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Participatory Design Study in the KOTAKU Program Using Settlement Environmental Management Plan Document (RPLP) Review in increasing Community Capacity for Sustainable Development

Arief Nurrahman *1 ⒾⒹ, Hanif Budiman1 ⒾⒹ, Putu Ayu P Agustiananda1 ⒾⒹ

1Departemen of Architecture Islamic University of Indonesia, Yogyakarta, 55584, Indonesia
*Corresponding Author: designariefnurrahman@gmail.com

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ABSTRACT

This study aims to analyze the impact of implementing the Settlement Environmental Management Plan Document (RPLP) in strengthening community capacity in the KOTAKU Program for environmentally sustainable development. The KOTAKU program is a government initiative that aims to improve access and quality of urban settlements, with a focus on slum settlements. RPLP is a planning document that provides guidance in structuring an integrated, sustainable and participatory settlement environment. This research uses a qualitative method by conducting case studies at several locations that have implemented RPLP in the KOTAKU Program. Data was collected through in-depth interviews with various stakeholders, including local communities, local governments and other relevant institutions. The analysis is carried out by identifying changes that have occurred in community capacity after the implementation of the RPLP, including increased knowledge, skills, and participation in decision-making related to the settlement environment. The results of this study indicate that the implementation of the RPLP in the KOTAKU Program has a positive impact on strengthening community capacity. Community participation in planning and decision-making processes increases, resulting in a better and more sustainable living environment. Communities also acquire new knowledge and skills in managing the residential environment, such as waste management, energy saving and utilization of local resources. This research makes an important contribution in understanding the importance of implementing RPLP in environmental sustainable development. The recommendations resulting from this research can be used by local governments and other related institutions to increase the effectiveness of the KOTAKU Program and strengthen the community's role in environmentally sustainable development.

Keyword: Settlement Environment Arrangement Plan (RPLP), Community Capacity Building, KOTAKU Program, Environmental Sustainable Development

1. Introduction

Environmentally sustainable development is one of the main challenges faced by many countries around the world. Urban settlements, especially slum settlements, are often the main focus in efforts to achieve sustainable development. Improving access and quality of urban settlements is an important goal in efforts to improve the quality of life of the community (Jones, 2017).

In Indonesia, the City Without Slums Program (KOTAKU) has been launched as a government initiative to tackle the problem of slum settlements. The KOTAKU program is one of the strategic initiatives by the Directorate General of Cipta Karya in accelerating the handling of slum settlements and supporting the "100-0-100 Movement," which aims for 100 percent universal access to clean water, 0 percent slum settlements, and 100 percent access to proper sanitation (Ministry of Public Works and Housing, 2017). This program aims

to improve access and quality of urban settlements with a sustainable, integrated and participatory approach. One of the instruments used in the KOTAKU Program is the Settlement Environmental Management Plan Document (RPLP).

The RPLP document is a guideline that directs the planning and arrangement of residential environments by paying attention to various aspects, such as spatial planning, environmental management, infrastructure and community empowerment. RPLP aims to create sustainable settlements, both in terms of social, economic, and environmental. In addition, the RPLP also encourages community participation in decision-making related to the settlement environment.

Even though RPLP has become an integral part of the KOTAKU Program, it is still necessary to carry out an in-depth analysis regarding the impact of implementing RPLP in strengthening community capacity. Strengthening community capacity includes increasing knowledge, skills and participation in decision making regarding the residential environment. In this context, this research aims to analyze the impact of implementing RPLP in strengthening community capacity in the KOTAKU Program for environmentally sustainable development.

Literature review

Participatory design is embodies a perspective on the potential for driving change in the shaping and administration of human environments. Its potency emerges from its nature as a movement that transcends conventional professional and cultural barriers. It finds its origins in the vision of participatory democracy, where the dispersion of collective decision-making authority extends widely across all strata of society. This empowers all individuals to acquire participatory proficiencies, enabling them to effectively engage through diverse avenues in formulating decisions that impact their lives. The escalating intricacy of decision-making processes necessitates the presence of more knowledgeable citizens who meticulously weigh the available evidence pertaining to issues, deliberate on potential decision pathways, and harmoniously converge on resolutions (Abelson et al., 2003).

