

**EVALUATION AND SUSTAINABILITY ASSESSMENT OF THE
MINAPOLITAN PROGRAM IN THE MAROS REGENCY,
SOUTH SULAWESI, INDONESIA**

Disusun dan diajukan oleh

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**PROGRAM STUDI PERENCANAAN DAN PENGEMBANGAN WILAYAH
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**EVALUATION AND SUSTAINABILITY ASSESSMENT OF
THE MINAPOLITAN PROGRAM IN THE MAROS REGENCY,
SOUTH SULAWESI, INDONESIA**

Thesis

As a requirement for achieving Master Degree

Written and proposed by:

VERA WARDYANI

**SCHOOL OF POSTGRADUATE PROGRAM
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MAKASSAR**

2021

LEMBAR PENGESAHAN TESIS**EVALUATION AND SUSTAINABILITY ASSESSMENT OF THE
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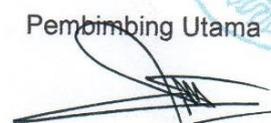
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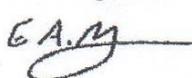
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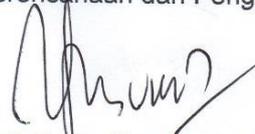
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Yang menyatakan



Vera Wardyani

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ABSTRAK

Vera Wardyani. Evaluasi dan Penilaian Keberlanjutan Program Minapolitan di Kabupaten Maros, Sulawesi Selatan, Indonesia (Dibimbing oleh Jamaluddin Jompa dan Edward Morgan).

Penelitian ini bertujuan untuk mengevaluasi efektivitas dan menilai kapasitas keberlanjutan Program Minapolitan di Kabupaten Maros, serta memberikan rekomendasi strategi untuk pengembangan program, khususnya dengan mengoptimalkan tingkat efektivitas dan keberlanjutan program Minapolitan di Kabupaten Maros.

Metode yang digunakan dalam penelitian ini adalah kerangka Context, Input, Process, dan Product/Outcome (CIPP) untuk mengevaluasi program; Analisis Program Sustainability Assessment Tool (PSAT) untuk penilaian kapasitas keberlanjutan program; dan Analisis Strengths Weaknesses Opportunities Threats (SWOT)-Quantitative Strategic Planning Matrix (QPSM) untuk menganalisis prioritas strategi pengembangan Program Minapolitan di Kabupaten Maros.

Hasil penelitian ini menunjukkan bahwa Program Minapolitan di Kabupaten Maros secara umum memiliki hasil evaluasi tinggi sampai sedang dengan berbagai kriteria yang telah ditentukan. Kajian ini juga mengidentifikasi beberapa kekuatan dan kelemahan internal program, serta tiga strategi utama untuk meningkatkan program tersebut adalah: (1) meningkatkan kerjasama yang bersifat konvergen dengan keterlibatan pemangku kepentingan untuk mendukung Program Minapolitan dan integrasinya dengan kegiatan pesisir lainnya, (2) memperkuat sistem perencanaan dan penganggaran jangka Panjang Program Minapolitan, dan (3) peningkatan pemanfaatan inovasi dan teknologi dalam aktivitas program. Rekomendasi utama dari studi ini adalah agar para pemangku kepentingan berfokus pada peningkatan kemampuan Program Minapolitan ini untuk dapat mencapai Tujuan Pembangunan Berkelanjutan PBB yang mencakup tujuan ekonomi, social, dan lingkungan. Rekomendasi utama lainnya adalah pentingnya meningkatkan komitmen para pemangku kepentingan dalam Program Minapolitan. Komitmen yang kuat ini diperlukan untuk memberi manfaat yang signifikan bagi kesejahteraan masyarakat, termasuk memberi perlindungan terhadap lingkungan dari dampak negatif aktivitas budidaya.

Kata kunci: minapolitan; pengembangan strategis; evaluasi; CIPP; PSAT; SWOT-QSP

ABSTRACT

Vera Wardyani. Evaluation and Sustainability Assessment of the Minapolitan Program in the Maros Regency, South Sulawesi, Indonesia (Supervised by Jamaluddin Jompa and Edward Morgan).

This study aims to evaluate the effectiveness and assess the sustainability capacity of the Minapolitan Program in the Maros Regency, as well as to provide recommendations for the program development, especially by optimizing the effectiveness and improve the sustainability of the Minapolitan Program in the Maros Regency.

The methods used in this research are Context, Input, Process, and Product/Outcome (CIPP) framework to evaluate the program; Program Sustainability Assessment Tool (PSAT) analysis to assess the program sustainability capacity; and Strengths Weaknesses Opportunities Threats (SWOT)-Quantitative Strategic Planning Matrix (QPSM) analysis to analyze the priority of strategies of the Minapolitan Program in the Maros Regency.

The results of this study indicate that the Minapolitan Program generally had high to medium evaluation results of multiple predetermined criteria. This study also identified multiple internal strengths and weaknesses, and the three main strategies to improve the program are: (1) increasing the convergent cooperation by stakeholder engagement to support the Minapolitan Program and its integration with other coastal activities, (2) strengthening the long-term planning and budgeting of the program, and (3) increasing the innovation and technology utilization into the program activities. The major recommendation of the study is for the stakeholders to focus on increasing the ability of the Minapolitan Program to address specific UN Sustainable Development Goals, which include the social, economic, and environmental goals. Another significant recommendation includes an urgent need for improved stakeholder commitments in the Minapolitan Program. This strong commitment is required to bring significant benefits for the welfare of the society, including the protection to the environment from the aquaculture impacts.

