Self-rating of awareness level- Self-importance

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Self-importance	3.88(0.791)	3.64(0.775)	0.24	214	4.247	0.026

Resource: Created by the author

According to Table 10, it is from question 3 in the questionnaire: "I think other citizens have a high level of understanding of the 2030 SDGs." t (214) ＝-1.659, ρ=0.099. The impact levels on New Taipei citizens (M=2.63, SD=0.859) and Tainan citizens (M=2.84, SD=0.936) showed no significant difference, with a Mean difference= -0.203. From this data, we can tell that Tainan citizens, on average, have a higher level of agreement when rating the understanding of the 2030 SDGs by other

citizens compared to New Taipei citizens. The values from both cities indicate that most of the citizens have a lack of solid awareness of sustainable development.

Table 10. Self-rating of awareness level- Public awareness

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Public awareness	2.63(0.859)	2.84(0.936)	-0.203	214	-1.659	0.099

Resource: Created by the author

According to Table 11, it is from question 4 in the questionnaire: "I think the 2030 SDGs are important to other citizens." t (214) ＝2.360, ρ=0.019. The impact levels on New Taipei citizens (M=3.82, SD=0.808) and Tainan citizens (M=3.56, SD=0.834) showed a significant difference, with a Mean difference= 0.263. From this data, we can tell that New Taipei citizens, on average, have a higher level of agreement when rating the importance of the 2030 SDGs to other citizens compared to Tainan citizens. However, we can tell from the evidence of the average levels in both cities that citizens generally consider sustainable development necessary for others, too.

Table 11. Self-rating of Awareness Level- Public importance

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Public importance	3.82(0.808)	3.56(0.834)	0.264	214	2.360	0.019

Resource: Created by the author

Table 12 is from question 5 in the questionnaire: "I think social development is associated with the 2030 Sustainable Development Goals." t (214) ＝ -0.983, ρ=0.327. The impact levels on New Taipei citizens (M=3.62, SD=0.970) and Tainan citizens (M=3.74, SD=0.881) showed no significant difference, with a Mean difference= -0.124. From this data, we can tell that while Tainan citizens, on average, have a higher level of agreement when rating the awareness related to sustainable

development and social development compared to New Taipei citizens, the values from both cities indicate that citizens in both cities have a high level of awareness regarding how social development is associated with the 2030 SDGs.

Table 12. Self-rating of awareness level- Societal development relevance

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Societal development relevance	3.62(0.970)	3.74(0.881)	-0.124	214	-0.983	0.327

Resource: Created by the author

From this section, both city surveys reflect a greater awareness of sustainable development among their residents than citizens of other areas. Residents in both cities consider it essential not only for themselves but also for others. However, when comparing the two cities, Tainan residents show higher self-awareness than those citizens in New Taipei. On the other hand, regarding the importance of sustainable development, New Taipei residents demonstrate a higher level of awareness than Tainan residents. Both cities show an understanding of the SDGs related to social development, as outlined by the United Nations.

Testing Awareness Level of Urban Issues

When establishing the questions, according to Table 13, the author investigated by using five goals from the nine and ten primary implementation goals, respectively, proposed by New Taipei City and Tainan City. New Taipei City is focused on primary implementation goals 1, 2, 3, 8, 10, 12, 13, 16, and 17. Meanwhile, Tainan City is focused on primary implementation goals 3, 4, 6, 7, 8, 9, 11, 12, 13, and 17. Although both cities narrowed down their goals during the process, in order to understand citizens' awareness levels in the tests and comparisons in a faster way, the author further selected five key goals from the nine primary implementation goals of

New Taipei City, specifically goals 1, 2, 3, 8, and 16, and also selected five goals

from the ten primary implementation goals of Tainan City, which include goals 3, 4, 8,

11, and 12.

Table 13. Comparison of SDGs, city government, and selected goals by this study

No.	17 SDGs	New Taipei City		Tainan City	
		Govt goals	Selected goals	Govt goals	Selected goals
1	No Poverty	✓	✓		
2	Zero Hunger	✓	✓		
3	Good Health and Well-being	✓	✓	✓	✓
4	Quality Education			✓	✓
5	Gender Quality				
6	Clean Water and Sanitation			✓	
7	Affordable and Clean Energy			✓	
8	Decent and Economic Growth	✓	✓	✓	✓
9	Industry, Innovation and Infrastructure			✓	
10	Reduced Inequalities	✓			
11	Sustainable Cities and Communities			✓	
12	Responsible Consumption and Production	✓		✓	
13	Climate Action	✓		✓	
14	Life Below Water				
15	Life on Land				
16	Peace, Justice and Strong Institutions	✓	✓		
17	Partnerships for The Goals	✓		✓	✓
	Total	9	5	10	5

Resource: Created by the author

Due to the differences in the urban issues and primary objectives faced by New

Taipei City and Tainan City, the author established five questions for each city

separately. When creating the research questions, the author not only used the 169

targets proposed by the United Nations as reference goals but also referred to data

from "National Statistics, R.O.C. (Taiwan)," "New Taipei City Statistical Database,"

and "Data Tainan." Ultimately, after comparing and analyzing this data, five

questions for each city were generated. Because the data provided by the three

databases mentioned above only provide the latest data in 2021, the investigation

targeted the period from 2018 to 2021.

Survey Questions Crafted for New Taipei City

Regarding Table 14, New Taipei City's first question is, "I think that the number of low-income households increased from 2018 to 2021 in New Taipei City." This question references Goal 1, "No Poverty," specifically Target 1.2, which mentions, *"By 2030, reduce at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions."*[23] The author selected Low-Income Households as the first question and gathered information from the New Taipei City Statistical Database, Employment, Economic, and Welfare data. According to this data, it was observed that the number of male low-income households decreased from 21,719 in 2018 to 20,020 in 2021, while the number of female low-income households decreased from 19,693 in 2018 to 17,366 in 2021.

