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The Effectiveness of Ruspin Implementation in Supporting Community-Based Housing for Low-Income Communities

Case Study: "*Seguyub Rusunawa*" Community Housing, Kedungcino, Jepara

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Abstract

One of the primary challenges in housing management is ensuring every individual can access basic needs in the form of decent housing, particularly for Low-Income Communities (MBR). The Indonesian government developed the Self-Help Housing Stimulant Assistance (BSPS) program by applying RUSPIN (*Rumah Unggul Sistem Panel Instan*) technology, which is designed using a modular system to suppress costs and remain adaptive to the needs of residents. This study aims to evaluate the effectiveness of RUSPIN implementation at the "*Seguyub Rusunawa*" Community Housing in fulfilling the need for decent and affordable housing for MBR built through community-based self-help, reviewed from physical, economic, and social aspects.

This study combines qualitative and quantitative methods (mixed method) with data collection in the form of structured in-depth interviews and observations. Interviews were conducted with one informant from the Jepara Regency Housing and Settlement Agency (Disperkim) and with 31 original beneficiaries residing in occupied units at Seguyub Rusunawa Housing, Kedungcino, Jepara. Meanwhile, observations were conducted by observing field conditions of the **BSPS program** implementation outputs applying the RUSPIN technology. The data obtained were analyzed through scoring and then interpreted descriptively, supported by the results of field observations regarding the physical conditions and the housing environment.

Data analysis shows that the program feasibility variable has a percentage of 66.98% or effective, while the product (output) feasibility variable shows a percentage of 70.67% or effective. Meanwhile, the resource variable has a lower percentage than the other two variables, at 58.36% or quite effective. Overall, the implementation of RUSPIN at *Seguyub Rusunawa* Housing, Kedungcino, Jepara is effective in meeting the needs of MBR for decent and affordable houses, with an effectiveness level of 65.34%. Nevertheless, this percentage is at the lower limit and can still be improved. Additionally, this study also found that the resource aspect, which includes beneficiary self-reliance, building materials, supervision time, and labor, remains the main constraint in continuing independent house construction.

Keywords: *Community Housing, Effectiveness, Low-Income Community (MBR), Rumah Unggul Sistem Panel Instan (RUSPIN), Self-Help Housing*

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1. Introduction

Sustainability has become the primary focus of global development, as articulated in the Sustainable Development Goals (SDGs), specifically Goal 11 regarding Sustainable Cities and Settlements, which emphasizes access to decent, safe, and affordable housing and basic needs while improving the quality of slum settlements. Housing is a critical necessity, particularly in developing nations (Adedeji et al., 2023), yet providing access to decent housing for all layers of society remains a significant challenge (Leiwakabessy et al., 2023). In Indonesia, this issue is reflected in data from the Central Bureau of Statistics (BPS), which indicates that as of 2023, 36.85% of the population, approximately 32 million out of 75 million households, still live in substandard housing (BPS, 2023).

The state is responsible for the management of decent housing and settlement areas as regulated by Law No. 1 of 2011. Consequently, the government has developed various housing policies to reach Low-Income Communities (MBR), who have limited purchasing power and require government support to acquire homes (Permen PUPR No. 29 Tahun 2018). Governmental involvement in providing decent and affordable housing is essential (Sunarti et al., 2019), and one such initiative is the One Million Houses Program implemented by the Ministry of Public Works and Housing (PUPR), which includes the Self-Help Housing Stimulant Assistance (BSPS) program (Muhtadi, 2020).

The BSPS program emphasizes stimulant aid for MBR to improve housing quality through self-help principles and cooperation (gotong royong) (Permen PUPR No. 7 Tahun 2018). In its implementation, the government collaborates with communities through a community-based housing approach, which is an informal self-help-based housing provision system (Hapsari & Dewi, 2012). To support the realization of decent housing, the government also developed RUSPIN (*Rumah Unggul Sistem Panel Instan*) technology, a modular building system that is collapsible, adaptable to resident needs, and earthquake resistant (Mirsa et al., 2024). This technology is applied in the "Tuku Lemah Oleh Omah" (Buy Land, Get a House) program in Central Java Province as a sustainable and affordable housing solution for the poor (Jatengprov).