Keywords: minapolitan; strategic development; evaluation; CIPP; PSAT; SWOT-QSPM

TABLE OF CONTENTS

ACKNOWLEDGEMENT	v
ABSTRAK.....	vi
ABSTRACT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	xi
LIST OF FIGURES.....	xii
LIST OF APPENDIXES.....	xiii
LIST OF ABBREVIATIONS	xiv
CHAPTER 1 INTRODUCTION	1
1. 1 Background	1
1. 2 Research Questions.....	5
1. 3 Research Objectives	5
1. 4 Significance of the Study.....	6
1. 5 Research Scope.....	7
1. 6 Definitions	7
1. 7 Structure of the Research Proposal	8
CHAPTER 2 LITERATURE REVIEW	10
2. 1 Sustainable Development and Regional Development	10
2.1.1 Sustainable Development	10
2.1.2 Regional Development and Sustainable Regional Development.....	13
2. 2 Minapolitan.....	16
2.2.1 Criteria of Minapolitan Area.....	18
2.2.2 Performance Indicators of Minapolitan.....	19
2.2.3 Components of Minapolitan	20
2. 3 Program Evaluation.....	23
2. 4 Program Sustainability Assessment.....	25
2. 5 Previous Research Related to the Minapolitan	28

CHAPTER 3	RESEARCH METHOD	31
3.1	Study Area	31
3.2	Research Design.....	33
3.3	Population and Sample	37
3.4	Data Types and Sources.....	38
3.5	Data Collection Techniques	38
3.6	Analytical Techniques	40
3.6.1	Geographic Information System (GIS) analysis	40
3.6.2	Context, Input, Process, Product (CIPP) Analysis.....	42
3.6.3	Program Sustainability Assessment Tool (PSAT) Analysis.....	44
3.6.4	Strengths Weaknesses Opportunities Threats (SWOT) – Quantitative Strategic Planning Matrix (QSPM)	45
CHAPTER 4	RESULTS	51
4.1	CIPP Analysis	51
4.1.1	Evaluation on the Context of the Minapolitan Program in the Maros Regency	52
4.1.2	Evaluation on the Inputs of Minapolitan Program in Maros Regency	56
4.1.3	Evaluation on the Processes of Minapolitan Program in Maros Regency	61
4.1.4	Evaluation on the Products of Minapolitan Program in Maros Regency	63
4.2	PSAT Analysis	66
4.3	SWOT-QSPM Analysis	70
4.3.1	SWOT Analysis.....	70
4.3.2	QSPM Analysis.....	74
CHAPTER 5	DISCUSSION.....	77
5.1	CIPP Result Discussion	77
5.1.1	Economic and Social Pillars of Minapolitan Program for Regional Development.....	78
5.1.2	Environmental Pillar of the Aquaculture Activities	80

5.2 PSAT Result Discussion	82
5.3 Strategies to Improve Minapolitan Program	86
5.4 Summary of Discussion.....	90
5.5 Research Limitations.....	92
CHAPTER 6 CONCLUSION	94
6.1 Summary.....	94
6.2 Recommendations	96
6.3 Future Research	98
REFERENCES	100
Appendix 1. Infrastructure in the Maros Minapolitan Area	107
Appendix 2. Calculation of The Weight of Internal and External Strategic Factors	111
Appendix 3. Calculation of The Rank of Internal and External Strategic Factors	112

LIST OF TABLES

Table 1. Previous research in Minapolitan Program in Indonesia	28
Table 2. Research matrix	36
Table 3. Respondent distribution	37
Table 4. SWOT matrix (Rangkuti, 2013)	49
Table 5. Context evaluation results of the Minapolitan program in the Maros Regency.....	54
Table 6. Input evaluation results of the Minapolitan Program in the Maros Regency	57
Table 7. Fisher group assistance in three districts of Maros Regency (Maros, 2020)	60
Table 8. Process evaluation results of the Minapolitan Program in the Maros Regency	62
Table 9. Product evaluation results of the Minapolitan Program in the Maros Regency	63
Table 10. Statistics in the Maros Regency, (a) Shrimp Productions (Ton/Year), (b) Numbers of Impoverished Family, and (c) Numbers of Unemployment.....	64
Table 11. PSAT Result for Minapolitan Program in Maros Regency.....	69
Table 12. SWOT matrix for the Minapolitan program in the Maros Regency.....	71
Table 13. IFE and EFE analysis of Minapolitan Program in Maros Regency.....	72
Table 14. Strategies for the Minapolitan Program in the Maros Regency based on SWOT analysis	74
Table 15. QSPM analysis of Minapolitan Program in Maros Regency.....	75
Table 16. Priority strategies of Minapolitan Program development in Maros Regency.....	76

LIST OF FIGURES

Figure 1. The overlapping model (a,) and the concentric model (b), of sustainable development (Yolles, 2018)	11
Figure 2. The concept of core periphery theory (Friedmann & JCUS, 1966).....	15
Figure 3. The spatial concept of Minapolitan (INA, 2013)	17
Figure 4. Elements of logic model (McCawley, 2015).....	25
Figure 5. Nine domains of program sustainability (Schell et al., 2013). ...	26
Figure 6. Administratif Map of Maros Regency (Maros Regency Government, 2019).....	31
Figure 7. Research location (Maros Regency Government, 2012)	32
Figure 8. Research framework.....	34
Figure 9. Detailed Research Framework: (a) Evaluation framework and (b) Program sustainability assessment framework	36
Figure 10. Sustainable GIS Components (Akhighu, 2007)	41
Figure 11. CIPP Evaluation Results for Minapolitan Program in Maros Regency.....	52
Figure 12. Minapolitan chain in Maros Regency	55
Figure 13. Maros Minapolitan area and basic infrastructure	Error!
Bookmark not defined.	
Figure 14. The number of fisher groups in Maros, 2015-2018 (Maros Regency Government, 2019).....	59
Figure 15. Mangrove Net Change in Maros Minapolitan Area, 1996-2016.....	65
Figure 16. PSAT Eight Domain Results for Minapolitan Program in Maros Regency	67
Figure 17. IFE and EFE matrix of Minapolitan Program in Maros Regency.....	73

LIST OF APPENDIXES

Appendix 1. Infrastructure in the Maros Minapolitan Area	107
Appendix 2. Calculation of The Weight of Internal and External Strategic Factors.....	111
Appendix 3. Calculation of The Rank of Internal and External Strategic Factors.....	112

LIST OF ABBREVIATIONS

AHP	Analytical Hierarchy Process
AS	Attractiveness Score
BKPM	Badan Koordinasi Penanaman Modal / Capital Investment Coordinating Board
BRPBAP3	Balai Riset Perikanan Budidaya Air Payau dan Penyuluhan Perikanan/Research Institute of Fisheries for Brackish Water Cultivation and Fisheries Extension
CBIB	Cara Budidaya Ikan yang Baik/Good Fish Farming Methods
CIPP	Context, Input, Process, and Product/Outcome
CPIB	Cara Pembenihan Ikan yang Baik/Good Fish Hatchery Method
DPKP	Dinas Perikanan, Kelautan, dan Peternakan/Department of Fisheries, Maritime Affairs, and Livestock
EFE	External Factor Evaluation
GDRP	Gross Regional Domestic Product
GIS	Geographic Information System
IE Matrix	Internal and External Matrix
IFE	Internal Factor Evaluation
KSN	Kawasan Strategis Nasional/National Strategic Area
KUD	Koperasi Unit Desa/Village Cooperatives
MAF	Marine Affairs and Fisheries
Mamminasata	Makassar, Maros, Sungguminasa, Takalar