Following that, the second question is, "I think that the average income of those people who are employed in agriculture, forestry, fishing, and animal husbandry increased from 2018 to 2021 in New Taipei City." This question is designed with Goal 2, "Zero Hunger," specifically Target 2.3, which aims to *"By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists, and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment."*[24] The author using data from the New Taipei City Statistical Database, the average income per person was obtained by occupation. For those engaged in agriculture, forestry, fishing, and animal husbandry, the average income

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[23] United Nations, "Goal 1 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal1#targets_and_indicators.
[24] United Nations, "Goal 2 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal2#targets_and_indicators.

per person decreased from an average of NTD 539,967 in 2018 to NTD 462,028 in 2021.

Next, the third question is, "I think that the rate of road traffic accident fatality increased from 2018 to 2021 in New Taipei City." This question is designed with Goal 3, "Good Health and Well-being," specifically Target 3.6, which aims to *" By 2020, halve the number of global deaths and injuries from road traffic accidents"*[25]. The author uses data which was obtained through the National Statistics, R.O.C. (Taiwan), and the County/City Important Statistical Indicators Query System. The rate of road traffic accident fatality decreased from 18.79 (per 10,000) in 2018 to 18.61 (per 10,000) in 2021.

Next, the fourth question is, "I think that the youth (15-24 years old) unemployment rate decreased from 2018 to 2021 in New Taipei City." This question is designed with Goal 8, "Decent and Economic Growth," specifically Target 8.6, which aims to *" By 2020, substantially reduce the proportion of youth not in employment, education or training."*[26] The author used "The youth (15-24 years old) unemployment rate" as the fourth question. Data was obtained through the National Statistics, R.O.C. (Taiwan), and the County/City Important Statistical Indicators Query System. The youth (15-24 years old) unemployment rate decreased from 9.0% in 2018 to 8.9% in 2021.

The fifth question is, "I think the overall rate of violent crime cases (per 100,000 people) increased from 2018 to 2021 in New Taipei City." This question is designed with Goal 16, "Peace, Justice, and Strong Institutions," specifically Target 16.1, which aims to "*Significantly reduce all forms of violence and related death rates*

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[25] United Nations, "Goal 3 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal3#targets_and_indicators.
[26] United Nations, "Goal 8 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal8#targets_and_indicators.

everywhere"[27]. The author used "the overall rate of violent crime cases" as the fifth question. Data was obtained through the National Statistics, R.O.C. (Taiwan), and the County/City Important Statistical Indicators Query System, showing that the rate of violent crime cases decreased from 3.38 (per 100,000) people in 2018 to 2.34 per (100,000 people) in 2021.

Table 14. Survey questions crafted for New Taipei City

	I think that in New Taipei City from 2018 to 2021:	Selection
1	The number of low-income households **increased**. (Target 1.2, F)	
2	The average income of those employed in agriculture, forestry, fishing, and animal husbandry **increased**. (Target 2.3, F)	
3	The road traffics accident fatality rate **increased**. (Target 3.6, F)	True/ False
4	The youth (15-24 years old) unemployment rate **decreased**. (Target 8.6, T)	
5	The overall rate of violent crime cases (per 100,000 people) **increased**. (Target 16.1, F)	

Resource: Created by the author

*The answer is right behind the question

Survey Questions Crafted for Tainan City

For Table 15, Tainan City's first question is, "I think that the rate of road traffic accident fatality increased from 2018 to 2021 in New Taipei City." This question is designed with Goal 3, "Good Health and Well-being," specifically Target 3.6, which aims to" *By 2020, halve the number of global deaths and injuries from road traffic accidents."*[28] The author used "the rate of road traffic accident fatality" as the first question and obtained information through the National Statistics, R.O.C. (Taiwan) and the County/City Important Statistical Indicators Query System, showing that the accident injury fatality rate increased from 32.84% in 2018 to 34.73% in 2021.

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[27] United Nations, "Goal 16 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal16#targets_and_indicators.

[28] United Nations, "Goal 3 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal3#targets_and_indicators.

The second question is, "I think the youth crime rate increased from 2018 to 2021 in Tainan City." This question refers to Goal 4, "Quality Education," specifically Target 4.7, which aims to *"By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development."*[29] The author used "The youth crime rate" as the second question and obtained data through the National Statistics, R.O.C. (Taiwan) and the County/City Important Statistical Indicators Query System, showing that the youth crime rate increased from 574.17 per 100,000 people in 2018 to 852.39 per 100,000 people in 2021 for adolescents (15-19 years old) and from 2079.96 (per 100,000) people in 2018 to 2526.00 (per 100,000) people in 2021 for young adults (20-24 years old).

The third question is, "I think that the youth (15-24 years old) unemployment rate decreased from 2018 to 2021 in Tainan City." This question is designed with Goal 8, "Decent and Economic Growth," specifically Target 8.6, which aims to *" By 2020, substantially reduce the proportion of youth not in employment, education or training."*[30] The author used "The youth unemployment rate" as the third question and obtained data through the Data Tainan and annual statistical reports. The data shows that the unemployment rate for adolescents (15-19 years old) remained at 1 (per 1,000) people, and the rate for young adults (20-24 years old) decreased from 2 (per 1,000) people to 1 (per 1,000) people.

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[29] United Nations, "Goal 4 | Department of Economic and Social Affairs," sdgs.un.org, 2023, https://sdgs.un.org/goals/goal4#targets_and_indicators.
[30] United Nations, "Goal 8 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal8#targets_and_indicators.

The fourth question is, "I think that the elderly population ratio is increased while the young adult population ratio is decreased." This question is designed with Goal 11, "Sustainable Cities and Communities," specifically Target 11. a, which aims to*" Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning."*
[31] The author used "Aging Population and Youth Emigration" as the fourth question and obtained data from National Statistics, R.O.C. (Taiwan), and the County/City Important Statistical Indicators Query System. The data shows that the young adult population ratio decreased from 72.73% in 2018 to 70.98% in 2021, while the elderly population ratio increased from 15.04% in 2018 to 17.30% in 2021.

The fifth question is, "I think the average daily general waste generation (in metric tons) has decreased." This question is designed with Goal 12, "Responsible Consumption and Production," specifically Target 12.5, which aims to*" By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse."* [32] The author used "general waste" as the fifth question and obtained data through Data Tainan, the Year Data Query, and the Statistical Yearbook Digital Query Platform. The data shows that the average daily general waste generation (in metric tons) decreased from 2,714.85 tons in 2018 to 2,539.96 tons in 2021.