The implementation of RUSPIN in Central Java reached 1,790 units between 2020 and 2023 (loranews), including the formation of the "*Seguyub Rusunawa*" community in Kedungcino Village, Jepara Regency. This program is targeted at MBR who have lived in rented simple flats (*Rusunawa*) for more than five years and wish to own their own homes, providing a stimulus of Rp36,800,000 primarily for RUSPIN Type 36 structural materials (Umam et al., 2024). However, field realities show that this community-based housing model is not yet fully optimal due to the heavy self-help burden borne by beneficiaries, especially those in the informal sector, resulting in construction that does not yet fully meet all decent housing criteria (Umam et al., 2024).

Previous research has generally focused on the technical and construction aspects of RUSPIN, such as material and cost efficiency (Umam et al., 2024), resident comfort (Aqliansyah et al., 2024), and structural performance against earthquake loads (Faisal, 2020; Putra et al., 2020). However, there is a lack of research specifically examining the effectiveness of RUSPIN implementation in providing decent and affordable housing for MBR through a community-based self-help approach, particularly in the "*Seguyub Rusunawa*" housing project. Therefore, this study aims to evaluate the effectiveness of this implementation by fulfilling MBR needs through physical, economic, and social perspectives.

2. Methods

2.1 Data Collection Method

This research employed a mixed-method approach using a sequential explanatory design, in which quantitative data collection and analysis were conducted first, followed by qualitative data collection and analysis. Quantitative primary data were collected through a questionnaire using a 1–5 Likert scale, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). In addition, field assessments were carried out to compare existing conditions with established standards using a Guttman scale with two categories: 1 (not suitable) and 2 (suitable). Before the main analysis, the questionnaire items were tested for validity and reliability. All items were found to be valid at the applied significance threshold, and the instrument showed high internal consistency with a Cronbach's Alpha coefficient of 0.953, indicating that the questionnaire was reliable for use in this study.

The study site consisted of 51 assisted housing units. At the time of fieldwork, 31 units were occupied by original beneficiaries, 6 units were occupied by non-original occupants, and 14 units were unoccupied. Physical observation covered all 51 assisted housing units in order to assess housing condition, spatial adequacy, building feasibility, and supporting infrastructure. However, the respondent-based component of the study was limited to the 31 accessible original beneficiaries residing in occupied units. Accordingly, the 6 units occupied by non-original occupants and the 14 unoccupied units were excluded from the questionnaire and follow-up interviews. This distinction is important because the study evaluated both the overall physical outcomes of the housing program and the perception-based experiences of original beneficiaries under unequal post-allocation conditions.

For the qualitative phase, data were collected through follow-up in-depth interviews with the same accessible original beneficiaries who had completed the questionnaire, as well as one institutional informant from the Jepara Housing and Settlement Agency. Secondary data were obtained through document review and literature review. Consistent with the sequential explanatory mixed-method design, the qualitative interviews were intended

to clarify the reasons behind respondents' quantitative assessments and to provide contextual explanations for the observed housing outcomes.

The qualitative material was analyzed using a thematic explanatory approach based on interview recordings, field notes, and interview summaries. Initial themes were organized deductively around the main evaluation variables used in the quantitative analysis, including affordability, community role, self-reliance, construction time, labor constraints, and housing quality. These themes were then refined inductively when recurring issues emerged across interviews, such as misunderstanding of the stimulant nature of the program, large additional household expenditures, technical problems in RUSPIN construction, delayed completion, and informal transfer of units. The qualitative findings were not treated as a separate standalone dataset, but were integrated with the quantitative scoring results to explain why particular indicators received low, moderate, or contradictory scores. In this way, the qualitative evidence strengthened the interpretation of the effectiveness score by linking numerical results with lived experiences from the field.

2.2 Analysis Method

Quantitative data underwent validity and reliability tests to ensure the research instrument's feasibility. This was followed by a scoring analysis for each questionnaire indicator, calculated using the formula: Indicator Score = (Total Score / Ideal Score) x 100%.

