

Social Mapping in Batam City for Urban Development

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Abstract. This study explores social mapping for urban communities with the aim of city development. The success of sustainable urban planning lies in achieving environmental, economic, and social sustainability in urban areas. However, the requirements for a socially sustainable city are still unclear. This paper aims to bridge the existing concept of urban social sustainability in its implementation in Batam City regarding socially sustainable urban planning. This study uses a qualitative approach. The purpose of collecting qualitative data is to explore social planning for communities in Batam City. Qualitative data collection uses in-depth interview procedures with the government and communities living in Batam City, both indigenous and immigrant communities. The selection of informants is based on a purposive sampling procedure, this is intended to explore research questions more deeply to informants in Batam City. This study contributes to the development of cross-disciplinary science in the social sciences, especially the Sociology of Development, where this scientific contribution is theoretically useful when the results of this study are published in the form of scientific publications.. In addition to publication outputs, this research is expected to be an academic contribution as a recommendation for policy makers, especially in development policies to understand sustainable urban planning through a social lens to obtain a complete picture of social sustainability scenarios and investigate how these themes can be addressed in future urban planning prospects.

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1 Introduction

The urban population is steadily rising, with over fifty percent of the global population residing in metropolitan areas. This is a primary emphasis in development studies. National development encompasses a continual sequence of initiatives that address all facets of communal life, the country, and the state. Its duty is to execute the mission of achieving national objectives as articulated in the Preamble to the 1945 Constitution of the Republic of Indonesia. The succession of development initiatives include ongoing, uninterrupted activity. The elevation of communal wellbeing has been shown throughout generations..

As the center of human activity, the city is always undergoing evolution change. An increase in the number of residents, both natives of the city and Immigrants are a population phenomenon driven by consequences modernization. This is what causes new problems in the city, including the City of Surakarta as the sample of growth city in Indonesia. Talking about the city of Surakarta, there is a primary population problem caused by behavior individualistic society that caused the ecological crisis. Crisis ecology or environmental problems are complex matters as well is still a contemporary problem in the academic world. [1].

Urbanization and its concomitant urban population growth so fast. In the other side, urban expansion has been accelerated towards the end of the 18th century and has been all but unstoppable during the 19th and 20th centuries. In the other side, opposite with something called by common perceptions, the rate of urban populations growth has been happened slower for decades in all world regions [2].

The development of the city depends on the location, the density of the city, and related with the past or the history of the formation of the city and related to time the future. Urban development is also a process urban change from one state to another in time different, this concerns political, social, cultural, technological, economic aspects and physical which will be seen directly in the related physical development with the use of urban land and also increasing the number urban areas in Indonesia as a result of the expansion of districts, municipalities and provinces. And today's urban population reaches more than 50% of the population Indonesia due to the increase in the urban population. [3].

In development, the word 'sustainability' has formed and evolved via several high-level meetings, and is now generally recognized and acknowledged as a conceptual framework that plays a significant role in shaping policies for urban development. The concept of sustainability originated almost three decades ago. According to Williams et al. (2000), this notion serves as the primary foundation for extensive literature on urban design, architecture, and planning. Bramley et al. (2009), Davidson et al. (2012), Ghahramanpouri et al. (2013), and Nurul (2015) assert that a comprehensive understanding of the interconnected components of sustainability—namely economic, social, and environmental factors—has led to the classification of various urbanization forms as 'sustainable' [4].

There are several descriptions of sustainability, but the description that is well known and recognized is the description put forward by the World Commission on Environment and Development (WCED) in its 1987 study commonly known as the Brundtland commission report (WCED, 1987). Community mapping is a relatively new tool with great potential to provide practical impact at the local level to the rhetoric of sustainable development. Ideally, placing humans both as subjects and objects of development is important and viewing the social environment as a supporting force to create sustainable development, that is, development that meets the needs of the current community without reducing future generations in meeting their needs. [5].

The difficulties associated with applying the abstract concept of sustainable development have prompted much research into the challenges of assessing progress towards these goals. The concept of community development is defined as an activity that is planned through

development steps that must be implemented with the main objective of achieving prosperity and community welfare.

The phases of community development are categorized into six primary steps: social mapping, social planning, community development, social engineering, social control, and social order. Social sustainability and sustainable urban development pose significant difficulties globally, affecting both industrialized and developing nations. There exists a tension between the methodologies of sustainable development and social sustainability within the urban setting. The principle of sustainability serves as the foundational framework for the considerable literature on urban design, architecture, and planning [6].