PSAT	Program Sustainability Assessment Tool
Puskesmas	Pusat Kesehatan Masyarakat/Local Medical Facility
QSPM	Quantitative Strategic Planning Matrix
RPIJMD	Rencana Pengembangan Investasi Jangka Menengah Daerah/Regional Medium-Term Investment Development Plans
RTRW	Regional Spatial Planning/Rencana Tata Ruang Wilayah
RZWP-3-K	Rencana Zonasi Wilayah Pesisir dan Pulau-Pulau Kecil/Zoning Plan for Management of Coastal Areas and Small Islands
SDGs	Sustainable Development Goals
STAS	Sum Total Attractiveness Score
SWOT	Strengths Weaknesses Opportunities and Threats
TAS	Total Attractiveness Score
TPI	Tempat Pelelangan Ikan/Local Fish Market
WACOSS	Western Australian Council of Social Sustainability

CHAPTER I

INTRODUCTION

1.1 Background

Countries around the world have committed to achieve global sustainable development goals (UN, 2015), following the millennium development goals applied in 2010-2015. Balancing economic priorities with social and environmental challenges is a major focus of many rapidly developing countries. Indonesia has 270 million inhabitants in 2019, with rapid economic growth, as shown by the Gross Domestic Product growth of 5.3% per year since 2011 (The World Bank, 2020a). However, Indonesia has had an increasing trend in income inequality, as represented by the increasing of the Gini ratio from 28.6 in 2020, to 38.2 in 2019 (The World Bank, 2020b).

Furthermore, there has been increasing environmental degradation in Indonesia (Tsujino, Yumoto, Kitamura, Djamaluddin, & Darnaedi, 2016). In addition, the level of well-being and economic development between regions in Indonesia is significantly different, as the factors explaining the differences are complex and cannot be defined as straightforward cause and effect relationships (Luoto & Virkkala, 2017). The coastal areas of Indonesia face the most significant challenges which as sparked the Indonesian government to design and implement a spatial-based program, namely the Minapolitan Program, to develop these areas.

The Minapolitan Program was released to increase development in coastal areas such as within the marine and aquaculture fishery sector; improve the welfare of the societies; increase residents quality of life; and reduce inequalities between coastal areas and other areas as outlined in the Minapolitan Regulation (2010b). This program also supports the role of the Indonesian Government to contribute to the realization of the 2030 Agenda for Sustainable Development (2015). The Minapolitan Program in Maros Regency, which was established in 2010, specifically develops the aquaculture sector (INA, 2010a). The Food and Agriculture Organization (FAO) (2016a), suggested that in aquaculture governance, sustainable development brings implications to the efforts for sustainable supplies to meet aquatic food security, contribution to economic growth, protection to the environment, and human resource development. Therefore, this program has the potential to support the following Sustainable Development Goals (SDGs): Goal 2. zero hunger, Goal 8. decent work and economic growth, and Goal 14. life below water (UN, 2015).

The Minapolitan Program adopted the agropolitan area concept, which is described as a region that consists of one or more activity centres in a rural area operating as an agricultural production and natural resource management system (INA, 2007). An appropriate area is indicated by its functional relevance and space hierarchy for each residential system and agribusiness system (INA, 2007). This agropolitan concept is one of the urban spatial planning concepts which is described as one of the crucial tools in accelerating rural economic development (Friedmann & Douglass,

1978). Another critical aspect of the Minapolitan Program is the importance of available comparative and competitive advantages, which will support the regional development (Rowe & McLaren, 2017; Santoso, Ananda, & Santoso, 2013).

Moreover, the adaptation of the agropolitan concept into the Minapolitan Program emphasizes the core periphery theory that describes the structural relationship between the advanced or metropolitan 'centre' and a less developed 'periphery' (Friedmann & JCUS, 1966).

Based on the Regulation of The Minister of Marine Affairs and Fisheries (MAF) Indonesia No. 15/PERMEN-KP/2014, Concerning General Guidelines for Minapolitan Monitoring, Evaluation, and Reporting (2014); the Minapolitan Program serves as a spatial based program to develop coastal areas from the fishery sector. It aims to optimize the social, economic, and environmental dimensions of human development. Thus, the success of the Minapolitan Program is measured by the changes in the social, economic, and environmental indicators.

Several performance and sustainability analyses have been conducted to evaluate the effectiveness of the Minapolitan program across the Indonesian region, with the achievements varying from area to area (Mawarsari, Dewanti, & Nurrahman, 2017; Pantouw, Ngangi, & Lolowang, 2017; Setiawan, 2010). Therefore, the development strategies for the Minapolitan area are specific to each region's characteristics (Adhihapsari,

Semedi, & Mahmudi, 2014 2014; Fatmawaty, Ikawati, & Amri, 2018 2018; Yunizar, 2013).

After several years of implementing the Minapolitan concept, a number of significant problems have emerged and the degree of success in achieving the planned objectives has varied. The Gross Regional Domestic Product (GDRP) contributions by the agriculture, forestry, and fishery sectors have gradually declined since 2010 (BPS Maros Regency, 2019). Reports indicate that shrimp production in the Maros Regency has fluctuated over years, as seen in 2016 (South Sulawesi Province, 2018). In addition, the open unemployment rate has also fluctuated since 2010 in the Maros region (BPS Maros Regency, 2019). These indicators disclose possible problems in the implementation of the Minapolitan Program in the Maros region, for the government to overcome.

Integrated and structural development strategies should be implemented to optimize the effectiveness of the Minapolitan Program in order to achieve its goals in a sustainable way. To date, limited research has been carried out to investigate what could improve the effectiveness of the Minapolitan Program especially by implementing logic-model-type analysis and program sustainability assessment. This research will analyse and play a significant role in providing appropriate development strategies for the implementation of this concept in the Maros Regency. Based on this research, the most effective strategies will be selected and used to implement the Minapolitan concept to make it more effective and

increase the sustainability of the program. For these reasons, comprehensive research needs to be conducted to support the sustainability of Minapolitan implementation in the Maros Regency.

1.2 Research Questions

This research is aimed to answer the following research questions:

1. How effective is Minapolitan implementation in the Maros Regency, South Sulawesi Province?
2. What is the level of the program sustainability capacity of the Minapolitan concept in Maros Regency, South Sulawesi?
3. What are the proposed strategies to optimize the impact and increase the sustainability level of the Minapolitan concept in the Maros Regency, South Sulawesi?

