



## STRATEGIES AND ROAD MAP IN IMPLEMENTING SUSTAINABLE DEVELOPMENT GOALS IN SERANG CITY

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### Abstract

The phenomenon of climate change and global warming is driving the issue of the Sustainable Development Goals (SDG) developing in countries in the world, including Indonesia. Indonesia is incorporated in the Paris Agreement and follows up with the drafting of laws and regulations which form the basis for implementing SDG in the regions. Profile of achievement of Serang City Sustainable Development Goals based on the KLJDD KLHS Document shows that there are still 92 indicators (50, 27%) that have not been achieved. Previous research on strategies and road maps to achieve SDG at the regional level is still limited and is the state of the art of this research. The method used is a sequential transformative strategy mix method that is integrated with the TAIDA method as a scenario planning method, by prioritizing qualitative research through literature studies, personal observations, discussions, interviews which are part of the initial process of the TAIDA (tracking, analyzing) method. Followed by quantitative research through descriptive statistics on weight and rating calculations to formulate strategies and road maps (the next process of the TAIDA method: identifying, deciding, acting). The results of this study are that the strategy to achieve SDG is focused on 4 (four) aspects, namely aspects of regulation (synchronization of regulations), funding (potential funding other than APBD along with preparation of regional financial mechanisms), socialization (aimed at the public and all stakeholders through sharing media) and collaboration (initiation of cooperation with all parties and other local governments). The road map consists of 9 (nine) stages, from socializing to promoting best practices.

**Keywords:** Strategy, Road Map, Sustainable Development Goals.

### I. INTRODUCTION

Sustainable development has become a global issue in recent years, along with the occurrence of various natural phenomena that indicate climate change and global warming. NOAA (National Oceanic and Atmospheric Administration) of the United States Department of Commerce recorded the hottest temperature in August 2019, which became the second hottest temperature after August 2016. The temperature was the hottest in 140 years, and the five hottest Augusts have all occurred since 2014 ([www.noaa.gov/news](http://www.noaa.gov/news), "Summer 2019 was hottest on record for Northern Hemisphere", 16 September 2019). This global phenomenon is also experienced by Serang City. Serang Meteorological Station, with Serang City included in its working area, recorded

an increase in air temperature of 0.2°C in the last 20 years. In 1998-2008 the highest air temperature was 36.2°C, meanwhile in the period of 2008-2018 the highest air temperature was recorded at 36.4°C (Stamet Serang, 2019).

Many countries in the world then agreed in the Paris Agreement, which was signed in 2016 to jointly strive to reduce the earth's temperature to below 2°C, including Indonesia. Indonesia then ratified the Paris Agreement into Law Number 16 of 2016 concerning the Paris Agreement on the United Nations Framework Convention on Climate Change. The law was then elaborated into Presidential Regulation Number 59 of 2017 concerning the Implementation of Sustainable Development Goals, and Minister of Home Affairs Regulation Number

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7 of 2018 concerning Creating and Implementing KLHS in the RPJMD. These regulations form the basis for implementing SDG in the regions.

Every country has its own direction towards the objectives of the SDG. Each country needs to determine 232 global indicators from 17 SDG objectives to fit its specific context because not all indicators have same importance in each country (Koch & Krellenberg, 2018). The same applies to regions in a country, such as provinces/districts/cities in Indonesia, each have different development directions. The direction of regional development can be seen from the Regional Medium-Term Development Plan (RPJMD). Therefore, Minister of Home Affairs Regulation number 7 of 2018 mandates that SDG should be integrated into the RPJMD.

Based on the KLHS RPJMD Document of Serang City, there are still 92 indicators (50.27%) of the 16 objectives in the SDG that have not been implemented by the Serang City Government. Most indicators that have not been implemented in goal 1 (No Poverty), as many as 12 indicators, followed by goal 16 (Peace, Justice, and Strong Institution) for 11 indicators. Goal 7 (Affordable and Clean Energy) consisting of 2 indicators, all of which have not yet been implemented. (KLHS RPJMD Document of Serang City, 2018).

An indicator that has not been implemented and has not involved stakeholders other than the local government, for example, in goal 7. The indicator is to increase the proportion of renewable energy and double the rate of improvement in energy efficiency, which can be achieved through collaboration with academics, in finding renewable energy potential in the City of Serang. Energy efficiency improvements can be implemented through cooperation with the media in campaigning for energy saving. The presence of indicators that have not been implemented yet indicating the need for a strategy and road map in the effort to achieve SDG, considering that SDG is expected to be achieved by 2030.

The discussion on strategies and road maps to achieve SDG in Serang City begins with explaining the position of Serang City in sustainable development, as stated in the Strategic Environmental Assessment Document in Regional Medium-Term Development Plan (KLHS RPJMD) of Serang City year 2018-2023. Then there is a need to explain about the alignment of the strategic issues on each planning document, starting from the KLHS RPJMD document, RPJMD document of Serang City Year 2018-2023, RPJMD document of Banten Province Year 2017-2022, and RPJMN technocratic design year 2019-2024, with SDG; and identification of internal and external

factors of the Serang City Government.

After going through the discussion of these three things, the objective of this research is to analyze the strategy and road map to achieve SDG in Serang City. The strategy and road map are needed by Serang City Government so that SDG implementation becomes more purposeful, systematic, and well-planned. The strategy formulation can be taken into consideration by Serang City Government in the effort to achieve SDG. While the road map could be a reference for all stakeholders involved in the implementation of SDG.

There are several concepts and theories regarding sustainable development. The most often used definition is from the Brundtland Commission, namely development that seeks to meet current needs without ignoring the needs of future generations (World Commission on Environment and Development, 1987). This shows the importance of equality between generations, preserving the environment for future generations, implementing long-term economic and environmental stability through recognition and integration of economic, social, and environmental issues in decision making process (Emas, 2015, p. 2). Sustainable development is a relatively new discipline, but it is growing rapidly, along with the vital quest of humanity to ensure that the activities undertaken today do not adversely affect the future (Rosen, 2018, p. 1).

According to Presidential Regulation (Perpres) number 59 of 2017, SDG is a document containing global goals and targets for the year 2016 to 2030. Whereas according to Minister of Home Affairs Regulation (Permendagri) number 7 of 2018, Sustainable Development is a conscious and planned effort that integrates environmental, social, and economic dimensions into development strategies to ensure the integrity of the environment including the safety, capability, welfare, and quality of life of present and future generations. The Sustainable Development Goals consist of 17 goals, namely:

1. No Poverty
2. No Hunger
3. Good health and well being
4. Quality Education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation, infrastructure
10. Reduce 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, strong institution
17. Partnership for the goals

The Serang City Government has started the SDG implementation effort by preparing the RPJMD KLHS Documents of Serang City year 2018-2023 as mandated by Permendagri number 7 of 2018. This document contains a profile of SDG implementations in Serang City and in each Regional Apparatus Organization (OPD), carrying capacity and land capacity, alternative analysis of scenarios and recommendations, as well as recommendations for carrying capacity and land capacity in the design of the Serang City's RPJMD.