Presently, the collaborative design procedure finds application in the realms of urban development, planning, geographical considerations, as well as in the spheres of industry and information technology. Research discoveries propose that favourable consequences are linked to solutions that draw upon users' implicit knowledge (Spinuzzi, 2005). More recently, an additional factor has been posited as partially accountable for advantageous outcomes in participatory design, termed as "shared intellect" (Fischer et al., 2005). Atlee (2003) elucidates "shared intellect" as collective insight that materializes during group exchanges, particularly when the outcomes exhibit a depth and potency surpassing the amalgamation of individual viewpoints. As individuals synchronize their personal intellectual capacities within collaborative endeavors, as opposed to deploying their cognitive faculties to undermine each other for personal prestige, they generate collective intelligence. This shared intellect has been suggested to play a role in yielding beneficial consequences in participatory design (Fischer et al., 2005).

The foundational principles that originated from the labor movements of the 1970s, particularly in Scandinavia, continue to endure within participatory design philosophy (Greenbaum and Loi, 2012). These principles encompass:

1. Balancing Power Dynamics: The aim is to level the playing field by devising strategies to amplify the voices of individuals who might be unnoticed or less empowered within the hierarchical structure of an organization or community.
2. Contextually Grounded Approaches: Engaging directly with individuals and their representatives within their workspaces, homes, or public arenas to comprehend actions and technologies within their authentic contexts, rather than relying on theoretical abstractions, which can lead to detachment.
3. Reciprocal Learning: Cultivating an environment that promotes greater comprehension among diverse participants, achieved by identifying common ground and avenues for collaboration.
4. Utilization of Practical Tools and Techniques: Employing tangible tools and techniques suited to specific situations, thereby facilitating various participants in articulating their requirements and visions.
5. Exploration of Alternative Technological Visions: Pondering alternative perspectives on technology, be it within workplaces, homes, public spaces, or beyond, fostering ideas that give rise to notions of fairness.

6. Democratic Practices: Integrating democratic practices into these methods, serving as role models for equality among individuals representing others (Greenbaum and Loi, 2012).

Enhancing Community Empowerment Within the cycle of community development, the process of enhancing empowerment is recurrently undertaken, aiming to embed a culture of development and integration into each member of the society. The components encompassed in the empowerment process are imperatives to be enacted to foster a state of heightened community capability. Garlick as cited in McGinty (2003) outlines five fundamental aspects within empowerment development as follows:

1. Knowledge Advancement: This entails honing skills, facilitating research and innovation, and providing educational support to foster learning.
2. Leadership Cultivation: Nurturing effective leadership to guide community initiatives.
3. Network Establishment: Encompassing endeavors to forge collaborations and partnerships.
4. Community Esteem: Upholding respect for the community and inviting its active participation towards achieving shared objectives.
5. Information Provision: Equipping the community with the ability to gather, access, and proficiently manage pertinent information.
6. These dimensions collectively contribute to elevating community capacity, thereby creating a foundation for comprehensive development (Garlick in McGinty, 2003).

More intricate breakdown of the constituents involved in fostering community capacity, enumerating sixteen distinct facets:

1. Altruistic Inclinations: Placing emphasis on the welfare of the public.
2. Shared Values: The presence of common or akin values within society, fostering equitable participation in proposing ideas.
3. Community Service: The engagement in activities that contribute to the community's betterment.
4. Communication: The act of conveying and exchanging information effectively.
5. Self-Assurance: Cultivating a sense of self-assurance and conviction.
6. Contextual Understanding: Appreciating the contextual aspects, including political and administrative dynamics.
7. Information Dissemination: Dispersing and accessing pertinent information.
8. Navigating Challenges: Addressing challenges or barriers effectively.
9. Effective Leadership: Displaying proficient leadership skills.
10. Networking: Building and utilizing a network of collaborative connections.
11. Organizational Structure: Establishing functional organizational frameworks.
12. Political Influence: Exercising political influence or authority.
13. Skill Proficiency: Demonstrating competencies and specialized knowledge.
14. Trustworthiness: Inspiring trust and confidence.
15. Unity: Fostering a sense of togetherness and unity.
16. Resource Abundance: The possession of resources or wealth.
17. These diverse dimensions collectively contribute to the augmentation of community capacity, enhancing its potential for development