[31] United Nations, "Goal 11 | Department of Economic and Social Affairs," sdgs.un.org, 2015, https://sdgs.un.org/goals/goal11#targets_and_indicators.
[32] United Nations, "Goal 12 | Department of Economic and Social Affairs," sdgs.un.org, 2023, https://sdgs.un.org/goals/goal12#targets_and_indicators.

Table 15. Survey questions crafted for Tainan City

	You think Tainan City from 2018 to 2021:	Selection
1	The rate of road traffic accident fatality has **increased**. (Target 3.6, T)	True/ False
2	The youth crime rate **increased**. (Target 4.7, T)	
3	The youth (15-24 years old) unemployment rate **decreased**. (Target 8.6, T)	
4	The elderly population ratio is increased, while the young adult population is **decreased**. (Target 11.a, T)	
5	The average daily general waste generation (in metric tons) has **decreased**. (Target 12.5, T)	

Resource: Created by the author

*The answer is right behind the question

Data Analysis of New Taipei City's Responses

In this section, the author will analyze the data results for New Taipei City and Tainan City and discuss the questions with the highest and lowest accuracy among the public. Finally, the author will analyze the differences between the two cities. First, let us understand how the awareness level is calculated. The calculation method is as follows: respondents receive 10 points for matching their answer with the correct answer and 0 points for answers opposite to the correct answer. With five questions in total, the maximum score is 50 points. A higher score indicates a higher level of awareness of urban issues, while a lower score indicates a lower level of awareness.

According to Table 16, we can tell that New Taipei City Total M=4.202, Total SD=0.8386. Before analyzing, the author ranked the average accuracy of New Taipei City from highest to lowest. From the highest accuracy, the questions were ranked as follows: Question 2, Question 4, Question 5, Question 1, and finally, the question with the lowest accuracy, Question 3. For Question 2, M = 8.21, which means that out of 112 respondents, 92 citizens answered this question correctly. This indicates that citizens know about low-income agriculture, forestry, fishing, and animal husbandry. We can also tell from the government-provided data that the New Taipei City

government has yet to make any changes in salary for such occupations and has even seen a noticeable decline in income over these years, which does not align with the goals of sustainable development. For Question 3, with the lowest accuracy, M = 2.23, meaning that out of 112 respondents, only 25 citizens answered this question correctly. Looking at the data on citizens' awareness, it appears that citizens' perception of "the rate of road traffic accident fatality" does not align with the government-provided data. While the data from the government shows a decrease, it is only a 0.18% decrease. The reason for the low accuracy could be that citizens have concerns about traffic safety, which leads them to believe that "the rate of road traffic accident fatality" has increased. The government should address these concerns and improve traffic safety to make citizens feel less threatened.

Table 16. New Taipei citizen's awareness level analysis

Target Number	You think that in New Taipei City from 2018 to 2021:	Correct (N=112)	M	SD	Total M	Total SD
1.2	The number of low-income households **increased**. (F)	45	4.01	0.875	4.202	0.8386
2.3	The average income of those employed in agriculture, forestry, fishing, and animal husbandry **increased**. (F)	**92**	**8.21**	0.658		
3.6	The road traffics accident fatality rate **increased**. (F)	**25**	**2.23**	0.939		
8.6	The youth (15-24 years old) unemployment rate **decreased**. (T)	61	5.44	0.853		
16.1	The overall rate of violent crime cases (per 100,000 people) **increased**. (F)	47	4.19	0.868		

Resource: Created by the author

*M= Correct*10/112

*Total M= (M1+M2+M3+M4+M5)/5, Total SD = (SD1+SD2+SD3+SD4+SD5)/ 5

Data Analysis of Tainan City's Responses

According to Table 17, we can see that in Tainan City, the Total M=6.686, with a Total SD =0.9122. Before conducting the analysis, the author ranked the questions in Tainan City based on the average accuracy, from highest to lowest. Starting with the highest accuracy they are as follows: Question 4, Question 1, Question 2, Question 3, and the lowest accuracy was observed in Question 5. For Question 4, M = 9.51, which means that out of 104 respondents, 99 citizens answered this question correctly. This indicates that citizens have a significant awareness of the increased elderly population ratio and the decreased young population ratio. Government-provided data further support this observation. Suppose society continues with the trends of an aging population and youth emigration. In that case, the city is likely to enter a phase of a low labor force gradually, which can significantly impact its economic development capacity. Next is the question with the lowest accuracy, Question 5. For Question 5, M = 3.46, which means that out of 112 respondents, only 36 citizens answered this question correctly. Looking at the data on citizens' awareness, it is clear that their understanding of "The average daily general waste generation" does not align with the data provided by the government. According to the government-provided data, the average waste generation has decreased by 174.89 metric tons. Possible reasons for the low awareness could include citizens having doubts about a reduction in general waste generation. This doubt might stem from their perception that the amount of waste they generate increases or remains unchanged over the years. Additionally, personal behaviors may lead citizens to perceive their contribution to general waste generation differently from what is reflected in government data. In this context, the government could work on strategies to reduce the general waste generation by citizens to achieve a more significant change.

Table 17. Tainan citizen's awareness level analysis

Target Number	You think that in Tainan City from 2018 to 2021:	Correct (N=104)	M	S.D.	Total M	Total S.D.
3.6	The rate of road traffic accident fatality has **increased**. (T)	89	8.55	0.958	6.686	0.9122
4.7	The youth crime rate **increased**. (T)	81	7.78	0.936		
8.6	The youth (15-24 years old) unemployment rate **decreased**. (T)	43	4.13	0.786		
11.a	The elderly population ratio is increased, while the young adult population is **decreased**. (T)	**99**	9.51	0.989		
12.5	The average daily general waste generation (in metric tons) has **decreased**. (T)	**36**	3.46	0.892		

Resource: Created by the author

*M= Correct*10/112

*Total M= (M1+M2+M3+M4+M5)/5, Total SD = (SD1+SD2+SD3+SD4+SD5)/5

Comparison of the rate of road traffic accident fatality

According to the data in Tables 16 and 17, the author compares the Total M scores and the results of the survey questions. Take Question 3 as the example in New Taipei City and Question 1 in Tainan City. Both questions aim to investigate whether "the rate of road traffic accident fatality increased." New Taipei City, M=2.23, and Tainan City, M=8.55. The answer to this question and the presented government data are contradictory, so a direct comparison based on the data is not possible. However, we can infer from the data that while the New Taipei City government has changed the rate of road traffic accident fatality, the residents of New Taipei City show a low accuracy rate. Similarly, the Tainan City government has seen an increase in the rate of road traffic accident fatality. However, the residents of Tainan show a high accuracy rate based on the data. From this, the residents of both cities have different perceptions of traffic safety.