There are sustainable development problems encountered by Serang City Government. First, the achievement profile of sustainable development in Serang City shows that there are still 92 indicators (50.27%) of sustainable development that have not been implemented by Serang City Government (KLHS RPJMD Document of Serang City year 2018-2023, page. IV-80). Secondly, the Serang City Government only received a national training on SDG in 2018, which was held by United Cities of Local Government Asia Pacific (UCLG ASPAC) in collaboration with the Association of All Indonesian Municipal Governments (APEKSI), and only 1 (one) representative participated in the national training from only 1 (one) OPD, namely Bappeda, so information about SDG among Serang City Government is still limited. Third, efforts to achieve SDG must also involve all stakeholders, both from the elements of the regional government (Pemda) or non-Pemda, and this is not widely known yet by all parties, so it requires comprehensive planning to make it happen. These problems are known from the results of discussions with several parties from stakeholders related to SDG, namely from the media, philanthropy, private sector, and NGOs/community organizations.

Previous research has shown that the strategy formulation regarding sustainable development is carried out in certain sectors. Koch & Krellenberg (2018) analyzing the contextualization of the 11th goal of the global level to the national level in Germany, because the 11th goal is closely related to the urbanization phenomenon that occurs in almost every country, thus it is expected to be implemented into sustainable urbanization. The water supply sector has not achieved satisfactory results yet even though this issue has been ongoing since the Rio Summit in 1982, was included in the MDGs and is currently the 6th goal in the SDG, therefore in planning for the 6th SDG goal (clean water and sanitation) it needs to consider all future investments through a long-term economic

development strategy, including the management of abandoned water supply infrastructure assets (Kalin et al., 2019, p. 2). The forestry sector has a positive sustainability impact (the forestry sector can help in the achievement of SDG, especially for the 15th SDG goal, which also has a positive impact on other SDG objectives) and negative sustainability impacts (the forestry sector can cause conflicts between biodiversity and wood fuel needs), thus requiring a coherent strategy to be able to achieve the objectives of SDG by 2030 (Baumgartner, 2019, p. 7).

As research results are shown in the global context above, research in the national context (Indonesia) on the topic of sustainable development strategies in Indonesia is also mostly carried out in certain sectors. Counseling and adequate communication are some of the strategies in sustainable development of coastal areas in Konawe, Southeast Sulawesi, which can improve the productivity and welfare of fishermen (Hamundu & Manan, 2004, p. 100). The sustainable strategy for utilization of biogas energy which is most appropriate to be applied in Argosari Village, Jabung District, Malang Regency, is through diversification of the strategy precisely by developing concentric strategy (Triwahyuni, Hanafi, & Yanuwadi, 2015).

Research conducted by Aboumalik, Brak, & Essaaidi (2019, p. 137) shows that innovative strategies can strengthen the road map of the Renewable Energy Source System (RESS) connectivity in the Smart Grid (SG) electricity system. The strategy is formulated by considering regulations, free-market needs, and SG technology standards so that the resulting strategy can strengthen the road map for sustainable energy supply. This shows that the strategies and road maps are interconnected and strengthen each other, therefore, the strategies to achieve SDG need to be followed by road maps for SDG implementation in Serang City until 2030.

The KLHS document provides several advantages related to the implementation of sustainable development in developing countries, which are (1) the implementation of the KLHS document can form a road map for sustainable development; (2) the processes in the KLHS can fix the lack of transparency and accountability of ineffective public participation in implementing government policies, plans and programs; (3) In addition, applying KLHS in development must be accompanied by coordinated efforts between government, non-government and international organizations to implement policies, plans and programs (Alshuwaikhat, 2005, p. 307). If adapted in the context of the Serang City Government, then

the KLHS RPJMD document that has been prepared by the Serang City Government can be used as a material in the preparation of a road map for the SDG implementation in Serang City.

The above studies show that research on sustainable development has been discussed sectorally or per objectives in the SDG. Discussion on efforts to achieve 17 goals of SDG in the local context (provincial/district/city) is still very limited. Research that analyzes strategies and road maps for achieving SDG by considering the position of existing implementation of SDG obtained from the KLHS RPJMD document, alignment with planning documents, and identification of internal and external factors of the region have not been seen from previous studies. Therefore, this paper tries to fill the shortcomings of previous studies.

The focus of this research is the process of formulating strategies and creating road maps with the TAIDA method and formulating strategies using the SWOT matrix and grand strategy matrix. Meanwhile, the preparation of the road map is obtained from the data compilation and information on the results of the TAIDA method by adapting an overview of the road map obtained from SDG training materials.

## II. METHOD

This research used a mixed method of sequential transformative strategy that is integrated with the TAIDA method as a scenario planning method. The sequential transformative strategy method begins with conducting qualitative research first, followed by quantitative research. Qualitative research is done through content analysis which is part of the initial process of the TAIDA method (tracking, analyzing) of related documents. Quantitative research is carried out during the process of identifying and deciding in formulating strategies or scenarios for SDG implementation, through descriptive statistics by calculating scores, weights, and ratings. The results of qualitative and quantitative research are combined to obtain the results of the study and determine the follow-up steps at the acting stage in the form of a Road Map to achieve SDG.

Data collection techniques carried out through document review/literature study (as secondary data), observations, discussions, and interviews (as primary data). Documents that were examined were KLHS RPJMD Documents, Local Government Work Plan Documents (RKPD), Accountability Statement Report Document (LKPI), and related regional regulations. Observation is done by the author on the current condition of Serang City and Serang City Government. The results of the discussion were in

the form of sharing information on the conditions of other regional governments throughout Indonesia during the SDG National Training participated by the author, while interviews were conducted with stakeholders such as from the media, philanthropic, private sectors, and NGO/community organization elements.

TAIDA is a framework developed by Mats Lindgren and Hans Banhold and has been used for more than 10 years on hundreds of scenario planning projects for general business, individuals and organizations (Lindgren & Bandhold, 2009). Scenario planning is used for uncertain or changing circumstances. The situation of regional government is dynamic because the policies taken keeps changing in accordance with global and national development, and changes in legislation, therefore the implementation of SDG will depend on those circumstances.