There is significant overlap between the social elements of sustainability and its theories or concepts. The notion of a 'sustainable society' prominently emphasizes justice and social justice among other aspects. A society is anticipated to provide a framework for enduring social relationships and activities that are sustainable, inclusive, and equitable in a comprehensive sense (environmentally, socially, and economically) [7]. But In general, the city is associated with unemployment, poverty, pollution, noise, mental tension, criminality, juvenile delinquency, sexuality and so on. Not just in terms the physical environment of the city is the only thing that is not It's fun but also in the environment social. [8].

Currently, social mapping is extensively used to investigate social and environmental concerns within metropolitan areas and communities in the context of sustainability. A map serves as a communication tool for residents, authorities, developers, and municipal stakeholders. Social mapping is now a prominent technology that operates across several social domains, including academia, the public sector, and fields such as social work, urban planning, and education. The method's popularity across various disciplines has risen due to advancements in information technologies, the prevalence of mental mapping techniques, QGIS, PPGIS, and the analysis of social problem distribution in urban areas, initially utilized mainly in cartography, geology, and geography.

Social mapping is a method for creating a visual and digital representation of GIS and geographical data, including its spatial and attribute information. The second approach addresses social mapping as a method for modeling, visualizing, and graphically portraying geographically localized information to improve comprehension of the illustrated phenomena. The predominant tradition employs social mapping as a means for the visual and semantic representation of both tangible and intangible entities, facilitating uniform description, categorization, and generalization of data [9].

Because of those reasons, this research conducted in Batam city. Batam as the focus of this research as one of the cities in the Riau Islands with several problems but should be described in such social mapping. The Batam City Government is even encouraging its development in order to make Batam City a modern, advanced New City and a civilized world port and its people prosperous. Since the 1970s, which was the initial period of the development of Batam Island, this area has been identified with a special area because of various special policies that have been given and are different from other areas in Indonesia. Specific rules in Batam have positioned it as one of the fastest-growing cities in Indonesia [10]. Constructed in the 1970s by the Batam Authority (now BP Batam), the city initially housed around 6,000 inhabitants. By 2010, the population had increased 158-fold, and it has since expanded 300-fold [11].

Batam has developed and has various advantages economically, including as one of the regions in Indonesia that has never experienced an economic crisis, this fact was seen in the 2000s, when the flow of PMA entering Indonesia decreased since the crisis, Batam remains an attractive investment destination compared to any other region in Indonesia (Kuncoro, 2005). Therefore, this study aims to explore more deeply the development in Batam City which refers to sustainable development and focused on its planning of development through

policy created by Batam Government especially Bappellitbang as the core planner of government to help the mayor of Batam in city planning.

2 Method

Qualitative approach is applied to this reseacreh. Data collection techniques used in this study are as follows:

1. In-depth interviews were aimed at key informants, namely those involved in planning step, that is Bappeltibang of Batam City and its Community. Researchers asked several questions directly to key informants and to supporting informants. The research was conducted using an interview guide. The process of collecting data in this study will take place from one informant to another who is selected purposively. So that the needs of informants are very dynamic according to the needs of the data needed to complete a variety of information that is closely related to the phenomenon of the problem until it is considered sufficient by researchers, including searching through electronic media [12].
2. Observation Observations or direct observations in the field were carried out in Batam City. Observations were made on each research variable, namely leadership, collaboration, shared views, collective identity, bridging organizations, and environmental movements which are currently still ongoing.
3. Literature Study (Documentation) Literature study is carried out by reviewing and studying such as reading materials from various books, theories, journals, scientific papers, documents, including various regulations and other reference materials that are considered relevant to the object of research. Documentation studies are expected to provide additional understanding of the problems studied. Qualitative data analysis is applied by data reduction, verification and conclusion.

3 Findings

3.1 Social Problems

Social Problems are conditions or situations within society that are considered disruptive, harmful, or threatening to the well-being of many people. These problems arise when there is a gap between social expectations and the existing reality, such as poverty, unemployment, discrimination, and crime. These conditions require attention and solutions from the government, society, and social organizations to prevent their impact from spreading further and damaging overall stability and well-being.