Comparison of Youth Unemployment Rate

Based on the data from Tables 16 and 17, the author compared the Total M scores and the results of the survey questions related to the "Youth (15-24 years old) unemployment rate decrease." This specific question appears as Question 4 in New Taipei City and Question 3 in Tainan City. The formulation of the question is quite similar in both cities, and the responses are consistent. New Taipei City M = 5.44, while Tainan City= 4.13. A comparative analysis of the data from both cities reveals that New Taipei's residents demonstrate a more pronounced awareness of the decline in youth unemployment rates than Tainan's residents.

After conducting the Data Analysis, the following are the author's insights derived through data examination. The author compared the total averages of the two cities to determine which city's residents have a higher level of understanding regarding urban issues. When comparing the total average for New Taipei City (Total M=4.202) to that of Tainan City (Total M=6.686), it becomes evident that Tainan City's residents have a much higher level of understanding of urban issues compared to the residents of New Taipei City. However, we can also deduce from the data that Tainan City's government has lack of significant effectiveness in resolving urban problems, especially when looking at the residents' level of understanding of urban issues and the efforts made by the government toward the 10 primary implementation goals. On the other hand, while residents of New Taipei City have a lower level of understanding, we can see from the data that New Taipei City has made some changes in addressing urban issues, particularly concerning the 9 primary implementation goals they have identified. When compared to the response to the first question in the survey, this verifies that the residents of both cities are almost the same in terms of their self-awareness.

Moving on to comparing the two cities in terms of the "rate of road traffic accident fatality" and "Youth Unemployment Rate" questions, we can draw some key observations. Regarding "the rate of road traffic accident fatality," citizens in both New Taipei City and Tainan City express concerns about traffic safety, even when their perceptions do not align with government-provided data. It is evident from the data in both cities that citizens tend to be skeptical about the efforts and changes made by the city government to enhance traffic safety. Based on these findings, both cities should prioritize efforts to reform and improve traffic safety to ensure that citizens feel safer and more secure in their daily lives. In the case of the "Youth Unemployment Rate," New Taipei City's residents exhibit a more positive response to the government's efforts in this regard. On the other hand, citizens in Tainan City appear to have a less pronounced perception of the decline in youth unemployment rates, suggesting that they may not have noticed significant changes in the government's strategies to reduce unemployment. Therefore, Tainan City's government should consider strengthening its initiatives to address youth unemployment, ensuring citizens can tangibly perceive the improvements. Overall, the data-driven insights provide valuable guidance for both cities in addressing urban issues and improving the residents' understanding and awareness of critical matters.

New Taipei City and Tainan City citizens have higher awareness and commitment after the understanding of SDGs and VLRs

Table 18 is from question 25 in the questionnaire: "Have you heard of the VLRs reports presented by local municipal governments?", $t(214) = 0.051$, $\rho=0.96$. There is no significant difference between the impact level of New Taipei citizens (M=1.1, SD=0.299) and Tainan citizens (M=1.1, SD=0.296), with a Mean difference= 0.002. From this data, we can see that in both cities, most respondents have not heard of the

VLRs proposed by the local government. The data from both cities show little difference, but New Taipei citizens slightly outnumber those in Tainan who have not heard of VLRs.

Table 18. VLRs- Heard of VLRs

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Heard of VLR	1.1(0.299)	1.1(0.296)	0.002	214	0.051	0.96

Resource: Created by the author

According to Table 19, it is from question 26 in the questionnaire: "Have you participated in sustainable development activities organized by local municipal governments?" t (208.142) =-1.369, ρ=0.176. There is no significant difference in the influence level between New Taipei citizens (M=1.13, SD=0.342) and Tainan citizens (M=1.08, SD=0.268). The Mean difference= 0.057. From this data, we can see that in both cities, most respondents have not participated in sustainable development-related activities. Furthermore, the data from both cities shows little difference, with New Taipei citizens still being the majority.

Table 19. VLRs -Participated in SDGs

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Participated in SDGs	1.13(0.342)	1.08(0.268)	0.057	208.142	1.369	0.176

Resource: Created by the author

According to Table 20, it is from question 32 in the questionnaire: "After understanding the SDGs and the local government's VLRs reports, I feel an increased commitment.", t (214) =3.811, ρ=0.00. The influence level of New Taipei citizens (M=4.14, SD=0.699) and Tainan citizens (M=3.75, SD=0.747) does show a significant difference, with a Mean difference= 0.375. Based on this data, we can

conclude that New Taipei citizens are more inclined to participate after learning about VLRs than Tainan citizens.

Table 20. VLRs Influences -Increase commitment

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Increase commitment	4.13(0.699)	3.75(0.747)	0.375	214	3.811	0.00

Resource: Created by the author

According to Table 21, it is from question 33 in the questionnaire: "After understanding the SDGs and the local government's VLRs reports, I feel an increased desire to continue learning." t (214) ＝3.277, ρ=0.055. The influence level of New Taipei citizens（M＝4.08, SD=0.749）and Tainan citizens（M=3.72, SD=0.769）does show a significant difference, with a Mean difference= -0.359. From this data, we can see that New Taipei citizens have a higher willingness to increase their understanding after learning about VLRs compared to Tainan citizens.