Tracking means to track changes and signs of strengths and weaknesses, threats or opportunities. Analyzing is to analyze the consequences that arise and developing scenarios. Imaging, is to identify possibilities and drawing the expected visions. Deciding, is to consider all the information that has been obtained, identify options and strategies. Acting, start short-term goals, take initial steps, and follow the established actions (Lindgren & Bandhold, 2009).

At the Tracking stage, there are several things that need to be explored, among them is the current position of SDG implementation in Serang City, which has been analyzed in the KLHS RPJMD Serang City document. This led to evaluation and recommendations on future development plans, which sectors that need to be improved and maintained.

Analyzing stage is carried out by analyzing the consequences or impacts that will be experienced by all stakeholders, both from the regional government and non-regional government as mandates of Permendagri number 7 of 2018 and the SDG agenda which is a national agenda and must be implemented at the district/city level.

The strategy formulation process starts with the Imaging and Deciding stages. The Imaging phase seeks to identify internal and external elements of the Serang City Government in the effort of implementing SDG. Strategies were prepared using IFAS (internal factor analysis strategy), EFAS (external factor analysis strategy), and SFAS (strategy factor analysis strategy) methods. Internal factors are the strengths and weaknesses of the Serang City Government, while the external factors are the opportunities and threats from outside the Serang City Government.

Internal and external factors are obtained from the results of data collection in the process of tracking and analyzing. Each element is then given a justified weight and rating, based on the existing conditions in Serang City Government. Weights are given on a scale of 0-1, and rating on a scale of 1-5. In terms of strength and opportunity, the greater the weight and rating, the greater the strength and opportunity. Whereas in the element of weaknesses and challenges, the greater the value of the weight and rating indicates a small weakness and challenge (the greater the value of the weight and rating means the smaller the effect). This weighting is to help determine the position in the Grand Strategy Matrix. Furthermore, the strategy formulation of Serang City Government in implementing SDG is done in the Deciding stage, which is obtained from the IFAS, EFAS, and SFAS methods using SWOT Analysis. The results of this formulation are expected to be the strategy of the Serang City Government to achieve success in SDG implementation by 2030.

The Acting stage is explained in the form of a Roadmap for the implementation of SDG in Serang City as a reference for the Serang City Government in doing all steps to achieve SDG which carried out by all stakeholders. The road map was adapted from an overview of the road map in the "Localizing SDG for Local Government" training organized by UCLG ASPAC in collaboration with APEKSI with funds from the European Union (Localise SDG's – Leadership Ownership and Capacities for Agenda 2030, Local Implementation and Stakeholder Empowerment, Hotel Aryaduta Jakarta, 27 – 28 September 2018) (UCLG-ASPAC, 2018).

A road map is a strategic plan that defines a goal or expected outcome, including the main steps or stepping steps that are needed to achieve it ("Roadmap Basics: What Is a Roadmap?" n.d., the home page.). A road map is a high-level visual summary that maps the vision and direction of the product, with certain stages (Semick, 2016). A road map is a reference or guide in doing something based on data processing, drawing conclusions and mapping out an implementation plan in certain years as desired (Fransisca & Hadi, 2010). Road maps are also used not only to analyze the overall impact and the formation of research and development portfolios but also to develop detailed research and development strategies (Choi, Choi, Friley, Kim, & Park, 2017, p. 1). The road map drafted in this paper was adapted from the Local Government Guidelines for the Implementation of SDG (UCLG ASPAC, 2018) with some changes adjusted to the current conditions of the Serang City Government. The road map was prepared as a guideline for Serang City Government in implementing SDG.

### III. RESULTS AND DISCUSSION

#### A. TAIDA-Tracking: Profile of Serang City SDG Implementation and Alignment to the Development Planning Document

Tracking is carried out on the profile of SDG implementation in Serang City, and the alignment of SDG in development planning documents. This process is carried out to determine the position of Serang City SDG so that the next steps can be taken with consideration to current SDG implementation, as well as to trace the internal and external factors of the Serang City Government.

##### 1) Profile of Serang City SDG Implementation

Serang City KLHS RPJMD document of 2018-2023 has outlined the profile of the SDG implementation in Serang City that shows SDG indicators and strategic issues that have been implemented and not yet implemented by the Serang City Government. Indicators and strategic issues refer to the attachment of Perpres number 59 of 2017, while the SDG achievement data that has been implemented by the Serang City Government is based on the achievements of the OPD program activities at the End of Term Accountability Statement (LKPJ AMJ) document for 2014-2018.

Based on the Serang City KLHS RPJMD Document of 2018-2023, there are 183 indicators that are under the authority of Serang City Government, 91 indicators (49.73%) have been implemented, and 92 indicators (50.27%) have not been implemented. Out of the 17 goals in the SDG, there is 1 (one) goal which has not been implemented by the City Government, which is the 7th goal (Affordable and Clean Energy), while in the 8th goal (Decent Work and Economic Growth) all indicators have been implemented (Bappeda, 2018).

There are 4 (four) categories of development pillars in the SDG, namely Social Development Pillars

**Table 1.**  
Achievement of Sustainable Development Pillars in Serang City (KLHS RPJMD Document of Serang City Year 2019-2023)

Development Pillars	Total Indicator	Percentage
Social	39	21.31%
Environmental	22	12.02%
Economic	20	10.93%
Law and Governance	10	5.46%

(goals 1, 2, 3, 4, and 5); Economic Development Pillars (goals 7, 8, 9, 10, 17); Environmental Development Pillars (goals 6, 11, 12, 13, 14, 15); and the Governance Development Pillar (16th goal). The achievement of the Serang City Government in terms of the categories of development pillars that have been implemented is shown in Table 1.

From Table 1 the pillars of social development have the highest achievements, which means that the development programs of the Serang City Government are more focused on achieving the goals in the social development pillars. Nevertheless, there are indicators that have not yet been achieved in this development pillar, for example in goal number 1 of the strategic issue 1.4, which contains the equality of community rights to economic resources, access to basic services, ownership of land, natural resources, and microfinance services (National Development Planning Agency, 2017). It is undeniable that these indicators have not yet been achieved because of the great efforts required in terms of budget availability, data accuracy, and public awareness.

The achievement of the environmental development pillars has been heavily assisted by the housing sector and the provision of clean water with the existence of several central government projects in Serang City that reach to the RT and RW levels such as Sanimas (Community Based Sanitation), KOTAKU (City without Slums), NUSP (Neighborhood Upgrading Shelter Project), and World Water Net. Greening and mangrove planting programs have also become routine programs of several OPD in the Serang City Government.