3.1.1. Unemployment

In developing countries such as Indonesia, urbanization is more function as an inhibitory factor rather than a driving factor for national development. Urbanization can cause problems in urban areas related to the fulfillment of needs public utilities and job opportunities [10]. Employment is one of the strategic indicators launched by the current government. Even the previous government never ignored this aspect in its work program priorities. This is inseparable from one of the problems faced by the Indonesian nation, as is also the case in other developing countries, namely the rapid growth rate of the workforce, exceeding the growth rate of job opportunities, resulting in an increase in the number of unemployed.

The demographic transition has caused the composition of the productive age population to increase faster than overall population growth, so that the Labor Force (AK) in Batam City

tends to increase and is increasing in number. In the last five years, the number of AK in Batam City for the 2019-2022 period has increased every year, while it has decreased in 2023. In 2022, the number of AK in Batam City was 848,628 people, then in 2023 the number was recorded at 641,605 people.

3.1.2. Batam City has a productive age among workers totaling 589,402 in 2023.

The observation results found that in the midst of Batam's condition as an industrial city, there are still many workers who are not accepted to work because they do not know anyone who is called an "insider" experienced by an informant with the initials AD. At his age which is included in the workforce, namely 20 years old where the informant has been around 2 years since graduating from school. AD has been unemployed for how long because his contract has expired.

According to informant AD, the current recruitment system has many requirements, starting from height, then having to have a private vehicle and many others, which is a bit difficult if you don't have an "insider". In addition, to meet the qualifications, you must also have experience in the field you are applying for for at least 1 or 2 years which is a bit difficult for fresh graduates, because if the courses taken are not in line with the job you are applying for, we cannot fill in the experience section.

Then for the recruitment process, several companies have many tests, so you have to be really serious about each test because if you fail in the middle of the test it will be very detrimental to time and energy. The role of the government in recruitment in a company is for supervision, for example if there is something that deviates from the company's qualification requirements, we can report it to the labor court.

Next, Y, who is 21 years old, where Y has graduated from school for 2 years and has been unemployed during that time. According to him, recruitment in a company/agency as a system that is often used by various companies to recruit new workers, in most companies in Batam City, they do use a direct recruitment system or through distributors, and some also use insiders, for the Batam area, it is no longer surprising if a company uses insiders, it is very common in the corporate world. In addition, SS, a 23-year-old informant who graduated from high school 5 years ago. SS informant had been unemployed for 7 months, now he has been working for 2 months and 4 days. Recruitment in a company is an applicant who will be interviewed and assessed to determine whether or not he is suitable for the company, and meets the requirements to do the work given by the company.

The role of the government that is felt is that I can be recruited in the desired company, and the company also provides benefits and other facilities, sufficient salary, and I gain knowledge, experience, and expertise. Recruitment according to him is that many companies in Batam City recruit employees unfairly and dishonestly. Even though there is already UUD Article 28 D paragraph (2) where what happens is that companies recruit employees by having to pay insiders first to be able to enter the company.

With an unfair method like this, it is often difficult to get a job so that there are many unemployed people in Batam City. According to him, the government has not followed up on this problem, even though this problem is very serious. SS wants such recruitment to be abolished and dishonest people in the company should be given rewards and punishments in accordance with applicable regulations and provide more job vacancies, provide easier job requirements, do not limit age, are not seen from a more attractive appearance, and so that in the future the Indonesian people will not be unemployed and the community will be prosperous.

3.1.3. Slums as a Symbol of Poverty

Poverty as one of social phenomena in urban areas in Indonesia is one of the complex and multidimensional social problems. Although urban areas are often seen as areas with advanced economic centers with many job opportunities, in reality many residents in urban areas still live below the poverty line that called slum area. [11]. The results released by the Central Statistics Agency (BPS) on July 1, 2024, provide a portrait of the current poverty conditions with different patterns between urban and rural areas. In terms of figures, the poverty rate in urban areas is lower when compared to poverty in rural areas. The latest figures quoted from the BPS release, in urban areas the poverty rate is 7.09 percent, while in rural areas it is 11.79 percent. Uncontrolled rural-urban migration has resulted in excessive urbanization. In urban areas, there is population density which has implications for the demands of employment and housing needs. If the city is not ready to meet these demands, this condition has the potential to cause various problems in urban areas. In Batam City there are still many slums where people in the slums have bad mental attitudes and behavior.