Table 21. VLRs Influences- Continue to learn

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Continue to learn	4.08(0.749)	3.72(0.769)	0.359	214	3.277	0.001

Resource: Created by the author

According to Table 22, it is from question 34 in the questionnaire: "After understanding the SDGs and the local government's VLRs reports, I feel an increased desire to continue learning.", t (207.729) ＝-3.539, ρ=0.00. The influence level of New Taipei citizens（M＝4.09, SD=0.705）and Tainan citizens（M=3.73, SD=0.779）does show a significant difference, with a Mean difference= -0.359. From this data, we can see that New Taipei citizens have a higher willingness to increase their desire to supervise local governments after learning about VLRs compared to Tainan citizens.

Table 22. VLRs Influences -Supervise the city government

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Supervise the city government	4.09(0.705)	3.73(0.779)	0.359	207.729	3.539	0.00

Resource: Created by the author

According to Table 23, it is from question 35 in the questionnaire: "After understanding the SDGs and the local government's VLRs reports, I feel motivated to continue residing in this city." t (214) ＝5.393, ρ=0.00. New Taipei citizens have a significantly higher level of impact (M = 4.3, SD = 0.796) compared to Tainan citizens (M = 3.72, SD = 0.08), with a Mean difference= 0.582. Based on this data, we can conclude that New Taipei citizens are more willing to continue living in their city after learning about VLRs compared to Tainan citizens.

Table 23. VLRs Influences- Continual residence

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Continual residence	4.3(0.796)	3.72(0.08)	0.582	214	5.393	0.00

Resource: Created by the author

The author inquired whether respondents knew of VLRs or had participated in SDG-related activities. However, the responses indicated that the majority of the public was not familiar with VLRs and had not participated in such activities. It implies that the government has yet to achieve significant success in promoting SDGs and VLRs. Therefore, it is recommended that the government intensify its promotional efforts and actively encourage citizens to participate in SDG-related activities.

Subsequently, the author investigated whether people's awareness and commitment to SDGs and VLRs significantly increased after gaining understanding. The research results showed that people exhibited higher levels of commitment, as

well as a more vital willingness to engage in "continuous learning," "increased commitment," and a stronger desire to "supervise the city government." Ultimately, residents of both cities expressed their desire to continue living in their respective cities after understanding SDGs and VLRs.

Based on these analyses and conclusions, it is recommended that both city governments should double their efforts in promoting SDGs and VLRs. It will not only bring about corresponding improvements in society but also facilitate the implementation of SDGs, especially with active citizen participation, making the process more efficient. Strengthening promotional activities and encouraging participation will not only help increase the achievement rate of SDGs but also contribute to creating public value. In creating public value, the government needs to utilize its authority and political legitimization to generate relevant initiatives and ensure their sustainability during the creation process.

The Government Enhances Citizen Participation and Commitment by TPB and Governance Theories

TPB Approach

In the third section, the author uses an Independent Sample t-test to compare the differences between citizens in New Taipei City and Tainan City. Table 24 is from question 12 in the questionnaire: "When the urban issues affect me, it enhances my engagement rate." $t(214) = 3.331$, p=0.001. The level of impact on New Taipei citizens (M=4.33, SD=0.702) and Tainan citizens (M=4.04, SD=0.573) shows a significant difference, Mean Different=0.292. From this data, we can tell that New Taipei citizens have a more substantial commitment when facing the impact of their self-interest compared to Tainan citizen.

Table 24. Theory of Planned Behavior - Influence by urban issues

	M(SD)		Mean Diff.	df	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Influence by urban issues	4.33(0.702)	4.04(0.573)	0.292	214	3.331	0.001

Resource: Created by the author

According to Table 19, it is from question 13 in the questionnaire: "Social and moral standards influence me to enhance my participation rate." t(214)＝2.151, p=0.033. New Taipei citizens, with an influence level (M = 4.21, SD = 0.716), and Tainan citizens, with an influence level (M = 4.03, SD = 0.53), show a significant difference, with a Mean difference= 0.185. From this data, we can conclude that New Taipei citizens tend to adhere more to moral standards than Tainan citizens.

Table 25. Theory of Planned Behavior - Social moral standards

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Social moral standards	4.21(0.716)	4.03(0.530)	0.185	214	2.151	0.033

Resource: Created by the author

According to Table 26, it is from question 14 in the questionnaire: "I feel that I can influence a part of society with my abilities." t (214) ＝2.055, p=0.041. New Taipei citizens (M=4.10, SD=0.796) and Tainan citizens (M=3.89, SD=0.652) exhibit a significant difference in their level of influence, with a Mean difference=0.204. From this data, we can see that New Taipei citizens have a higher perception of their self-influence compared to Tainan citizens.

Table 26. TPB - Own ability

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Own Ability	4.10(0.796)	3.89(0.652)	0.204	214	2.055	0.041

Resource: Created by the author

The author applied the TPB, which includes Behavioral Beliefs, Subjective

Norms, and Control Beliefs, to explore the three questions mentioned earlier. The

objective was to evaluate the extent to which citizens are influenced by these three

elements, ultimately strengthening their commitment to Sustainable Development.

Upon analyzing the responses, it becomes evident that citizens in both cities exhibit

increased commitment when their self-interest is affected. Additionally, they are

influenced by social norms, further amplifying their level of commitment. Moreover,

a significant proportion of respondent's express confidence in their ability to

influence society, underscoring the role of self-assurance in enhancing commitment.

Through the TPB framework, we gain valuable insights into how governments can

utilize these behavioral determinants to influence citizen behavior and enhance their

commitment during the implementation process.

Governance Approach

According to Table 27, it is from question 27 in the questionnaire: "I feel that the

local city government actively promotes sustainable development." $t(214) = -3.891$,

$\rho=0.00$. New Taipei citizens' level of influence (M=2.47, SD=0.986) and Tainan

citizens' (M=2.96, SD=0.847) show a significant difference, with a Mean difference=

-0.488. From this data, we can see that Tainan citizens have a higher level of

agreement with the Tainan City government's promotion of SDGs compared to the

New Taipei City government.