On the economic development pillar, there is one goal in which indicators have not been implemented at all, namely the 7th goal (reliable, sustainable, and affordable energy access for all). There are three strategic issues in 7th goal, as follows:

- 7.1. Guarantee on universal access to affordable, reliable and modern energy access
- 7.2. Increasing the market share of renewable energy
- 7.3. Energy efficiency improvements

Serang City Government's program activities that facilitate the achievement of indicators of these three strategic issues is still minimal because it has not become a priority issue in development, the unavailability of an appropriate account code in the local budget scheme for this sector, and the low public awareness of energy security in the region.

The achievement of the pillars of law and governance development pillar by 5.46%, is the lowest among the achievements of other development pillars. This development pillar

contains the 16th SDG, namely Peace, Justice, and Strong Institutions. One of the things that need to be considered by Serang City Government related to this development pillar is governance that able to adapt to the latest conditions on a regional, national or global scale, including digitalization of the world. At this time, the sustainability of the world's digitalization requires an adaptive governance approach to overcome the challenges of economic and social sustainability (Linkov, Trump, Poinsett-Jones, & Florin, 2018).

## 2) *Aligning Strategic Issues in Development Planning Documents With SDG*

As an act of implementing SDG in regional development planning documents, it is necessary to harmonize the regional development planning documents with SDG. The following is an explanation of the alignment of strategic issues from the Serang City KLHS RPJMD – Serang City RPJMD – Banten Province RPJMD – RPJMN with strategic issues in the SDG. This harmony at the same time shows that the development planning in Serang City has followed the principles of sustainable development.

## **B. TAIDA-Analyzing: Consequences for the Serang City Government**

The Regional Heads (Mayor and Deputy Mayor) elected from the 2018 election results must understand the SDG so that it can adjust its political promises to the SDG. This will be translated into the vision, mission, strategic issues, goals and objectives of regional development planning.

The regional obligation to implement SDG has several consequences for the Serang City Government. First Consequences, Serang City Government must know the SDG achievement profile that has been analyzed in the Serang City KLHS RPJMD Documents and aware of the alignment of strategic issues from several documents, which are the Serang City KLHS RPJMD, Serang City RPJMD, Banten Province RPJMD, and RPJMN with SDG.

Second, Serang City Government must prepare to arrange socializations regarding SDG and its implementation to all stakeholders, because this information is not widely known and understood by stakeholders, even including the government itself. The socialization is expected to be able to encourage the mainstreaming of SDG and initiate the division of roles of all stakeholders.

Third, the City Government needs to formulate a strategy and create a road map to achieve SDG, so that the achievement of development indicators that are in accordance with the SDG indicator metadata is more directed and well-planned. Strategies for

**Table 2.**

The Alignment of Strategic Issues Between KLHS RPJMD – Serang City RPJMD – Banten Province RPJMD – RPJMN with SDG

Strategic Issues of Serang City KLHS	Strategic Issues of Serang City RPJMD 2018-2023	Strategic Issues of Banten Province RPJMD 2017-2022	Strategic Issues in the Technocratic Design of RPJMN 2020-2024	SDG no-
	1. Demographic development and geographical location of Serang City 2. Metropolitan City of Serang	1. Strategic issues of regional disparity <ul style="list-style-type: none"> <li>• Inequality in Education Accessibility</li> <li>• Inequality in Health Accessibility</li> <li>• Inequality of Public Purchasing Power</li> <li>• Insufficient infrastructure to support the local economy (according to Regional Economic Potential)</li> <li>• Inequality of Fiscal Independence Between Regions</li> <li>• Lack of Territorial and Inter-Regional Infrastructure Connectivity</li> </ul>	1. Infrastructure development and reducing inequalities between regions 2. Strengthening regional growth centers	10.Reduce inequalities 3. Good health and well being 4. Quality Education 12.Responsible consumption and production
	3. The quality of human resources and public welfare	2. Strategic Issues for Poverty and Unemployment	3. Poverty alleviation 4. Optimization of demographic bonuses needs to be done through integrated and holistic human development	1. No Poverty 2. Zero Hunger 8. Decent work and economic growth
	4. Competitiveness of the regional economy 5. Regional Infrastructure	3. Strategic issues of regional competitiveness (natural resources and human resources)	5. Fulfillment of basic services and increasing regional competitiveness 6. Creating added value and foreign exchange, as well as challenges in utilizing new sources of growth (Tourism and Digital/Creative Economy)	9. Industry, innovation, infrastructure 5. Gender equality
1. Land capacity 2. Food Capacity 3. Water Capacity 4. Air Capacity 5. Waste management	7. Management of spatial planning, environment and disaster mitigation	4. Strategic Disaster Issues	7. Carrying Capacity of Natural Resources and the Environment 8. Implementation of SDG/SDGs	6. Clean water and sanitation 7. Affordable and clean energy 11.Sustainable cities and communities 13.Climate Action 14.Life Below Water 15.Life on Land
	8. Governance and bureaucratic reform	5. Strategic Governance Issues		16.Peace, justice, strong institution 17.Partnership for the goals



sustainable development should be formulated, in accordance with current developments, such as business strategies that look for systems that are ecologically appropriate, economically feasible and socially equitable to achieve a sustainable balance (Vargas Hernández & Velázquez-Álvarez, 2013).

Fourth, related to the current level of achievement of SDG indicators, each OPD needs to pair the SDG indicator metadata with the attachment to Permendagri number 86 of 2017 containing regional development indicators, so that the indicators that have not been implemented can be found and can determine the right program activities to be able to achieve it.

Fifth, Serang City Government must coordinate with Banten Provincial Government regarding the implementation of SDG because Banten Provincial Government is obliged to prepare SDG Regional Action Plan (RAD) (according to Perpres number 59 in 2017) in that way Serang City Government needs to know the directions from Banten Provincial Government in the effort of achieving SDG implementation. Banten Province SDG RAD will become a reference for Serang City SDG RAD, but until now the Banten Province RAD has not been determined by the Governor.

### **C. TAIDA-Imaging: Identification of Internal and External Factors**

Serang City Government is the party that will implement the strategy to achieve SDG in Serang City, so it is necessary to determine the internal and external factors. Internal factors are those of the Serang City Government, including OPD, ASN, OPD activity programs, Organizational Structure and Governance (SOTK), and others. While external factors are factors from outside of Serang City Government including the public, non-regional government stakeholders, Banten Provincial Government, and the Central Government.