1.3 Research Objectives

The objectives of this research are:

1. To evaluate the Minapolitan concept implementation in the Maros Regency under the Context, Input, Process, and Product/Outcome (CIPP) framework.
2. To evaluate the level of program sustainability capacity of the Minapolitan concept in the Maros Regency.
3. To propose development strategies to improve the impact and increase the sustainability level of the Minapolitan concept in the Maros region for future planning and regulations.

1.4 Significance of the Study

The significances of this study can be classified into academic, practical, and policy sectors, such as:

1. Academic sector: the main contribution of this research in the academic field is to provide an in-depth and thorough analysis of the implementation of Minapolitan concept including the evaluation and program sustainability capacity assessment. This research can improve the richness of the available scientific study regarding Minapolitan in Indonesia and can possibly become a comparison material in conducting future studies.
2. Practical sector: This research seeks to evaluate the Minapolitan concept and assess its program sustainability capacity level in Maros Regency. This is crucial for determining the strengths and weaknesses of its components and utilize them to achieve the program's objectives. Moreover, the results are expected to determine the existing condition of the Minapolitan Program to support sustainable development and its future capacity.
3. Policy sector: the proposed strategies to optimize the impact and sustainability of the Minapolitan area concept in Maros region can be a basis to develop new policies, regulations, and programs related to the sustainable development of the Maros Minapolitan area.

1.5 Research Scope

The research will be limited to the areas of Maros Regency, which are appointed to implement Minapolitan concept, i.e. Bontoa, Lau, and Maros Baru district. Moreover, this research focuses on the implementation of Minapolitan concept in the basis of aquaculture, in accordance with the designation based on the regulation.

This research will evaluate the CIPP of Minapolitan implementation in those districts but excludes the technical context of aquaculture activities. Moreover, the research will assess the program sustainability capacity within eight sustainability domains, such as political support, funding stability, partnership, organizational capacity, program evaluation, program adaptation, communication, and strategic planning.

1.6 Definitions

1. Aquaculture, is the farming of aquatic organisms, including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. (FAO, 1997).
2. Evaluation, is an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, value, merit, worth, significance, or quality of a program, product, person, policy, proposal, or plan (Mathison, 2013).

3. Minapolitan, is a marine and fisheries economic development conception based on integrated, efficiency, quality and acceleration principles (Regulation of The Minister of Marine Affairs and Fisheries Republic of Indonesia No PER.12/MEN/2010 Concerning Minapolitan, 2010).
4. Minapolitan area, is a part of a territory where the main economy consists of production centres, processing centres, fishery commodities marketing and services, and other supporting activities (Regulation of The Minister of Marine Affairs and Fisheries Republic of Indonesia No PER.12/MEN/2010 Concerning Minapolitan, 2010).
5. Program sustainability capacity, is the existence of structures and processes that allow a program to leverage resources to effectively implement and maintain evidence-based policies and activities over time (Schell et al., 2013).
6. Strategy, is the complex adaptive system with unfolding process of the internal and external aspects of the organization that results in actions in a socio-economic context (Stacey, 1995).

1.7 Structure of the Research Proposal

This thesis is comprised of 6 chapters to investigate the evaluation and sustainability of the Minapolitan Program in the Maros Regency, South Sulawesi, Indonesia. Chapter 1 introduces the research and includes the background, research problems, research objectives, significance of the

research, research scope, definitions, and research structure. Chapter 2 consists of an in-depth literature review on the concept of regional development, description of Minapolitan, and the concept of evaluation and sustainability assessment as three significant aspects of this thesis and to address research questions.

This chapter also consists of previous research in Minapolitan and research operation, framework, and matrix. Chapter 3 is an overview of the study area and consists of research design, research timeframe and location, population and sample, data types and sources, data collection technique, and data analysis techniques. Chapter 4 presents the results of the analysis that were carried out, which includes CIPP, PSAT, and SWOT-QSPM, and describes the evaluation results of Minapolitan Program, the sustainability capacity of Minapolitan Program, and the priorities of strategies to improve the achievements of Minapolitan Program. Chapter 5 discusses the implication of CIPP and PSAT results and the priority of strategies to improve the elements of the Minapolitan Program and strengthen its sustainability capacity, as well as the limitations of this study. Chapter 6 presents the conclusions and recommendations of this research, including recommendations for future research.

CHAPTER II

LITERATURE REVIEW

2.1 Sustainable Development and Regional Development

2.1.1 Sustainable Development

Each nation strives to achieve optimum national development in all aspects and to meet the 2030 global agenda of sustainable development. Sustainable development is defined by the UN as the “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (1987). This suggests that the current human development goals must consider the sustainability of the environment that provides the natural resources and ecosystem services to the society and future generations. The 2030 sustainable development agenda has been signed by 193 countries in 2015, including Indonesia. This agenda is expressed by 17 Sustainable Development Goals (SDGs) and 169 associated targets that are monitored nationally by the government of each nation and globally.

The sustainable development principle emphasizes the holistic approach that aims to protect the environment, achieve social equity, and reach economic growth. These economic, social, and environmental aspects are the three pillars of sustainable development and their interconnectedness is a crucial component to determine actions to achieve sustainable development. In a project developed by McKenzie and the

Western Australian Council of Social Sustainability (WACOSS), described two leading models explaining the relationship between these three pillars, namely the overlapping or intersecting circle model and the concentric circle model (2004) as shown in Figure 1.