Table 27. Governance- Actively promote

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Actively promote	2.47(0.986)	2.96(0.847)	-0.488	214	-3.891	0.00

Resource: Created by the author

According to Table 28, it is from question 28 in the questionnaire: "I feel that the local city government is transparent enough when formulating regulations related to sustainable development." t (214) =-3.692, ρ=0.00. The difference in influence is significant between New Taipei citizens (M=2.46, SD=1.021) and Tainan citizens (M=2.92, SD=0.821), with a Mean difference= -0.468. Based on this data, we can tell that Tainan citizens perceive higher transparency from the government when it comes to formulating regulations related to sustainable development compared to New Taipei citizens. However, when comparing the two cities, we can see that both cities do not have a high perception of transparency in their governments.

Table 28. Governance- Transparency

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Transparency	2.46(1.021)	2.92(0.821)	-0.468	214	-3.692	0.00

Resource: Created by the author

According to Table 29, it is from question 29 in the questionnaire: "I believe that the local city government, through promotional efforts, can increase my willingness to participate in sustainable development." t (214) =3.306, ρ=0.001. There is a significant difference in the level of influence perceived by New Taipei citizens (M=3.87, SD=0.895) compared to Tainan citizens (M=3.46, SD=0.902), with a Mean difference= -0.405. From this data, we can tell that New Taipei citizens have a higher level of agreement compared to Tainan citizens when it comes to the government using promotion as a means to enhance citizen participation in sustainable development.

Table 29. Governance- Promotion

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Promotion	3.87(0.895)	3.46(0.902)	0.405	214	3.306	0.001

According to Table 30, it is from question 30 in the questionnaire: "I believe that the local city government, through regulatory means, can enhance my willingness to participate in sustainable development." t (214) ＝3.701, ρ=0.00. There is a significant difference between New Taipei citizens' level of influence (M=3.88, SD=0.878) and Tainan citizens' (M=3.45, SD=0.835), with a Mean difference= 0.432. From this data, we can see that New Taipei citizens believe that if the government uses the "Norm" approach to increase citizen participation in sustainable development, they have a higher level of agreement compared to Tainan citizens.

Table 30. Governance- Norm

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Norm	3.88(0.878)	3.45(0.835)	0.432	214	3.701	0.00

Table 31 is from question 31 in the questionnaire: "I believe that the local municipal government's full discussion with citizens and the formulation of sustainable development plans would increase my willingness to participate in sustainable development." t (214) ＝2.541, ρ=0.012. The level of New Taipei citizens being influenced (M=3.98, SD=0.87) and Tainan citizens being influenced (M=3.69, SD=0.801) show a significant difference, with a Mean difference= 0.29. Based on this data, New Taipei citizens believe that if the government utilizes the "Discussion with citizens" approach to enhance citizen participation in sustainable development, they have a higher level of agreement compared to Tainan citizens.

Table 31. Governance- Thorough discussion

	M(SD)		Mean Diff.	dt	t	ρ
	New Taipei City N= (112)	Tainan City N= (104)				
Thorough discussion	3.98(0.87)	3.69(0.801)	0.29	214	2.541	0.012

Resource: Created by the author

The author conducted a survey among citizens using Governance theory. At the beginning of the questionnaire, the author initially inquired whether citizens felt any impact from the government's promotion of SDGs. However, the final responses indicated that they felt a small impact. It shows that the government has yet to make substantial efforts in its interaction with the public, and what the government should do is engage in more proactive promotion of SDGs to increase public awareness.

The author inquired whether citizens perceived the government as having sufficient transparency when formulating SDGs. However, the answers also indicated a need for more adequate transparency. If the government maintains ongoing communication with the public during the process of rule formulation, it will enhance transparency in policy development. From the first two questions, the government has been ineffective in interaction and communication.

Subsequently, the author asked citizens about their willingness to participate in sustainable development if the government were to promote it. The conclusion drawn from their responses was that this approach would increase their willingness to participate. If the government increases promotional methods, it will enhance interaction with the public.

Concerning the fourth question, regarding whether the government's use of regulations would increase people's willingness to participate in sustainable development, we can see that people responded affirmatively to this method. In Governance theory, hierarchical governance is one of the elements, and the government can effectively use its authority to establish regulations for sustainable development. The answers to these two questions indicate that people favor both Promotion and Norm. Finally, the study confirmed whether people's willingness to engage in sustainable development would increase if the government communicated

with them. The results also showed an increased willingness, aligning with the communication element.

In these five elements, people agreed with three of them. As for self-governance, people demonstrated agreement in the first research question regarding self-participation and self-competence. As co-governance was outside the scope of this research, the evaluation suggests that Governance theory can be applied to both New Taipei City and Tainan City.

Suggestions From Citizens

At the end of the survey, the author provided a question-and-answer section to allow citizens to provide feedback to the city governments. There were 13 respondents from New Taipei City and 17 from Tainan City. The author categorized the opinions provided by the citizens, starting with those from New Taipei City. Five individuals believed that the government should not only make more outstanding efforts in promoting SDGs but also prioritize listening to the people's ideas. They expected the government to implement policies that align with these suggestions, which also resonates with Governance theory's principles of Communication, Interaction, and Hierarchical Governance. Additionally, some citizens recommended that the New Taipei City government create interactive websites or theme-based exhibitions as a fun way to educate people about SDGs, aligning with our emphasis on creating substantial public goods and increasing Public Value in the context of Public Value theory. Finally, citizens provided recommendations on various issues. They emphasized that the government should pay more attention to addressing urban issues such as improving community safety, creating a gender-equal environment, addressing electricity-related concerns, reducing youth unemployment rates,

decreasing wealth inequality (especially among people experiencing homelessness), and enhancing the transportation environment.

Following that, the citizens of Tainan provided suggestions for the Tainan City government. Tainan citizens expressed their hope for the government to better promote the implementation of policies and regulations, as well as to increase the promotion of SDGs through physical or online means. These suggestions also align with Governance theory's principles of Communication and Hierarchical Governance.

Some citizens expressed concerns about their personal rights and safety being threatened, and therefore, they further emphasized their expectation for the government to enhance social safety and welfare, particularly in relation to issues of traffic and pedestrian safety. This also corresponds to the Theory of Planned Behavior (TPB) we mentioned, which states that when people's rights are compromised, it increases their level of concern and participation. Finally, other citizens expressed their expectations for the government to address various urban issues, including boosting the city's economy, creating more job opportunities, addressing electricity-related concerns, promoting gender equality, focusing on sustainable development in the marine sector, improving education, narrowing the urban-rural gap, and advancing green energy initiatives.