#### *1) Matrix of Internal and External Factors*

Internal Factors Analysis Summary (IFAS) contains internal factors (strengths and weaknesses) within Serang City Government, while the External Factors Analysis Summary (EFAS) contains external factors (opportunities and threats) from outside of Serang City Government related to the implementation of SDG. Internal factors in the form of strength and weakness points come from the author's observations and are combined with other document sources, including the Serang City KLHS RPJMD of 2018-2023. While external factors are obtained from opportunities and threats that potentially will be faced by the City

Government when implementing SDG. From the results of IFAS and EFAS analysis, SFAS (Strategic Factors Analysis Summary) is then created which is a summary of the company's external and internal strategic factors in one form. SFAS contains only the most important factors and provides the basis for strategy formulation (Hunger & Wheelen, 2001, p. 194).

The IFAS matrix in Table 3 shows that each factor on strengths and weaknesses has its own weight and rating. Weight indicates the effect of these factors on the achievement of SDG in Serang City. Weight scales start from 0.0 (not important) to 1.0 (most important) and the total weight of all factors is 1.0. The rating shows the level of strengths and weaknesses of one factor with other factors and the level of importance of the efforts in implementing SDG. Positive factors (from the strengths) rating scale between 1 (poor - lowest strength) to 4 (outstanding - highest strength). As for negative factors (from weaknesses), the rating scale applies vice versa, in which rating 1 for very big weaknesses and rating 4 for very small weaknesses (Rangkuti, 1997).

Rating scale on the strengths and weaknesses are different, so it will produce a score (weight x rating) that is different from each factor. If in the element of strength, a high score indicates the best element of strength, whereas, in the element of weakness, a high score indicates the element of weakness that is the lowest. For example, the second factor in the element of strength is "KLHS RPJMD Documents are available in accordance with Permendagri number 7 of 2018", with a weight of 0.1, rating 4 (outstanding), so weight x rating = 0.4. The result of this factor score is the biggest compared to other factors in the element of strength, so this factor is the best strength that has been owned by the City Government of Serang.

The internal factors of the City Government including OPD, ASN, the program of activities that have been carried out, documents that have been prepared, and the status of SDG implementation during the period of 2014-2018. Some OPD in Serang City Government have basic tasks and functions that are in line with SDG, including the Regional Development Planning Agency (Bappeda), the Public Works and Spatial Planning Office (DPUPR), the Public Housing and Settlement Areas Office (DPRKP), the Environmental Agency (DLH), Office of Women's Empowerment and Protection of Children and Family Planning (DP3AKB), and Office of Health (Dinkes). OPD has various positions whose basic functions are supporting SDG, for example in Bappeda there are sub-sections on Spatial Planning and the Environment, sub-sections on Housing and



**Table 3.**  
Internal Factor Matrix for Serang City Government (IFAS)

Internal Strategy Factors	Weight	Rating	Weight x Rating	Remarks
Strengths:				
1. There are OPDs which function is supporting SDG	0,1	3	0,3	OPD is the spearheads of SDG implementation
2. There are structural and functional positions which task is supporting SDG	0,1	3	0,3	Performance indicators will support the implementation of SDG
3. Since the establishment of the Serang City, there have been many program activities in line with SDG	0,05	3	0,15	Should be encouraged to optimize its performance achievement
4. KLHS RPJMD documents that are in accordance with Permendagri 7/2018 is available	0,1	4	0,4	The KLHS RPJMD has included SDG on it
5. 91 out of 183 SDG indicators have been implemented	0,1	4	0,4	Need to be maintained and improved
Weaknesses:				
1. Socialization about SDG has not been disseminated	0,1	2	0,2	Socialization to ASN and OPD is very important
2. Coordination between OPD is still lacking	0,1	3	0,3	Coordination is very important to achieve goals
3. Data availability is still inadequate	0,2	2	0,4	Data is the basis for policymakers
4. Budget constraints of Serang City Government	0,2	2	0,4	Understanding the main tasks and function will enhance the performance
5. There are still 92 out of the 183 SDG indicators that have not been implemented yet	0,05	3	0,15	Indicators that have not been implemented are the evaluation materials of the City Government
<b>1</b>		<b>3.00</b>		

Settlement Planning, and others. The program of activities that are in line with SDG has also been widely implemented by the City Government, although it still needs to be re-evaluated regarding its performance achievements, including the Public Nutrition Improvement Program, Nutrition Conscious Family Empowerment Program (Dinkes), Rural Infrastructure Development Program, Rural Road and Bridge Construction Activities (DPUPR), and other activity programs (Serang Mayor Regulation number 46 of 2017 concerning the Serang City RKPD of 2018).

External factors in Table 4 are potential opportunities and threats that come from elements outside of the Serang City Government related to the implementation of SDG. Opportunities were obtained from the funding sector, support from the

central government and other regional governments, collaboration with regional governments and non-regional government stakeholders, and pro-SDG movements in the society. Threats arise from limited information about SDG, low public awareness, negative behavior, and the potential rejection of SDG from certain elements.

The calculation of each score obtained is the same as the principle of calculation on internal factors. Weights factor on the elements that are positive, namely opportunities, are rated in the range of 1 (poor) to 4 (outstanding). While the weight of factors on the elements that are negative, namely the threat, applies the opposite. A value of 1 means that the threat is very large towards the efforts to achieve SDG, while the lowest threat is score as 4.

**Table 4.**  
External Factor Matrix for Serang City Government (EFAS)

External Strategy Factors	Weight	Rating	Weight x Rating	Remarks
Opportunities:				
1. The central and provincial governments strongly encourage SDG implementation	0,1	3	0,3	Central regulation on SDG
2. There are funding options other than the Serang City Regional Budget that can be utilized	0,15	4	0,6	Need adequate funding for SDG
3. Non-Local Government stakeholders can work together with the City Government for SDG implementation	0,15	4	0,6	Non-local government stakeholders need to be given a role
4. Many pro SDG movements/communities began to develop through social media	0,1	3	0,3	The community will help to be agent of change in the society
5. There are opportunities for cooperation with local governments around Serang City Government (Serang District Government and Cilegon City Government) in SDG implementation	0,05	2	0,1	Cooperation between regions is needed for the implementation of SDG
Threats:				
1. Information about SDG is not widely known by the public	0,1	1	0,1	Need socialization to the public
2. Public awareness of sustainable development is still low	0,1	1	0,1	Need education on the importance of sustainable development
3. Negative behaviors such as crime, violence, hoax news	0,1	2	0,2	Need law enforcement and prevention
4. The possibility of rejection from certain elements in the effort of SDG implementation	0,05	4	0,2	External factors that are not pro SDG
5. Public awareness in preserving the output of development is still low	0,1	2	0,2	Development output is still not safe
<b>1</b>		<b>2.3</b>		

## 2) Matrix of Strategy Factor

From the internal and external factors that were successfully explored and shown in Table 3 and Table 4, the factors with the highest score from the IFAS and EFAS matrix tables will be taken as strategic factors in the SFAS matrix shown in Table 5 below.