3.1.4. Crime

Currently, Batam City has a very high record in crime. Crime is currently not only committed by adults but also by minors. Crime is currently disturbing the people of Batam, because this action can injure and take human lives. Judging from the economy of Batam, many people have lost their jobs so that many do not think clearly so that they commit crimes, besides unemployment, socializing is also something that must be avoided for minors to avoid falling into crime.

Criminal acts are acts that deviate and harm many people. Examples of criminal acts that occur in Batam City today are muggings, murder, theft and fraud. Based on information obtained from the Batam Police in January to February 2018 there were 320 criminal cases, and in February to January 2019 there were 8 cases, so that the number of crimes in the city was 401. The causes of crime are mostly caused by various things, such as the lack of job vacancies in the city of Batam, resulting in unemployment, to meet their needs they do not think clearly, other causes such as not being able to balance needs with luxurious habits so that they fall into criminal acts. In addition, social factors also affect the crime rate.

4 Discussion

4.1 Batam City Planning Strategy by Bappelitbang Batam City

In accordance with Law Number 23 of 2014 regarding Regional Government, the Central Government has delegated authority to Regional Governments to govern and administer their own affairs based on the principles of autonomy and assistance tasks, aimed at enhancing public welfare while considering the principles of democracy, equality, justice, privileges, and regional diversity within the context of the Unitary State of the Republic of Indonesia. The fundamental structure for bestowing extensive autonomy to regions aims to expedite the achievement of public welfare by enhancing services, empowering stakeholders, and fostering engagement from all parties, including the business sector and the community. Furthermore, it is anticipated to enhance regional competitiveness. Consequently, regional policies are primarily implemented to provide services, enhance participation, initiate projects, and empower stakeholders, all aimed at increasing the welfare of the populace.

While laws and regulations explicitly grant regional governments the authority to regulate and manage their own affairs, they must still adhere to the planning framework

established by the central government. This includes compliance with the National Long-Term Development Plan (RPJPN), Medium-Term Development Plan (RPJMN), and the Government Work Plan (RKP), as well as provincial planning documents such as the RPJPD, RPJMD, and Provincial RKPD. This alignment is intended to ensure that regional objectives contribute to the attainment of provincial and national goals. The relational element focuses on the power conferred, including the interplay between natural resources, other resources, public services, and money. Strategic Plan of the Planning and Research Agency for Regional Development.

The results of the study show that the Planning and Research Agency, Development of Regional Development as one of the OPDs whose main duties and functions are to carry out the preparation and implementation of regional government affairs in the field of planning and research, development of regional development is one of the elements of the regional apparatus that needs special attention from the central government and regional governments. For this reason, the Regional Development Planning and Research Agency as one of the regional work units has a great responsibility in preparing development programs, both short-term, medium-term and long-term, which will involve all elements of the regional government in an effort to achieve Good Governance, especially in the field of planning for each regional work unit and to ensure the sustainability of development programs.

The analysis of strategic problems is a crucial and definitive component of the process for formulating regional development plans, essential for concluding prior phases. The identification of relevant and strategic concerns enhances the acceptability of development objectives, facilitates operationalization, and allows for moral and ethical accountability. Development planning aims, among other objectives, to ensure that the services of the Regional Development Planning and Research Agency consistently fit with the environment and expectations of service users.

Consequently, consideration of the community's mission and its external environment is essential for planning from the outside in, and must not be overlooked. Strategic concerns pertaining to the responsibilities and operations of the Regional Development Planning and Research Agency are factors that must be examined or emphasized in development planning due to their substantial influence on OPDs in the future. A circumstance or occurrence that evolves into a strategic problem is one that, if unanticipated, may result in significant losses, or conversely, if not leveraged, may preclude potential for long-term enhancement of community services.

4.2 Carrying out its duties and functions, Bapelitbangda still faces several problems

1. The low level of understanding of the apparatus in the Batam City Government regarding the very dynamic laws and regulations that are the basis for the preparation of planning. The laws and regulations that regulate and bind in the preparation of planning that sometimes often change make it difficult for some planning apparatus to understand them.
2. Lack of socialization of Central Government policies that must be implemented in the regions. The very dynamic central government policies due to frequent changes in laws and regulations are sometimes not well socialized at the regional level, This condition results in a lack of understanding of the apparatus which results in the preparation of development planning not being optimal.
3. The apparatus resources are not optimal both in terms of quantity and quality in the preparation of development planning. The quantity and quality of the apparatus play an important role in carrying out planning tasks.