FINDINGS

After a series of comparisons and analyses, the author has identified significant data and findings from the survey. Firstly, in questions seven to eleven of the questionnaire, it is evident that citizens in Tainan City have a higher level of self-awareness regarding SDGs compared to those in New Taipei City. Moreover, as the UN consistently emphasizes the interrelation between urban development and SDGs, it can be observed from question eleven that citizens in Tainan City have a high level of awareness of SDGs (Tainan City M=3.82, New Taipei City M=3.56). Through a comparison between the two cities, it is revealed that although citizens in Tainan City have a higher awareness of SDGs, the perception of the Tainan City government in addressing issues is relatively insufficient, especially concerning road traffic accident mortality rates. On the other hand, while citizens in New Taipei City have a lower level of awareness compared to those in Tainan City, the government's perceived effectiveness in addressing urban issues is higher. However, concerning road traffic accident mortality rates, the government should enhance the public's sense of safety.

Subsequently, utilizing data related to the common topics of "road traffic accident mortality rates" and "youth unemployment rates" in both cities, further observations can be made: In terms of "road traffic accident mortality rates," citizens in both cities express concerns about traffic safety, even though their perceptions do not align with the data provided by the government. This suggests skepticism among citizens regarding government efforts to improve traffic safety. Therefore, both cities should prioritize reforms and enhancements to increase traffic safety levels, ensuring that citizens feel safer in their daily lives. Regarding "youth unemployment rates," citizens in New Taipei City show a relatively positive response to government efforts in this regard. In contrast, citizens in Tainan City exhibit a less noticeable perception of a decrease in youth unemployment rates, indicating a potential lack of awareness of

significant government-led changes. Consequently, the Tainan City government should consider strengthening its initiatives to address youth unemployment, ensuring that citizens can tangibly experience improvements.

Continuing from there, after providing respondents with an understanding of the Sustainable Development Goals (SDGs) and the Voluntary Local Reviews (VLRs) reports presented by local governments, it is evident that respondents from both cities show significant commitment and willingness to participate. Particularly, citizens of New Taipei City demonstrate a higher willingness to engage, evident in significant differences in commitment levels, a desire for continuous learning, and a stronger inclination to supervise the city government, compared to residents of Tainan City. Additionally, citizens of New Taipei City express a stronger intention to continue residing in their city after understanding SDGs and VLRs, indicating a positive impact on the perception of urban living.

At the same time, with this result, we can infer that if the New Taipei City government aims to enhance residents' willingness to participate and their awareness, it can further leverage the three elements of Public Value for improvement. Although Tainan City exhibits a relatively lower endorsement of these three elements compared to New Taipei City, the data suggests that it still holds a certain influence. Therefore, the Tainan City government can also better utilize these three elements of Public Value to increase citizen participation.

In the end, the research findings indicate that both city governments should intensify efforts to promote SDGs and VLRs, addressing the limited awareness among citizens. Encouraging active participation and emphasizing the importance of these initiatives can not only enhance social well-being but also contribute to the effective implementation of SDGs. The study underscores the importance of strengthening promotional activities and encouraging citizen participation to maximize the impact of

sustainable development efforts, ultimately creating enduring public value. Next, regarding the third research question, the conclusions drawn from the collected data are as follows: Through the application of the Theory of Planned Behavior (TPB) and governance methods, the study aims to enhance citizen participation and provides corresponding measures for government implementation of sustainable development.

Next, focusing on the third research question, from the data, we can observe that the impact of TPB on citizens is high, especially for residents of New Taipei City. Additionally, the data indicates that citizens in both cities show a significant willingness to increase their participation when influenced by urban issues. In light of this, the governments of both cities should utilize the TPB approach to enhance citizen awareness and concurrently employ this method to boost public willingness to participate.

Furthermore, from the data, it is evident that governments should better leverage the elements of Governance, as both cities' citizens express agreement with government governance, particularly residents of Tainan City. The data also suggests that governments, in planning for Sustainable Development Goals (SDGs), can engage in discussions with citizens. This approach not only allows governments to understand the needs of citizens but also enhances public participation, thereby contributing to the achievement of SDGs.

CONCLUSION

Due to the approaching deadline of the year 2030 for the Sustainable Development Goals (SDGs), governments worldwide have begun actively working to enhance the achievement of SDGs. Additionally, various city governments are actively preparing Voluntary Local Reviews (VLRs) to showcase their past accomplishments, not only for national government review but also to help the public better understand their achievements. Through this thesis, the author conducted an in-depth investigation of the citizens of New Taipei City and Tainan City. This study aims to analyze the differences between these two cities and identify areas that need improvement.

After a series of discussions and examinations, the author draws the following conclusions. Firstly, in comparison between the two cities, residents of Tainan City exhibit a higher level of awareness regarding SDGs and urban issues. However, the effectiveness of the Tainan City government in resolving urban problems is relatively lower. On the other hand, although residents of New Taipei City have a lower level of awareness about Sustainable Development Goals (SDGs) and urban issues, data shows they have notable effectiveness in addressing urban issues, especially concerning their customized primary implementation goals. When comparing responses to questions related to both cities, it becomes clear that citizens in both cities approach with a skeptical attitude about traffic safety and expect the government to make corresponding improvements. As for the youth unemployment rate, when comparing the two cities, the government of New Taipei City exhibits a more proactive approach. In contrast, the government of Tainan City should enhance its capacity to address this urban issue.

Furthermore, after gaining an understanding of SDGs and VLRs, people not only increase their awareness but also express a willingness to continue residing in their respective cities. In this context, the government should further promote awareness of SDGs and VLRs to facilitate the implementation of sustainable development goals. Since citizens indicate that they are influenced by behavioral beliefs, subjective norms, and control beliefs in the Theory of Planned Behavior (TPB), the government can leverage these behavioral factors to influence citizen behavior and strengthen their commitment to sustainable development. By using elements from Governance theory such as communication, interaction, and Hierarchical Governance, the government can enhance its governance capacity and establish closer relationships with citizens.