Table 5 shows the summary of the analysis of strategic factors (SFAS) which is a compilation of the best factors in Tables 3 and 4, which have the highest score, weight and best rating (Hunger & Wheelen, 2001, p. 194). Once collected, all these factors are then weighted according to the impact of the factors

on SDG implementation, with the total weight of all factors being 1. Furthermore, all factors are rated on a scale of 1 (very poor) to 4 (very good) based on the response of the Serang City Government against these factors. The weighted score in column 4 of Table 5 is the result of multiplication between the weight and rating so that the value (weight x rating) of each factor is seen.

Column 5 shows the duration, i.e. the time period required by the factors to be carried out to succeed. The considerations taken are based on the ability of the Serang City Government to implement it and the current conditions. The factors

**Table 5.**  
Strategy Factor Matrix (SFAS)

Key Strategic Factors	Weight	Rating	Weighted Score (weight x rating)	Duration			Comments
				Short	Medium	Long	
1. KLHS RPJMD documents that is in accordance with Permendagri 7/2018 is available	0,1	4	0,4	×			KLHS RPJMD has mainstreamed SDG
2. 91 out of 183 SDG indicators have been implemented	0,1	4	0,4		×		Need to be maintained and improved
3. There are OPDs which function is supporting SDG	0,07	3	0,21		×		OPD is the spearheads of SDG implementation
4. There are structural and functional positions which task is supporting SDG	0,07	3	0,21	×			Performance indicators will support the implementation of SDG
5. Data availability is still inadequate	0,09	3	0,27		×		Data is the basis for policymakers
6. Budget constraints of Serang City Government	0,1	3	0,3		×		Understanding the main tasks and function will enhance the performance
7. Coordination between OPD is still lacking	0,07	3	0,21		×		Coordination is very important to achieve goals
8. Socialization about SDG has not been disseminated	0,1	2	0,2		×		Socialization to ASN and OPD is very important
9. There are funding options other than the Serang City Regional Budget that can be utilized	0,09	4	0,36			×	Need adequate funding for SDG
10. Non-Local Government stakeholders can work together with the City Government for SDG implementation	0,09	4	0,36			×	Non-local government stakeholders need to be given a role
11. Negative behaviors such as crime, violence, hoax news	0,06	2	0,12			×	Need law enforcement and prevention
12. Public awareness in preserving the output of development is still low	0,06	2	0,12		×		Development output is still not safe
<b>TOTAL</b>	<b>1</b>		<b>3.16</b>				

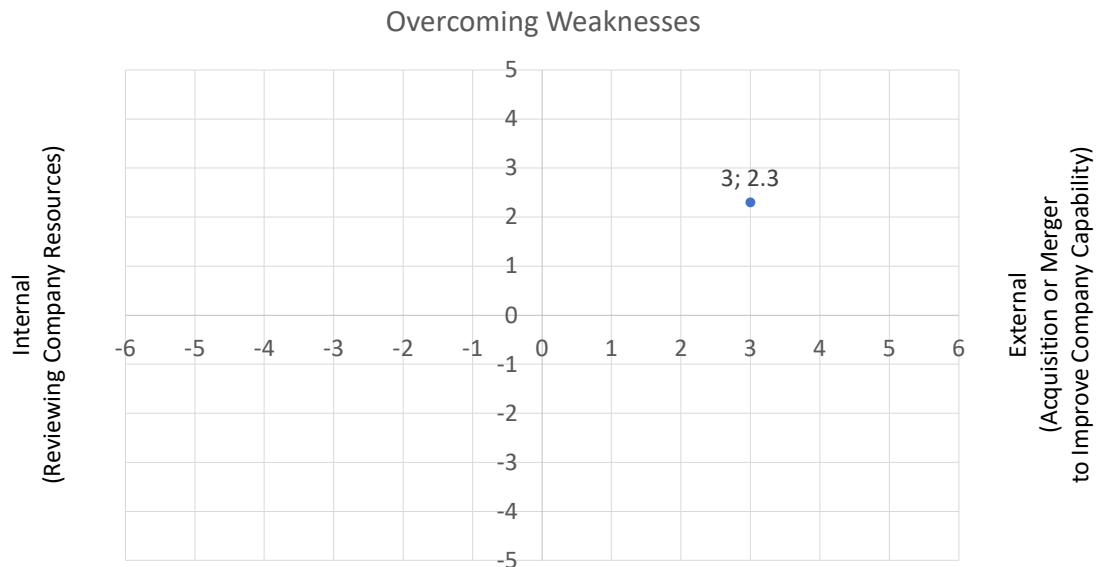
implemented in the short-term duration are those that have been implemented or that are urgent to be implemented, while for the medium-term and long-term durations are for factors that are important but require prior planning.

Column 6 shows comments, which are suggestions or input on the Serang City Government regarding conditions that become internal and external elements of the Serang City Government. Suggestions and input are obtained from the author's personal opinions based on interviews

with relevant stakeholders.

After the creation of SFAS, the next stage in the strategy formulation is the preparation of the SWOT matrix and grand strategy matrix. The SWOT matrix (Table 6) is prepared based on the factors in the IFAS and EFAS tables, then the most beneficial strategies are sought, which can optimize strengths and opportunities and minimize weaknesses and threats. From the SWOT matrix, the main aspects of strategy are obtained which become the primary sectors in concern for policymaking.

# Grand Strategy Matrix



**Figure 1.** Grand Strategy Matrix

The grand strategy matrix can be a companion to the SWOT matrix because it shows the position of the Serang City Government in the strategy of SDG implementation. This grand strategy matrix is a 4 quadrants diagram derived from the scores obtained from the calculation results in the IFAS and EFAS tables that show the position of a company or organization. The IFAS table shows the total value is 2.3, then plotted into the grand strategy matrix, and the EFAS table the total value is 3.0, plotted on the grand strategy matrix. The results obtained are in quadrant I (2,3; 3,0).

From the grand strategy matrix, the position of Serang City Government is in quadrant I, which means that Serang City Government is in an excellent strategic position. Organizations or companies that are in quadrant I, the right strategy is a continuous concentration of markets and products. The company or organization should not shift to its competitive advantage, but if it has excess resources, it can integrate with other parties. Diversification is needed to expand the product range. Organizations in this quadrant are able to take advantage of external opportunities from several areas and dare to take risks aggressively if needed (David & David, 2017, p. 205).