The analysis followed a hierarchy where indicator scores were averaged to determine sub-variable scores, which were then averaged to obtain variable scores. Finally, the average of all variable scores provided the overall effectiveness score used to assess the effectiveness of the RUSPIN assistance program implementation.

The resulting effectiveness percentages are interpreted based on five categories (Sugiyono, 2013):

- Very effective: 81-100%
- Effective: 61-80%
- Quite effective: 41-60%
- Less effective: 21-40%
- Very ineffective: 0-20%.

The findings are further translated through descriptive quantitative and qualitative analysis, utilizing tables, graphs, and diagrams to strengthen and deepen the quantitative results.

3. Result

3.1 General Overview of The Study Area

3.1.1 Location of the "*Seguyub Rusunawa*" Community Housing

Seguyub Rusunawa Housing stands on a land area of ± 8,926 m², which is administratively located in RT 06/RW 02. The land is divided into several plots (*kaveling*), each measuring 72 m², for the development of Type 36 houses. This housing area is bordered by a neighborhood road on the north side and gardens on the south, east, and west sides. The determination of the research delineation boundaries refers to the housing land boundaries as shown on the related map.

Figure 1. Delineation of Study Area
(Author, 2024)

The "*Seguyub Rusunawa*" Community Housing is a self-help housing initiative supported by government stimulant assistance in the form of building materials using RUSPIN technology, resulting in varied physical conditions depending on beneficiaries' self-reliance capacities; of the 51 assisted housing units, about 25% (14 unoccupied units) have faced significant construction delays and remain unfinished and abandoned, while 37 units have been completed and are occupied.

The community consists of former long-term residents of the Kyai Mojo *Rusunawa* in Jobokuto Village, Jepara, where rental-based *Rusunawa* housing is inherently temporary due to government-imposed occupancy limits (up to 6 years with three extensions for the public and up to 10 years with five extensions for programmed communities), offering no long-term residential security. Through the BSPS program adopting RUSPIN technology, these residents were relocated and enabled to construct their own homes through self-help mechanisms, marking a transition from rental dependency to private homeownership and providing security of tenure through ownership rights formalized under *Sertifikat Hak Milik (SHM)*.

3.1.2 Socioeconomic Conditions of the Community "Seguyub Rusunawa"

1) Employment Type and Average Income

Based on field data, beneficiaries in the *Seguyub Rusunawa* Housing generally work in the informal sector, with the largest single group of 10 individuals engaged in a single informal occupation (furniture factory workers). Occupations categorized as informal tend to have fluctuating income levels because they are highly dependent on market demand. The dominance of the beneficiaries' occupations in the informal sector indicates limited access to formal employment and results in relatively irregular income.

The type of work performed by beneficiaries affects the amount of income received daily. Based on the data, the average income of beneficiaries is still dominated by Low-Income Communities (MBR) or those below the 2020 Jepara Regency Minimum Wage (UMK) at the time the assistance was distributed, which was Rp 2,040,000.

2) Marital Status

The identification of marital status provides an overview of the dependency burden and the household structure of the beneficiaries. Based on information gathering in the field, several beneficiaries have experienced changes in marital status, such as divorce. Approximately 13.73% of individuals, or 7 people among the total beneficiaries, are widowed or widowed, while the remainder is married at 84.31%. Changes in marital status, whether single or married, result in different priorities and levels of financial readiness.

3.1.3 Infrastructure and Facilities Conditions of the "Seguyub Rusunawa" Community Housing

Land use in the *Seguyub Rusunawa* Housing environment is dominated by built-up land, reaching nearly 62.6% of the total area, which includes residential land use and social facilities, while the remainder consists of land use in the form of a road network as well as vacant plots (*kaveling*) overgrown with shrubs.