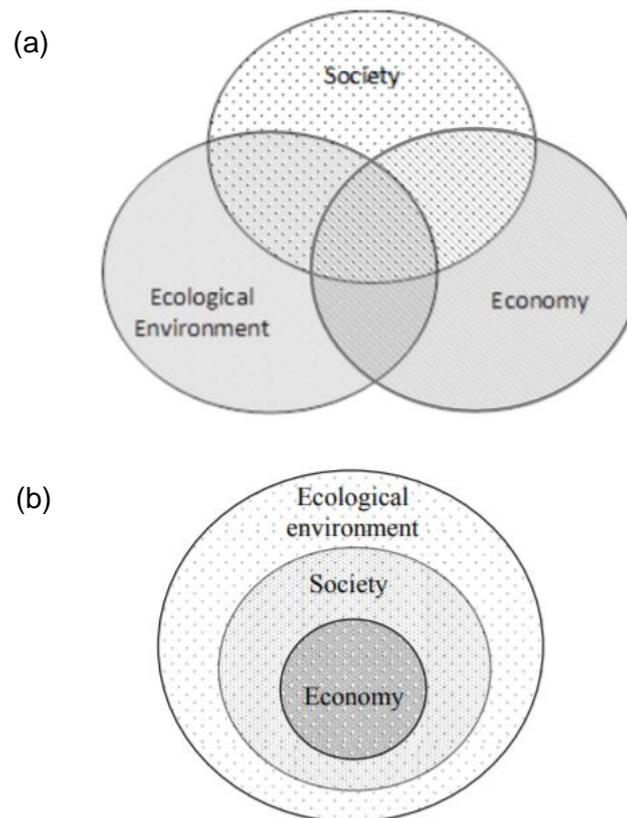


Figure 1. The overlapping model (a) and the concentric model (b), of sustainable development (Yolles, 2018)

The overlapping model (Figure 1.a) describes the three pillars as equal and intersecting. Therefore, each pillar is dependent on the other two pillars. This model emphasizes the integration between all the three pillars and focuses on balancing the achievement of the economic, social, and environmental goals of sustainable development (Adams, 2006). Based on

a research by Barbier (1987), this model implies trade-offs between these three pillars. This means that the maximization of one pillar possibly creates impacts on another pillar. However, another different school of thought describes this overlapping model as not only implying trade-offs between pillars, but also showing mutual reinforcements to optimize all pillars, including considerations such as the implementation of eco-development (Purvis, Mao, & Robinson, 2019).

On the other hand, the concentric model (Figure 1.b), explains that the economic pillar is dependent on both the social and environmental pillars, while society is dependent on the ecological environment. Within this model, the economic and social pillars are the subsystems of the environment (Macnaghten & Jacobs, 1997), where the environment acts not only as a buffer that limits human activities, but also becomes a main objective of sustainable development for both human and nature (Todorov & Marinova, 2009). This framework also emphasized that trade-offs should not emerge between pillars and that the trade-offs only imply unsustainable acts (Macnaghten & Jacobs, 1997).

As research progresses, various models explaining the relationship of the three sustainable development pillars emerge. However, McKenzie argues that the adoption of a specific sustainable development models is context-related and subject to the cohesive view of an individual agenda and concern (2004). Despite the different notions of sustainable development models, it is important to specifically describe the detailed

operational framework to direct the course of actions and to set the indicators of each specific target of sustainable development (Purvis et al., 2019).

2.1.2 Regional Development and Sustainable Regional Development

The global agenda of sustainable development has led to designations of policies and actions for development at a regional level. The ability of each region in a country to attain its own development is considered as an important aspect. However, the level of well-being and economic development for each region is significantly different and the factors explaining each development are multifaceted and cannot be defined as direct cause and effect connections in an economic perspective (Luoto & Virkkala, 2017). Therefore, interest groups, including government, researchers, sociologists, and scientists from other disciplines recognize the significance of development in terms of smaller scale spaces or regions.

The term development is defined as a process in which increasingly more members of a given area or environment make and implement socially responsible decisions. The probable consequence of which is an increase in the life chances of some people without a decrease in the life chances of others (Oberle, Stowers, & Darby, 1974). On the other hand, the term 'regional' is limited by definition. The more popular approach defines region in terms of, a spatially interdependent, or "nodal," labour market. These nodal regions have two characteristics. Firstly, they have internal and

functional integrations between the flow of labour, capital, and commodities that are identified to be identic within an area compared with another region. Secondly, activities are preoccupied toward a single point, or node, where there is the presumption of domination of the node over the neighbouring area (Hoover & Giarratani, 1976).

Regional development theory emerged from numerous different intellectual traditions. Hoover and Giarratani (1976), explained three pillars in regional development. Firstly, the comparative advantage showing imperfect mobility factors. This explained the importance of the resources in one area which are relatively difficult to relocate or have a resistance to be moved to another region. Secondly, the agglomeration as the imperfect divisibility pillar. This explained the external phenomena affecting economic actors in the form of spatially increasing economic profits. Lastly, the transportation cost as the imperfect mobility of goods and services factor.

This pillar is the most visible to affect economic activity. The second theory is the triple helix model (Etzkowitz & Leydesdorff, 1995), which proposes the importance of the relationship between universities, industry, and the government. This relationship possibly provides the regional economic and social development based on the richness of collaboration and knowledge. This interaction creates the emergence of innovation and new hybrid organizations. A study on triple helix in developing countries (Etzkowitz & Dzisah, 2007), describes the triple helix model within the framework of innovation and development, as well as the emerging

entrepreneurial aspects of universities. Universities provide a strategic academic background for developing economies, and higher education for reshaping discussions on these three aspects. Therefore, the framework of the triple helix model is adopted and applied by policy makers to transform some sectors.

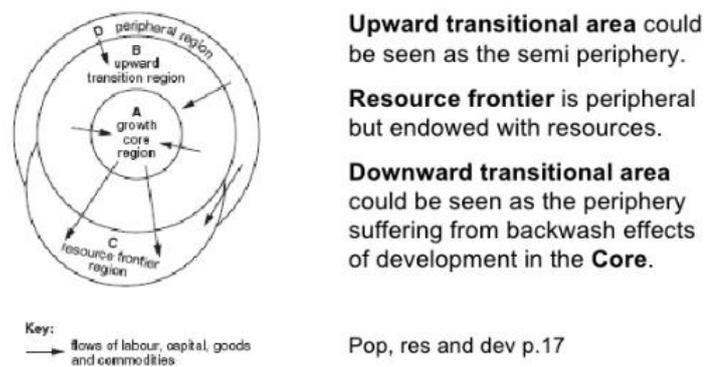


Figure 2. The concept of core periphery theory (Friedmann & JCUS, 1966)

Core periphery theory exercises the structural relationship between the advanced or metropolitan 'centre' and a less developed 'periphery' (Friedmann & JCUS, 1966). It shows spatially how economic, political, and cultural authority is dispersed in core or dominant regions and the surrounding peripheral and semi-peripheral regions. The core periphery model works on many scales of areas, including towns, cities, and on the global scale. This model can exist at the relevant scales in an integrated way and have a cause and effect on economic transformation. Figure 2 displays a visual representation of the concept of core periphery theory.