This position is a positive result so it can be a good start in the SDG implementation in Serang City. The position of Serang City in quadrant I show that the city needs to maintain and improve conditions

that have supported SDG implementation, for example there have been program of activities that are in line with SDG, positions/functions that play important roles in SDG needs to be optimized, especially in implementing activity programs that are in line with SDG. Integration is carried out in the sense of integration with other stakeholders in implementing SDG activities. Diversification is carried out in the form of diversification of funding sources for activities originating from outside of the local government, for example philanthropy or the private sector. By being in this quadrant, the Serang City Government could take advantage of external opportunities, for example other funding opportunities and cooperation opportunities with other local governments. Serang City Government also does not need to worry about taking aggressive risks if needed. For example, providing sanctions against persons who damage public facilities or social facilities that have been built in the context of achieving SDG.

## D. TAIDA-Deciding: Strategy Formulation

SWOT analysis is used to find strategies that could take advantage of strengths and opportunities and anticipate weaknesses and threats. From the results of the strategy formulation in the table above, the strategies can be grouped into 4 (four) aspects, namely:

**Table 6.**  
SWOT Matrix

SWOT ANALYSIS		Strengths					Weaknesses				
EF	IFAS	1. There are structural and functional positions which task is supporting SDG	2. There are OPDs which function is supporting SDG	3. Since the establishment of the Serang City, there have been many program activities in line with SDG	4. KLHS RPJMD documents that are in accordance with Permendagri 7/2018 is available	5. 91 out of 183 SDG indicators have been implemented	1. Socialization about SDG has not been disseminated	2. Coordination between OPD is still lacking	3. Data availability is still inadequate	4. Budget constraints of Serang City Government	5. There are still 92 out of the 183 SDG indicators that have not been implemented yet
		Opportunities		S-O Strategy			W-O Strategy				
1. The central and provincial governments strongly encourage SDG implementation	4. Many pro SDG movements/ communities began to develop through social media	1. The presence of regulations from the Central Government and the Provincial Government is the legal basis for implementing the duties and functions which supporting SDG (S1-O1)	3. Indicators that have been implemented can be intensified through collaboration with non-regional government stakeholders (S3-O2)	5. Related officials can establish coordination with non-regional government stakeholders to support SDG implementation (S1-O3)	1. The existence of regulations regarding SDG needs to be known by all OPDs so that a coordination channel / technical team for SDG implementation can be established (W1-O1)	3. In addition to coordination between OPDs, coordination with non-Pemda stakeholders is needed, because non-Pemda have a great opportunity in partnering with City Government for SDG implementation (W3- O3)	5. Budget constraints can be sought from funding opportunities other than the Serang City budget (APBD), such as philanthropy, CSR, and others. (W1 - O2)				
2. There are funding options other than the Serang City Regional Budget that can be utilized	5. There are opportunities for cooperation with local governments around Serang City Government (Serang District Government and Cilegon City Government) in SDG implementation	6. It is necessary to formulate a regulation of the regional head regarding the commitment to achieve SDG	2. Relevant officials can be creative in seeking information about potential funding other than the APBD (S1-O2)		2. Coordination between OPDs can be useful in the effort to seek for funding sources other than the APBD (W2 - O2)	4. Serang City Government budget constraints can be overcome with the help of the Central Government (DAK) and the Provincial Government (Bankeu) (W2 - O2)	6. Inadequate data can be overcome through coordination between OPDs, and could take advantage of funding options other than APBD if the APBD is insufficient (W3 - W1 - O2)				
3. Non-Local Government stakeholders can work together with the City Government for SDG implementation			4. Funding options other than the APBD can be utilized to implement indicators that have not been implemented yet (S2 - O2)								
Threats		S-T Strategy			W-T Strategy						
1. Information about SDG is not widely known by the public	4. The possibility of rejection from certain elements in the effort of SDG implementation	1. In the case of a rejection, then the relevant authorities could communicate and give an explanation regarding SDG	3. The need for socialization, public service advertisement, written / oral messages through the media by the City Government about the importance of safeguarding the output of development		1. If there is a rejection from an element, there needs to be coordination between the OPD to provide the same answer/ explanation to that element (W1 - T1)	2. Public awareness can begin to be built by providing understanding to the public that the budget of the City Government is very limited, therefore the output of development must be maintained so that it is not in vain (W2 - T2)	3. It is necessary to disseminate information to all communities and stakeholders about SDG and programs that have been implemented in Serang City				
2. Public awareness of sustainable development is still low	5. Public awareness in preserving the output of development is still low	2. OPD could socialize about preventing the spread of hoax news, in collaboration with APH									
3. Negative behaviors such as crime, violence, hoax news											

### 1) Regulation Aspects

Regulations from the central government (Perpres and Permendagri) become the legal basis for officials in Serang City Government to carry out SDG implementation through its activity programs, and it needs to be supported by regional head

regulations regarding commitments to achieve SDG. Good governance and rule of law are essentials in achieving justice. The rule of law will ensure that the government implements good governance (Gostin, 2019, p. 5), thus in relation to SDG, the rule of law or regulation will ensure the government carries

out efforts to implement SDG. The important note is that the substance of the regional head regulation in force must be synergized with the regulations above it so that it will not cause new problems. A research conducted in the coast of California resulted in a Fishing Community Sustainability Plan through the process of developing a project team and community coalition (analyzing baseline data, interviewing stakeholders, and holding public workshops) showed that the sustainability plans for fishing communities can be adapted to various context and can contribute to society. One of the obstacles is the existence of regulations that limit the fishermen at the state level so that public scale planning must be synergized with national scale planning (Richmond et al., 2019).

#### 2) *Funding Aspects*

The search for potential funding aside from the APBD, financial assistance from the Central (DAK), and financial assistance from the Provincial Government can be an alternative source of funding for activities to achieve SDG indicators that have not been implemented yet, also strengthening the database. Funding is one of the key issues in the 2030 SDG Agenda. Government budget constraints encourage the need to identify alternative funding sources to achieve SDG (Scataglini & Ventresca, 2019). Identification of funding sources can be found through research or local innovation, such as the results of a study in South Africa that found that village banks are creating access to basic financial services for poor households in a sustainable way. The study recommends that village banks could be established and supported thus making it useful as an inclusion strategy in the financial sector to develop poor households in South Africa (Mashigo & Kabir, 2016).

#### 3) *Cooperation Aspects*

Coordination and cooperation with non-regional government stakeholders to further intensify the SDG indicators that have been implemented and encourage activities to achieve SDG indicators that have not been implemented yet. The new approach to sustainable development shows that there has been a change from beneficiaries to stakeholders or clients, and the government has provided facilities. Global socioeconomic changes are driven by key concepts such as participation, client-oriented, and decentralization (Allahyari & Sadeghzadeh, 2019). A study in Montenegro shows that effective coordination of all elements of society, and active participation of non-regional government stakeholders, states can ensure that the principles of sustainable development are included in local and national policies (Vuković & Perović, 2010).