Figure 2. Land Use and Infrastructure in Seguyub Rusunawa Housing (Author, 2025)

The "*Seguyub Rusunawa*" community housing received support from BAZNAS of Central Java Province, specifically in the form of building materials to establish a *musholla*, and assistance from the Ministry of PUPR in the form of SPAM (*Sistem Penyediaan Air Minum*/Water Supply System) installation, buildings and materials. Additionally, this housing project also received assistance from the PLTU (Power Plant) in the form of road pavement materials and assistance from the Disperkim of Jepara Regency in the form of embankment (*talud*) construction. The conditions of the environmental infrastructure and facilities in the housing can be seen in more detail in the following table.

Table 1: Condition of Facilities and Infrastructure in the *Seguyub Rusunawa* Housing Complex.

	Quantity	Description	Additional Information
Facilities			
Musholla	1	• No door yet • Inadequate ablution area • Tiled floor • Plastered walls • Windows and ventilation present	• Material assistance from BAZNAS Central Jawa • Built through mutual cooperation (*gotong royong*) by community members.
SPAM Installation	1	• Good • Distributed to every house	Assistance from the PUPR Office of Jepara Regency
Waste Bank (TPS3R)	-	• No waste bank yet • Waste is managed individually by residents by providing trash bins in front of their houses	
Public Park / Green Open Space	-	No park yet	
Security Post	-	No security post yet	
Infrastructure			
Road Network	-	• Width: 5 m • Paving block pavement present, with certain parts already asphalted	Asphalted sections received assistance in the form of coal residues from the PLTU
Drainage Network	-	• Width: 0,5 m; Depth: 0,6 m • Open and closed drainage exists • Dry condition and odorless	
Electricity and Public Street Lighting (PJU)	-	• 1 Low Voltage Distribution Network (SUTR) • 8 electric poles at every road intersection • Several PJUs connected to residents' houses	
Telecommunication Network		Wi-Fi facilities available	
Sanitation Network	-	• Every house has a private latrine • Uses a non-site waste management system • No. communal system yet	
Embankment (*Talud*)	-	Length: 35 m; Height; 65m	Assistance from the Disperkim of Jepara Regency

Source: Author, 2025

3.2. Analysis of Program Feasibility Effectiveness of Community Housing in *Seguyub Rusunawa* Housing

3.2.1 Target Accuracy Analysis

Target accuracy of the RUSPIN material stimulant assistance was assessed by examining the extent to which the actual beneficiaries matched the intended recipient criteria for self-help housing assistance. In this study, the target group comprised low-income families, households, or individuals who had never owned a house, had never received housing assistance before, had lived in a Rusunawa for at least five years under a rental system, already owned land, and were members of the “Seguyub Rusunawa” community.

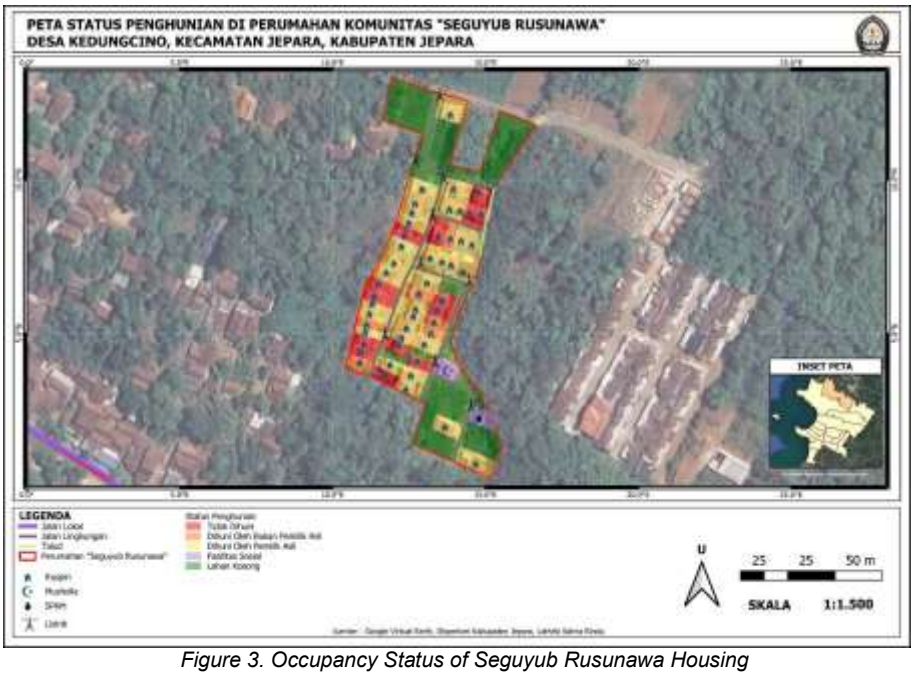

Figure 3. Occupancy Status of Seguyub Rusunawa Housing (Author, 2025)