The implementation of sustainable development paradigm is different between regions and specific to the local problems. This condition

refers to the concept of sustainable regional development which is defined in the European Union as 'the integration of sustainable development principles into regional development practice' (Draskovic, Delibasic, & Jovovic, 2017). The concept comprehends the importance of regional roles that intermediates the local, national, and international level of sustainable development achievement. Moreover, this concept also emphasizes the importance of achievements in not only the economic and social objectives, but also the environmental objectives (Draskovic et al., 2017).

2.2 Minapolitan

Based on Regulation of The Minister of MAF Republic of Indonesia No PER.12/MEN/2010 Concerning Minapolitan (2010b), Minapolitan is a marine and fisheries development concept which is based on regional economic management with the maritime affairs and fishery sector as a driver in the context of increasing people's income. Marine and fisheries economic development with the Minapolitan concept is developed through increasing efficiency and optimizing the local comparative and competitive advantages. This is in accordance with the existence of the pre-production activities, production, processing and/or marketing, and other supporting services, which are carried out in an integrated, holistic, and sustainable manner. The Minapolitan concept is one type of agro city concept with the marine and fisheries activity as its basic commodity for developing rural areas. The agroindustry sector is able to make a real contribution for

development in most developing countries (Austin, 1992). The spatial concept of Minapolitan can be described as displayed in Figure 3.

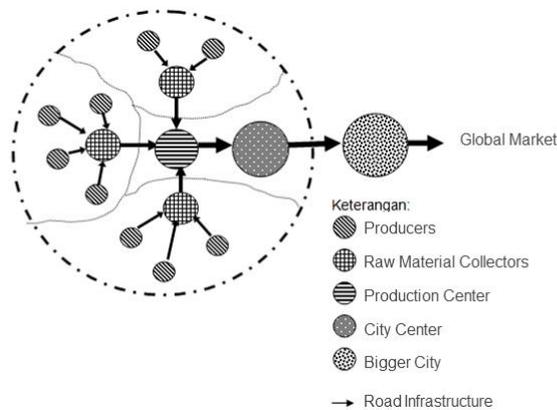


Figure 3. The spatial concept of Minapolitan (INA, 2013)

Based on the Regulation of the Ministry of MAF of Indonesia No.12 Concerning Minapolitan (2010b) and the Regulation of the Minister of MAF of Indonesia No 15/PERMEN-KP/2014 Concerning General Guidelines for Minapolitan Monitoring, Evaluation, and Reporting (2014), the Minapolitan concept is designed to achieve several goals. Firstly, it aims at an increasing of economic capacity in micro and small-scale communities. The second goal of this program is to increase the number and quality of businesses at the middle to upper scale so that it is highly competitive. Lastly, it targets the improvement of the marine and fisheries sector as the driving force of the regional and national economy.

2.2.1 Criteria of Minapolitan Area

An area can be determined as a Minapolitan area after completing criteria as defined in the Regulation of the Minister of MAF of Indonesia No.12 (2010b), such as:

1. Compliance with the Strategic Plan, Regional Spatial Planning/Rencana Tata Ruang Wilayah (RTRW) and/or Zoning Plan for Management of Coastal Areas and Small Islands/Rencana Zonasi Wilayah Pesisir dan Pulau-Pulau Kecil (RZWP-3-K) districts/cities, as well as Regional Medium-Term Investment Development Plans/Rencana Pengembangan Investasi Jangka Menengah Daerah (RPIJMD) that have been set;
2. Has superior commodities in the field of marine and fisheries with high economic value;
3. Strategic geographical location of the region and naturally meets the requirements for the development of superior marine and fishery products
4. There is production, processing, and/or marketing units and business networks that are actively producing, processing and/or marketing, which are concentrated in a location and have interconnected processing, and/or marketing production chains;
5. The availability of supporting facilities in the form of accessibility to markets, capital, production, processing and/or marketing facilities and

infrastructure, the presence of business institutions, and training facilities;

6. Environmental feasibility is measured based on the carrying capacity and capacity of the environment, the potential for negative impacts, and the potential for future damage to the location;
7. Regional commitments, in the form of financial contributions, personnel, and Minapolitan management and development facilities;
8. The existence of local government institutions which are responsible for maritime affairs and fisheries; and
9. Availability of data and information about the condition and potential of the region.

2.2.2 Performance Indicators of Minapolitan

Several key performance indicators of the Minapolitan concept for aquaculture activities have been formulated by the government of Indonesia (INA, 2013). These indicators are a part of monitoring and evaluation components that will be utilized for further development of the program. For the Minapolitan Program, the government of Indonesia has set several indicators for aquaculture, capture fisheries, processing and marketing, and income and human resources. This study focuses on the aquaculture as well as income and human resources indicators since the Maros Regency was established as an aquaculture based Minapolitan.

Within the aquaculture indicators, the government targets the improved production and superior commodity productivity, improved multiplier effects on economic activities, improved numbers and quality of production facilities, and monitored aquaculture development to ensure the elevation of production and productivity. Furthermore, in the income and human resources aspect, the indicators include improved job vacancies and employment, improved wealth in the society, and improved income of fish cultivators, fishers, processors, and marketing agents.

2.2.3 Components of Minapolitan

All components of the Minapolitan concept are designed with the purpose of area development. There are various components of Minapolitan such as:

1. Human Resources

Human resources, as one main input for the Minapolitan concept, make a significant contribution to the success of the concept in achieving the goals. The role of human resources in sustainable development is very important since they are the main motor, primarily, in both developing and implementation of energy policies and in creating innovations, technologies and know-how (Anghelută & Ciobotaru, 2014).

2. Marine and Fishery Resources

Marine and fishery commodities are one source of natural resource beneficial to improve the wealth of a nation. However, resource

management for these natural resources is sometimes perceived as unsustainable. In Agenda 21 (a non-binding action plan by the United Nations with regard to sustainable development), the concept of sustainable development is discussed in the Commission on Sustainable Development which developed indicators of sustainable development at various scales. An emphasis on fisheries that have problems using unsustainable resources is a top priority (FAO, 2016a).

3. Infrastructure and Economic Development

Infrastructure creates several significant impacts on rural development in many ways. Infrastructure is significant to improve productivity and increase rural employment, as well as facilitating migration into urban sectors (Fan & Zhang, 2004). In the Minapolitan concept, the government pays further attention to assemble infrastructure to support the Minapolitan system. The infrastructure used in the Minapolitan concept comprises of transportation facilities, roads, irrigation systems, electricity and telecommunication networks, and fisheries technology.