4. The coordination and synchronization between the apparatus within the Batam City Government environment are not optimal in the preparation of development planning. With the non-optimal coordination and synchronization of each planning apparatus within the Batam City Government environment, it will potentially cause problems and obstacles in preparing and implementing planning documents.
5. The unavailability of an accurate data and information system. The availability of a data and information system is greatly needed in the preparation of planning and evaluation as well as monitoring the planning that is being carried out. The existence of an accurate information and data system will make it easier for the planning apparatus at the Regional Development Planning and Research Agency in carrying out their duties.
6. The level of community participation in development is still low. This is one of the most important obstacles in the preparation of planning, because with the low participation of the community, the absorption of aspirations is not optimal, which aspirations are very important materials in the preparation of development plans.
7. The very rapidly changing environmental situation and conditions in Batam City greatly affect the preparation of plans by the Regional Development Planning and Research Agency. Especially in Batam City, there is a very rapid change in population growth so that it becomes a problem in itself in preparing plans.

Early planning, especially in the late 19th century and post-World War II, focused on the design aspects of the physical environment and was referred to as the morphological conception of space stage [7]. Over time, planning developed due to human needs, so that planning is needed by humans so that the potential for failure is reduced in efforts to fulfill needs. Human needs are very complex, so that planning becomes a science that is classified as multidisciplinary, this causes a tendency for planning to be associated with broad aspects such as socio-economic-cultural. This broad view of planning occurred in the 60s and was described by Taylor as a major shift towards the sociological conception of space [11].

The breadth of this multidimensional planning often makes planners have difficulty in deciding and choosing the most effective planning. This was indicated by Friedman (2003) where there was an assumption that planning theory was useless in practice, due to a lack of understanding of planning theory and multidimensional aspects. Healey (1997) explained that planning in developed countries developed from three major traditions, namely: economic planning, physical development management, and public administration management and policy analysis [2].

Of the three major traditions, it strengthens the opinion that planning theory has a multidisciplinary nature because it involves different study focuses. Meanwhile, according to Friedman (1987), he explained that early planning practices, namely planning the physical aspects of the environment (Orthogonal Design), were still based on social sciences that had developed maturely and were accepted in the early 19th century [8]. Healey's opinion with Friedman is very different in explaining planning, Healey emphasizes multidisciplinary in explaining planning, while Friedman is more towards planning emphasizing various aspects of life such as the environment, society. Regardless of their explanations which have different points of view from each other, they actually both see that planning has a multidisciplinary nature.

According to Todaro (1986) development planning is a business conscious actions carried out by an organization to influence, directing and controlling changes in variables development of a country or region over a period of time in accordance with the objectives that have been set previously. Warpani (1984) explains that it is related to development process, planning is an effort to maximize the potential of the resources contained in an area region or country to improve people's living standards [5].

In explaining planning, Warpani uses two planning aspects to consider in planning development as follows:

1. The first aspect is the planning scale aspect. this aspect related to the broad coverage of the planning area. The more The wider the area coverage, the nature of planning will become increasingly macro. On the other hand, the area becomes narrower due to the nature of planning will get micro.
2. The next aspect is the planning process aspect. this aspect related to the dynamics that occur in life public. In this regard, Warpani has an opinion that social, cultural, economic changes and politics in public life in a city, region, or the state will exert influence on the process planning. These changes give rise to different planning approaches and methods. In a society that is still dominated by traditions local, it would be appropriate to use paternalistic planning [12].

Meanwhile, in communities where local traditions already play a role is reduced, then the appropriate planning approach must be use planning in more scientific ways acceptable. So planning will take plac according to different processes. In case of Batam, local governance always coordinate to central governance in in planning some programs to implement in local side, and collaborate with other parties such as in CSR and include community in participation of development programs.

5 Discussion

Batam City as an industry city in Kepulauan Riau has complex plannings and it should be because of heterogeneity of people and needs of citizens. The Batam City Planning carried out by the Batam City Research and Development Agency shows that the direction of development is directed towards the objectives and in accordance with intended to create connectivity between the MSME and Cooperative sectors with industrial activities in Batam City, so that MSMEs and Cooperatives have wider access to a choice of types of commodities to be sold, capital, and certainty in terms of sustainability businesses. This can be a stimulus for Batam City residents to start MSME businesses and utilize Cooperatives as the mainstay of the Indonesian economy. Thus, it is as the strategy to improve Batam people as urban Community.

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