#### 4) *Socialization Aspect*

Socialization about SDG to the society needs to be done in order to build public understanding and awareness in the effort of SDG implementation in Serang City and to minimize the possibility of rejection from certain elements. In several examples of strategies in the world are arranged to build cooperation with all stakeholders. Asia Pacific Strategy for Emerging Disease (APSED) is structured to build capacity and sustainable national and regional partnerships. APSED also functions as a road map that guides all countries or regions in the Asia Pacific to meet the requirements of the International Health Regulations to ensure regional and global health security (Li & Kasai, 2011).

### **E. TAIDA-Acting: Creating Road Map for the SDG Implementation in Serang City**

The first stage in the road map is to carry out socialization to various media about SDG, the existing condition of SDG implementation in Serang City, and strategies for achieving SDG. Socialization to the public can be held in the form of workshops, seminars or coordination meetings. Scientific publications about SDG need to be encouraged to regional researchers and academics in the City of Serang, as a form of socialization.

The second stage is to undertake a basic study and mapping of actors to match the SDG issues with the existing institutional functions. This study can be performed independently by regional researchers or by academics. This study is about the stakeholders who have a role in implementing SDG in Serang City, and the problems encountered, then mapping out the stakeholders who can play a significant role in overcoming these problems.

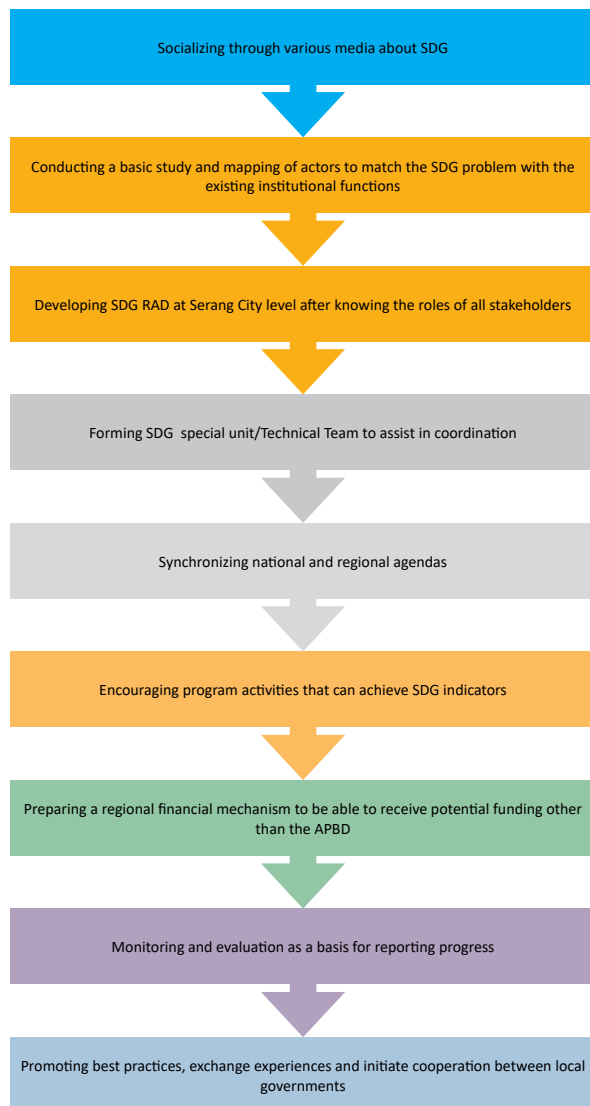
The third stage is developing SDG Regional Action Plan (RAD) based on the division of roles of stakeholders.

The fourth stage is forming a special SDG team to help in coordination among stakeholders, carry out monitoring functions on a regular basis.

The fifth stage is synchronizing national and regional agendas from the central development planning document (RPJMN, RKP - Provincial RPJMD, Provincial RKPD - City RPJMD, Serang City RKPD).

The sixth stage, activity programs that can achieve SDG indicators, by improving the quality of indicators that have been achieved and implementing indicators that have not been implemented in the previous development period.

The seventh stage, preparing regional financial mechanisms to be able to receive funding from other sources apart from APBD, for example from philanthropy, CSR, or crowdfunding.



**Figure 2.** Road Map for Serang City SDG Implementation (Adapted from the SDG Road Map in the Local Government Guidelines for the Implementation of SDGs, UCLG-ASPAC, 2018)

The eighth stage, implementation of monitoring and evaluation as a basis for reporting progress. Monitoring and evaluation are primarily aimed at the performance that has been implemented and the SDG indicators that have been fulfilled.

The ninth stage, promoting best practices, exchanging experiences, and initiating cooperation between local governments. SDG special teams in the regions are advised to become members of the national SDG community, therefore they have the network and access to the latest information regarding SDG.

## IV. CONCLUSION

From the grand strategy matrix, it is found that the position of the Serang City Government is in

quadrant I (excellent strategies). As a government organization situated in quadrant I, Serang City Government needs to maintain and enhance the efforts that have been achieved in implementing SDG, integrate with other stakeholders, and diversify funding sources. This needs to be supported by the commitment of the Regional Head and all levels of staff in each OPD, to carry out the main tasks and functions that support SDG implementation.

The strategy formulation that has been obtained shows that there are 4 (four) aspects that need to be considered in implementing SDG, namely aspects of regulation, funding, socialization, and cooperation. The regulation aspect emphasizes the need for regional head regulations regarding the implementation of SDG, by avoiding overlapping of the other regulations on top of it. The funding aspect leads to potential funding other than the APBD, setting up a financial mechanism that facilitates those other funding. The cooperation aspect emphasizes the importance of cooperation with all stakeholders, and the socialization aspect directs massive socialization to the public and all non-regional government stakeholders so that all parties can participate in the SDG implementation.

The road map for SDG implementation in Serang City consists of nine stages that explain each phase that need to be undertaken by the Local Government (Pemda) in achieving SDG implementation, starting from socialization, division of roles, developing RAD, forming teams, synchronizing development planning, encouraging the indicators fulfilment, regional financial mechanisms, monitoring and evaluation, and promoting best practices, to initiating collaboration with other local governments. The road map is dynamic, in the sense that it can be adapted to existing conditions, but still holds the principle of SDG mainstreaming and achievement of SDG targets and indicators by 2030. The spirit that must be emphasized is that the main goal of SDG implementation is to create fairness in development for the entire generation, by maintaining the balance of ecosystems, economy, social, maintaining legal certainty and implementing good governance.

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