Fostering Capacity for Ecologically Sound Progress

The process of cultivating capacity for ecologically sound progress encompasses an expansive spectrum of ongoing processes and targeted undertakings. These endeavors aim to amplify the competency of individuals, groups, and communities in effectively overseeing their environment. Significantly, it's imperative to acknowledge that the pursuit of capacity building for ecologically sustainable development cannot be viewed in isolation from the domains of economic and social advancement. Notably, investments directed towards enhancing a nation's environmental management capabilities might be rendered ineffectual if societal adherence to environmental regulations is lacking or if governmental bodies fail to recognize the significance of safeguarding biodiversity, conserving soil, and preserving cultural heritage.

Capacity Building for Environmentally Sustainable Development

Capacity building for environmentally sustainable development is a convenient and descriptive term covering both a long-term process and a wide range of specific activities that enhance the ability of indi- viduals, organizations, and societies to manage their environment.

Residential Environmental Management Plan (RPLP)

The Settlement Environmental Arrangement Plan or RPLP is a planning document created through the assistance of the Kotaku program (Rositasari, 2022). This document is a reference for development activities for 5 years and is reviewed annually.The following is the RPLP preparation cycle:
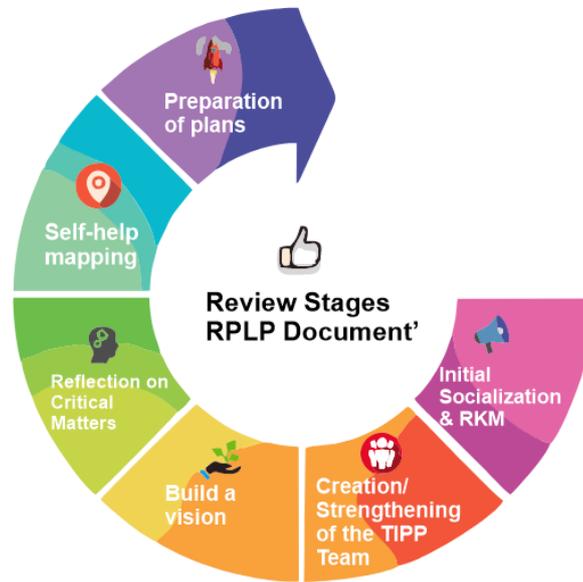

Figure 1. Chart of stages for making RPLP Review.

The stages in the RPLP review activity are as follows:
1. Initial Socialization & RKM (Community Work Plan)
   At this stage, the community is gathered to explain the aims and objectives of the RPLP review activity. The public is asked to discuss infrastructure, social and economic issues that exist in the community.
2. Establishment of TIPP Strengthening (Participatory Planning Core Team)
   The TIPP team was formed from people with various backgrounds, generally people who have knowledge and skills related to environmental issues.
3. Building a Vision & Mission
   Activities are carried out to unite understanding and form enthusiasm regarding a common goal.
4. Reflection on Critical Matters
   The RPK is carried out to discuss things that are important for data collection, and see how far
5. Self-Help Mapping
   This activity uses tables and location maps to then mark several important areas to be addressed and then conduct a site survey
6. Preparation of Plans
   The plan is prepared on a priority scale and is structured over 5 years. The investment plan includes social and economic infrastructure needs.
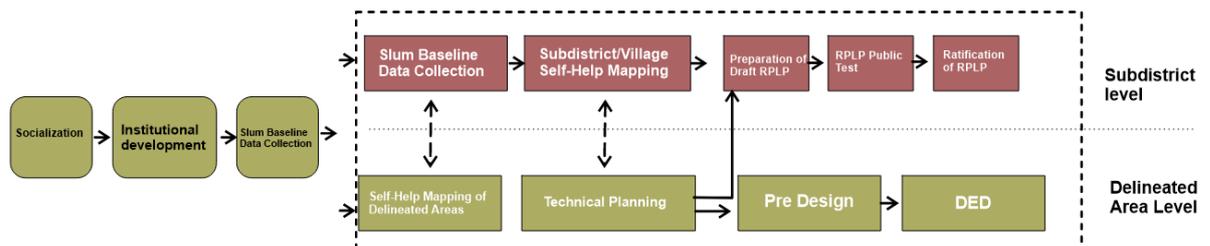