4. Institutions and economic activities

Institutions can be defined as the government bodies and structures which have the authority to determine policy. This function has a strong impact on its relationship with the development of a country. One significant policy is a regulation related to the development of the Minapolitan concept to boost rural area prosperity. (Arzenek, Bider, & Ferjani, 2016), explained that the relationship between political and economic institution influences

economic growth by providing coordinated institutional support that defines the wealth of a nation. Institutions support the achievement of sustainable economic growth. One way is by encouraging the participation, by broad masses of people, in economic activities.

5. Operational Support and Minapolitan Development

In the Minapolitan concept, operational support includes the availability of fish seeds, and aquaculture equipment among other needs. Operational support has a positive impact on the development of the Minapolitan concept in rural areas (Widyaningrum & Kurniawan, 2016). Therefore, both central and local governments should build cooperation with all stakeholders to provide the necessary operational support for the development of the Minapolitan concept.

6. Market Access and Economic Development

Head & Mayer 2011, measured market access in a defined economic, geography, and environment. It was found that economic development largely determines the national per capita income level. Market access is affected by regional infrastructure which determines the level of intraregional and interregional transactions. These transactions become the foundation for economic activities to boost economic development.

2.3 Program Evaluation

Program evaluation is a systematic method for collecting, analysing, and using information to answer questions, particularly about the effectiveness and efficiency of projects, policies and programs, which is supported by sufficient evidence (Bardwell et al., 2012). In both public and private programs and sectors, stakeholders need to identify if the programs they are funding and implementing are generating the intended objectives. Bardwell et al. (2012), identified the necessity of program evaluation, which could accomplish several benefits for the evaluators:

1. Evaluation helps to identify factors affecting the success of the program.
2. Evaluation helps to socialise the program description and the program benefits to the stakeholders, especially to the funders and the community.
3. Evaluation results can promote the program to attract additional funding for the program by providing evidence of its effectiveness and accomplishments.
4. Evaluation can improve the program workers' ethos and relationship with stakeholders by identifying weaknesses as well as strengths.
5. Evaluation results can enhance existing knowledge in the human services field about factors that are either effective or ineffective for goal accomplishment within the existing programs with the existing participants and stakeholders.

Evaluation processes can be conducted by either the program owners or external evaluators. Each option has its own strengths and weaknesses, in term of cost, knowledge, flexibility, objectivity, accountability, willingness to criticise, ethics and utilisation of results (Conley-Tyler, 2005). Moreover, the types of evaluation can be both qualitative and quantitative. The evaluation process can be executed in three time points (Council of Europe, 2013), such as evaluation conducted before the program is implemented (ex-ante), evaluation conducted when the program is still in progress or on-going (In-itinere), and evaluation conducted after the program is implemented (ex-post).

The logic model is one of the available models for program evaluation. The logic model is described as a depiction of process flow of human activities including the determined assumptions or criterias to achieve pre-determined specific objectives, either in narrative or graphical format. Logic models demonstrate an arrangement of cause- effect relationships determining a systems approach to generate the targeted outcomes (McCawley, 2015). In the application of the logic model, it implements the Context, Input, Process, Product (CIPP) evaluation with the modification of the context into context, input, process, and product evaluation. CIPP is a comprehensive framework for conducting evaluations of projects, organizations, and programs (Madaus, Scriven, Stufflebeam, & Stufflebeam, 1983) (see Figure 4). Evaluation is conducted by evaluating each component that determines the program validity.

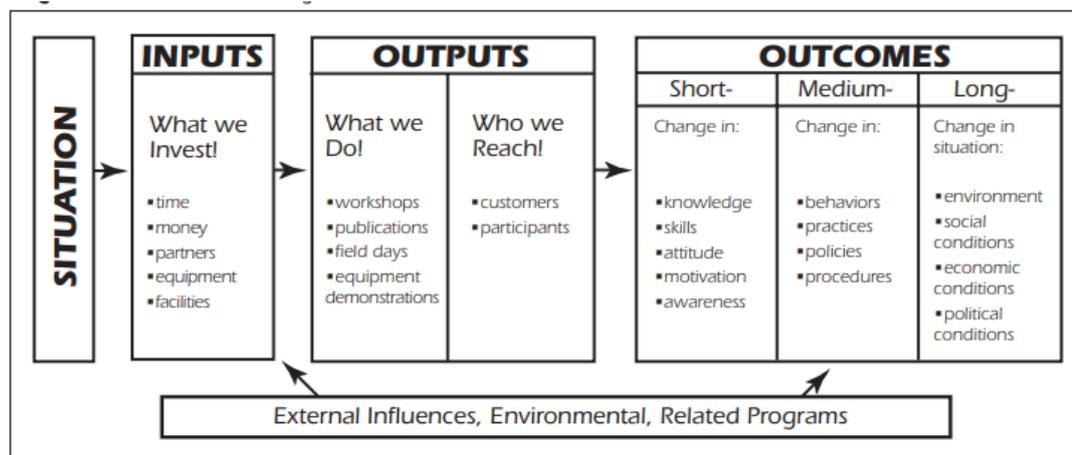


Figure 4. Elements of logic model (McCawley, 2015).

2.4 Program Sustainability Assessment

Program sustainability assessment is conducted to assess the sustainability capacity of a long-term program with a stable objective achievement. Program sustainability capacity is defined by Schell et al., as “the existence of structures and processes that allow a program to leverage resources to effectively implement and maintain evidence-based policies and activities over time” (2013). The idea of program sustainability capacity is different to the sustainable development. Program sustainability assessment focuses on the ability of one specific program to sustain and bring benefit in the long run. Sustainable development is a paradigm in which the global community has agreed to implement to achieve human development goals for existing and future generations. Thus, sustainable development is a broader term to include the economic viability, social equity, and environmental protection.

The concern towards program sustainability has increased in recent decades, especially in public health programs, clinical care, and social service programs. If the programs lose their sustainability, the benefits of the programs to society will be affected. Sustainability outcomes are expected from a program's various elements, such as its activities, partnerships, practices, benefits, as well as the salience of the program's main issue (Scheirer & Dearing, 2011). These suggest a range of ways in which a program can sustain its continuation to achieve its targeted outcomes. Related to this, the funding of a program and political support become two important factors of program sustainability. Nevertheless, the ability of a program to sustain can be achieved by other factors. Schell et al. (2013) identified nine domains for a public health program to sustain in the long term as described by Figure 5.