In summary, the author's research not only reveals the differences between the two cities but also identifies their respective urban issues. The study provides relevant theoretical frameworks for the government and citizens to reference, aiming to improve the current situation. It seeks to enhance the cities' capacity to achieve SDGs and create more livable social and environmental conditions. As emphasized by the United Nations, realizing genuine sustainable development requires the collective participation and cooperation of both the government and the public. This research offers crucial insights and guidance towards achieving this goal. It is hoped that in future endeavors, governments will investigate deeper into specific policies and action plans to promote the realization of SDGs further.

Appendix 1

一、 個人資訊

1. 您現在居住的縣市為：　　新北市　　台南市

2. 性別：　　生理男性　　生理女性

3. 年齡：　　18 歲（含）以下　　19-22 歲　　23-30 歲　　31-63 歲　　64 歲（含）以上

4. 您從西元/民國幾年開始居住在此縣市?

　　　西元 2018 年/民國 107 年(含)以前　　西元 2019 年/民國 108 年

　　　西元 2020 年/民國 109 年　　西元 2021 年/民國 110 年

　　　西元 2022 年/民國 111 年　　西元 2023 年/民國 112 年

5. 您選擇居住在這的原因（最多選 3 個）：

　　　工作機會　　家庭因素　　學校教育　　生活品質　　住房成本　　交通便利性

　　　文化娛樂　　社區安全　　自然環境　　社交圈　　醫療設施　　政府政策

　　　文化多樣性　　經濟發展　　個人喜好　　其他

6. 您的職業：

　　　第一部門：原始生產，包括農業、林業、漁業和礦業。

　　　第二部門：製造業，涵蓋所有產品的加工和生產。

　　　第三部門：服務業，包括零售、金融、教育、醫療等。

　　　學生　　已退休　　其他

二、 市民對永續發展目標認知程度測驗及調查

	我覺得.....	非常不滿意	不滿意	普通	滿意	非常滿意
7.	我對 2023 永續發展目標了解程度是高的					
8.	2030 永續發展目標對我來說是重要的					
9.	其他市民對 2030 永續發展目標了解程度是高的					
10.	2030 永續發展目標對其他市民來說是重要的					
11.	社會發展與 2030 永續發展目標是相關聯的					
12.	當社會議題影響到我時會提升我個人的參與率					
13.	我會受到社會道德標準的影響而提升我的參與率					
14.	我覺得以我的能力可以影響社會的一部分					

二 (1)、新北市認知程度測驗調查（台南市民請跳過此題）

	您認為新北市在 2018~2021 年.....	非常不滿意	不滿意	普通	滿意	非常滿意
15.	低收入戶的人數數量增加 1.2					
16.	從事農、林、漁、牧業在職者所得平均上升 2.3					
17.	道路交通事件死亡率上升 3.6					
18.	青年失業率（15~24 歲）下降 8.6					
19.	暴力犯罪總計案件率(件/十萬人)上升 16.1					

二、 台南市認知程度測驗調查（新北市民請跳過此題）

	您認為台南市在 2018~2021 年.....	非常不滿意	不滿意	普通	滿意	非常滿意
20.	事故傷害死亡率上升					
21.	青年犯罪人口率逐年上升					
22.	青少年失業率（15~24 歲）下降					
23.	老年人口比率逐漸上升，青壯年人口比率逐漸下降					
24.	平均每日一般廢棄物產生量(公噸)逐年減少					

三、 VLRs 的影響力

25. 您是否有聽說過地方市政府所提出的地方自願檢視報告(Voluntary Local Reviews, VLRs)？
    是　　否

26. 您是否參與過地方市政府所主辦的永續發展活動？　　是　　否

	我覺得…..	非常不滿意	不滿意	普通	滿意	非常滿意
27.	地方市政府有積極宣傳永續發展					
28.	地方市政府在制定永續發展相關規定時足夠透明					
29.	地方市政府利用宣導的方式會提升我參與永續發展的意願					
30.	地方市政府利用規範的方式會提升我參與永續發展的意願					
31.	地方市政府與市民充分討論並制定永續發展計畫會提高我參與永續發展的意願					

四、 了解基礎永續發展概念後的參與意願度

「2030 永續發展目標」（Sustainable Development Goals, SDGs）是由聯合國於 2015 年所宣佈的計畫。總共設立了 17 項核心目標、169 項細項目標以及 230 項標準指表。而目標時間則設定為 2023 年前達成。此目標針對環境保護、社會進步、經濟成長等目標組成，目標是

能藉由此目標來改善社會現況達到永續發展之目的。

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Voluntary Local Reviews (VLRs)又稱為地方自願檢視報告，是由聯合國所提出的，目的是為了確保每個國家及國家以下的地區能在一制的情況下實施永續發展，由於各國家的地理、文化、治理方式等差異，若是由聯合國進行審查，將無法精確了解每個地區的需求。因此，審查工作則轉為交由各國政府去實施。各地區在排定其 VLRs 時需要以 2030 永續發展目標的 17 項目標以及 169 項指標作為奠定基礎，並透過政府加以審查及改良其地區之政策、永續發展計畫以及其他相關措施，甚至是諮詢利害關係人，最後成最適合的本地化指標。

新北市永續發展目標地方自願檢視報告
2021 NEW TAIPEI SDGs VOLUNTARY LOCAL REVIEW

台南市永續發展目標自願檢視報告
Tainan City Sustainable Development Goals Voluntary Local Review

新北市 2021 年主要檢視 9 大項

台南市 2021 年主要檢視 10 大項

	在了解 SDGs 的基礎以及 VLRs 後…..	非常不滿意	不滿意	普通	滿意	非常滿意
32.	我覺得提升了我的實施意願					
33.	我覺得提升了我想持續了解的意願					
34.	我覺得提升了我想監督地方市政府的意願					
35.	我覺得促使我想持續居住在此城市					

五、 給予地方市政府的意

36. 您認為市政府在永續發展方面應該更注重（自由填寫）

_____
_____
_____
_____

~作答結束，謝謝您的參與~

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