Figure 2. Chart of stages for making RPLP Review by area

1.1 Research Questions

What is the impact of implementing the Settlement Environmental Management Plan Document (RPLP) in strengthening community capacity in the KOTAKU Program towards environmentally sustainable development?

1.2 Purpose

The aim of this research is: • Analyze the impact of implementing the Settlement Environment Management Plan Document (RPLP) in strengthening community capacity in the KOTAKU Program towards increasing community knowledge and skills related to the settlement environment. • Assess changes in community participation in decision making regarding the residential environment after the implementation of the RPLP. • Evaluate the effectiveness of the RPLP in creating more sustainable settlements from a social, economic and environmental perspective. • Provide recommendations to local governments and related institutions to increase the effectiveness of the KOTAKU Program and strengthen the community's role in environmentally sustainable development.

1.3 Scope

This research has a limited focus on the implementation of participatory design in the preparation of the RPLP Review in strengthening community capacity in the KOTAKU Program. The scope of this research does not cover the technical aspects of RPLP implementation or the overall evaluation of the KOTAKU Program.

2. Method

The research method used in this study is a qualitative method with a case study approach. Qualitative methods are used to understand and analyze the impact of implementing the Residential Environmental Management Plan Document (RPLP) in strengthening community capacity in the KOTAKU Program in depth and detail. The following are the steps to be carried out in this research:

1. Data Analysis: The collected data will be analyzed qualitatively. The analysis will involve the process of coding, categorization. Data is obtained from program planning and based on findings in the field from 2020-2022.

2. Interpretation and Findings: The results of the analysis will be interpreted and analyzed to describe the impact of implementing RPLP in strengthening community capacity in the KOTAKU Program. The findings will be described and linked to research objectives as well as conceptualized within an environmentally sustainable development framework.

3. Recommendations: Based on the findings and interpretation of research results, recommendations will be generated for local governments and related institutions to increase the effectiveness of the KOTAKU Program and strengthen the role of communities in environmentally sustainable development.

4. Result and Discussion

The work on making the RPLP greatly determines the direction of infrastructure activities in development planning activities in each KOTAKU program assisted kelurahan. Settlement Environmental Management Plan (RPLP) is a spatial development plan at the kelurahan/village level for a period of 5 years, prepared based on the aspirations, needs and aspirations of the community to improve the environmental conditions of their settlements, as well as support community preparedness for disasters.

Figure 3. (a) Compilation of RPLP at kelurahan level; (b) Preparation of Facilitator Level RPLP.

In the table it can be seen that the socialization stage has the most elements in strengthening community capacity. The other RPLP stages also have almost the same points.

Table. 1 Combined RPLP stages based on partipicatory Design & Community capacity building theory

STAGES OF RPLP	GUIDING PRINCIPLES UNDERLYING PARTICIPATORY DESIGN (Based on Greenbaum and Loi, 2012)	ELEMENTS IN COMMUNITY CAPACITY DEVELOPMENT (Based on Bartle, 2007)
1. Initial Socialization & RKM (Community Work Plan	Mutual learning, encourages and increases understanding of different participants, by finding a common basis and way of working Democratic practices, Democratic practices play into these practices and role models for equality among those who represent others (Greenbaum and Loi 2012). Equalizing power relations, namely finding ways to give voice to those who may be invisible or weaker in the power structure of an organization or community,	1. Altruism 2. Communal 3. Communication 4. Confidence 5. Context 6. Information 7. Intervention 8. Networking 9. Organization
2. Formation of TIPP Strengthening (Participatory Planning Core Team)	Equalizing power relations, namely finding ways to give a voice to those who may be invisible or weaker in the power structure of the organization or community,	1. Trust 2. Political power 3. Leadership 4. Networking 5. Organization 6. Context
3. Building Vision & Mission	Democratic practices, Democratic practices play into these practices and role models for equality among those who represent others (Greenbaum and Loi 2012). Alternative visions about technology, Alternative visions about technology whether it is at work, at home, in public or elsewhere; ideas that can produce expressions of equality.	1. Common values 2. Unity Wealth 3. Confidence 4. Altruism
4. Reflection on Critical Matters	Situation-based actions, working directly with people and their representatives in their workplaces or homes or public places to understand Actions and technologies in real terms.	1. Information 2. Intervention 3. Confidence. 4. Communication
5. Self-Help Mapping	Alternative visions about technology, Alternative visions about technology whether it is at	1. Skills 2. Communication 3. Information