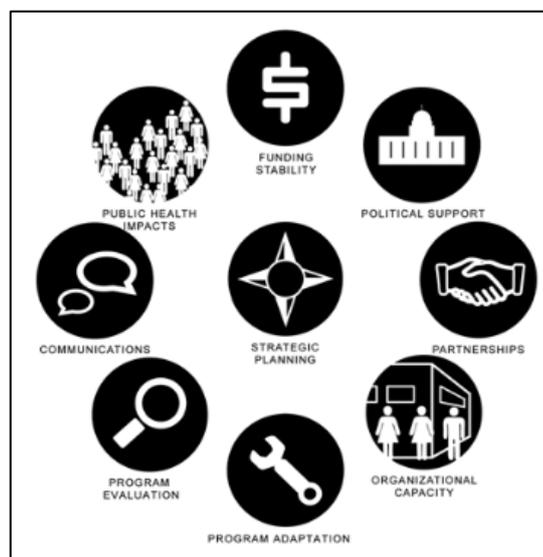


Figure 5. Nine domains of program sustainability (Schell et al., 2013).

1. Political support or environmental support: both internal and external political environment which determine t program funding, plans, and acceptance.
2. Funding stability: stable program funding determining long term availability of the program.
3. Partnership: the engagement between program and targeted community.
4. Organizational capacity: the specific resources required to effectively manage the program and planned activities.
5. Program evaluation: monitoring and evaluation of the program achievement, process, and activities.
6. Program adaptation: the adaptation ability to improve the effectiveness of the program.
7. Communication: the strategic dissemination of program process, outcomes and activities with the broader stakeholders.
8. Public health impact: the program's result on the health attitudes, perception, and behaviours in the area it serves.
9. Strategic planning: the process that specifies program activities, objectives, and strategies.

The Program Sustainability Assessment Tool (PSAT) adopts the program sustainability factors and includes eight of them for program sustainability assessment; all except for the public health impact domain.

2.5 Previous Research Related to the Minapolitan

Several prior research studies have been conducted regarding the implementation of Minapolitan to propose strategies for optimum benefits of the Minapolitan concept as shown in Table 1:

Table 1. Previous research in Minapolitan Program in Indonesia

No	Title (Author)	Analytical Method	Result
1	Performance Analysis and Status of Sustainable Regions Minapolitan Bontonompo, Gowa Regency, South Sulawesi Province (Setiawan, 2010)	Potential areas analysis, multidimensional analysis scaling, and scenarios	The sustainability status of Minapolitan Region in Bontonompo, Gowa Regency, South Sulawesi province, including in the Regions category Minapolitan is less sustainable, with the area of sustainability index of 40.52 out of 100.
2	Regional Development Strategy through "Minapolitan" Approach in the Regency of Anambas Islands (Yunizar, 2013)	Descriptive Analysis, LQ Analysis, IFE and EFE evaluation, and SWOT-QSPM	Based on the GRDP with or without oil and gas, the fishery sub-sector is the basic or leading sector with a comparative advantage that can be developed to provide a major contribution to the regional economic growth. The result also provides alternatives of strategy.
3	Analysis of Development Minapolitan Aquaculture Planning in Gandusari Blitar (Adhhapsari et al., 2014)	Descriptive analysis with GIS, AWOT	The first priority of Minapolitan development strategy plan in this region is to increase the attention and commitment of the government, empower rural youth and community development in the field of fisheries activities.
4	Minapolitan region development analysis at Penajam Paser Utara using blue economy concept (Mawarsari et al., 2017)	Descriptive comparative analysis and EFAS and EFAS analysis	The highest score of strength is production and commodity productivity. The income level factor becomes the highest score at weakness. The Marketing system is the highest factor in opportunity. The position of SWOT quadrant is in quadrant I /or first quadrant which means progressive.

5	The expansion instructions Minapolitan Capture Fisheries in Majene Regency (Hamka, 2013)	Descriptive-quantitative analysis by LQ, Skalogram, and SWOT method.	The capture fisheries sector basis in District Majene is flying fish, tuna, fish and fish tuna mixture, has a comparative advantage. SWOT analysis found three alternative directions of the development.
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No	Title (Author)	Analytical Method	Result
6	Evaluation of Minapolitan Development Program Implementation with CIPP Model (Pantouw et al., 2017)	Descriptive analysis and CIPP analysis	Based on context evaluation, Minapolitan implementation is suitable. The input evaluation is conducted for infrastructure, institutional aspect and regulations, and funding. The process evaluation is conducted in the utilization of harbour. The product evaluation shows that the implementation of Minapolitan program increases both the volume and value of capture fisheries.

Several studies have been conducted to evaluate the performance of the Minapolitan Program in Indonesia, including in Gowa Regency (Setiawan, 2010) and Bitung City (Pantouw et al., 2017). The results of the performance evaluation show that the Minapolitan Program is less sustainable in certain areas (Setiawan, 2010), but shows significant improvements and benefits in another area (Pantouw et al., 2017). The strategies to improve the Minapolitan Program vary between locations and cases. Nevertheless, important factors for strategic action have been identified, such as infrastructure, research, capacity building, networks and relationships with various parties and government commitment (Adhiharsari et al., 2014; Hamka, 2013; Mawarsari et al., 2017; Yunizar, 2013).

To improve the implementation of the Minapolitan Program, several studies also identify strategic alternatives to improve regional development through a Minapolitan approach, in several areas of Indonesia, such as Anambas Island (Yunizar, 2013), Blitar Regency (Adhihapsari et al., 2014), Penajam Paser Utara (Mawarsari et al., 2017) and Majene Regency (Hamka, 2013). The research methods employed to propose strategies on Minapolitan Programs are diverse, but the most common method is the Strengths Weaknesses Opportunities and Threats (SWOT) analysis, which is combined with other methods to determine strategic priorities. The research conducted by Yunizar (2013), combined SWOT analysis and Analysis of Quantitative Strategic Planning Matrix (QSPM) to determine strategic priorities, while Adhihapsari et al. (2014), mixed SWOT with Analytical Hierarchy Process (AHP). Both methods have their own benefits.

The novelty factors of this study compared to the aforementioned studies includes firstly, that this study evaluates the implementation of the Minapolitan concept, assesses the program sustainability capacity, and proposes strategies for development of Minapolitan in the Maros Regency. Secondly, this study uses a mixture of analytical methodologies including; Context, Input, Process, and Product (CIPP) model for Minapolitan concept evaluation, the Program Sustainability Assessment Tool (PSAT) for program sustainability capacity, and Strengths, Weaknesses, Opportunities, Threats (SWOT) - Quantitative Strategic Planning Matrix (QSPM).