	work, at home, in public or elsewhere; ideas that can produce expressions of equality. Tools and techniques, actual, practical, concrete, situation specific tools and techniques, helping different participants to express their needs and visions, as needed;	
6. Planning	Democratic practices, Democratic practices play into these practices and role models for equality among those who represent others (Greenbaum and Loi 2012).	1. Skills 2. Networking 3. Communication 4. Communal 5. Altruism

Initial Socialization and Community Work Plans (RKM) are two important stages in the process of increasing community capacity and their participation in various development projects or programs. The following is a further explanation of these two concepts:

1. Initial Socialization: Initial socialization is the stage where information about a program or project is introduced to the community who will be involved in its implementation. The aim is to provide the public with an understanding of the goals, benefits and implications of the program. Initial outreach is usually carried out before program implementation begins, and involves various communication methods such as meetings with the community, counseling, exhibitions, pamphlets and other media. Things that are generally conveyed at this stage include information about the program context, goals, targets and expectations of the community.
2. Community Work Plan (RKM): Community Work Plan (RKM) is a document or plan prepared in a participatory manner by the community that will be involved in a particular program or project. The RKM shows how the community will participate in planning, implementing and monitoring the program. The RKM includes action plans, responsibilities and a schedule of activities to be carried out by the community. By involving the community in preparing the RKM, goals that are more realistic and relevant to community needs can be achieved.

Linkage between Initial Socialization and RKM: Initial socialization is often the first step in building community understanding and awareness about the program or project to be implemented. Once the community has a basic understanding, the next stage is to involve them in preparing the RKM. RKM engages communities more deeply, enabling them to contribute to program planning, implementation and monitoring. Thus, initial socialization paves the way for active participation in the preparation of the RKM.

The advantages of this approach are:

- Active Participation: Involving the community from the start in the socialization and preparation of the RKM allows them to have an active role in making decisions that affect their own lives.
- Program Ownership: By feeling involved in planning and implementing the program, people are more likely to feel they own the program and are more motivated to keep it going.
- Relevance and Effectiveness: Through RKM, programs can be designed to better suit community needs and contexts, thereby increasing the chances of success and positive impact.
- Mutual Understanding: Initial socialization and preparation of RKM allows program implementers and the community to understand each other's expectations, responsibilities and expectations.
- Both are part of a participatory approach to community development, where the community becomes an active partner in the development process.

4. Conclusion

The implementation of the Residential Environmental Planning Document (RPLP) in the KOTAKU Program has a positive impact in strengthening community capacity regarding residential environmental planning. This can be seen from the many elements implemented to increase community knowledge and skills as well as more

active participation in decision making related to the environment. The implementation of RPLP in the KOTAKU Program provides significant strengthening in the management of residential environments. Practices in the RPLP stages along with the role of the community are expected to contribute to creating settlements that are more sustainable from a social, economic and environmental perspective. In slum settlements that have implemented RPLP, it is hoped that there will be an increase in the quality of life of the community, reduction in social inequality, increased access to basic services, and a cleaner and healthier environment. Recommendations resulting from this research can be used by local governments and related institutions to increase effectiveness in preparing RPLP. These recommendations may include improvements in the implementation of the RPLP, increasing community participation, increasing cooperation between stakeholders, or developing policies that better support environmentally sustainable development.

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