The occupancy status map shows that most assisted units still corresponded to the program’s original target group at the time of fieldwork. Of the 51 assisted housing units, 31 units (60.78%) were occupied by original beneficiaries. Meanwhile, 6 units (11.67%) were occupied by non-original occupants, and 14 units were unoccupied because construction had not been completed, leaving the units abandoned and uninhabitable. Of these 14 unoccupied units, 10 remained under the names of the original beneficiaries, while 4 had been transferred to new owners. This shift in occupancy indicates that not all assisted units continued to serve the original target group over time, as some units were no longer occupied by low-income former Rusunawa residents. Overall, units that remained under the names of the original beneficiaries accounted for 80.39% of the total, indicating that target accuracy was still high, although it had weakened due to post-allocation changes in occupancy and control.

Table 2: Scoring of the Target Accuracy Sub-variable.

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Target Accuracy	Never owned / received housing assistance	90,20%	82,35%	Very Effective
	MBR Group	80,39%		
	Long-term *Rusunawa* resident > 5 years	80,39%		
	Member of “*Seguyub Rusunawa*” community and already owns land	80,39%		
	Occupancy Status	80,39%		

Source: Author 2025

Overall, the target accuracy sub-variable obtained a value of 82.35%, which means it is included in the “very effective” category. This finding indicates that the target accuracy of assistance recipients does not only depend on initial selection but also needs to consider changes in the socio-economic conditions of recipients during the assistance period. This should be an important note as a long-term risk to the program's social objectives.

3.2.2 Affordability Analysis

Affordability for beneficiaries in completing house construction is influenced by economic, social, and policy factors, which collectively determine the financial feasibility of housing projects for Low-Income Communities (MBR). To ensure the Self-Help Housing Stimulant Assistance (BSPS) program is accessible, the Housing and

Settlement Area Office (Disperakim) of Central Java Province collaborated with the Jepara Regency Government and Bank BPR-BKK to design a financing scheme. In the implementation at *Seguyub Rusunawa*, the process for MBR to achieve affordability covers three main aspects: plot acquisition, building materials, and construction costs.

Beneficiaries acquired 72 m² plots for Rp 30,000,000 through financing from Bank BPR-BKK, with monthly installments of Rp 500,000 over a 10-year period. Additionally, they received a government stimulant of Rp 36,800,000, which includes Rp 35,000,000 for RUSPIN structural and non-structural materials and Rp 1,800,000 for labor wages. While this scheme provides a localized solution for land ownership and material support, the monthly installment amount remains a significant challenge, especially since beneficiaries must still self-fund the remaining construction work.

Table 3: Scoring of the Affordability Sub-variable.

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Affordability	Ability to contribute to construction costs	52.26%	**60,00%**	**Quite Effective**
	Perception of program benefits	67.74%		

Source: Author, 2025

Therefore, policy adjustments that accommodate modular construction, starting with small types such as Type 18 (equivalent to two modules) and developed gradually toward Type 36 (equivalent to 4 modules), will provide space for flexibility and efficiency for Low-Income Communities (MBR) in managing funds sustainably. Under such a scheme, the initial assistance provided by the government can be focused on providing the basic structure and two to three main functional spaces (e.g., master bedroom, living room, and bathroom). Meanwhile, additional rooms such as the kitchen and extra bedrooms can be added later according to the self-reliance capacity of the residents.

The adjustment of the RUSPIN type can essentially be optimized to be compatible by considering the characteristics of certain beneficiaries, especially those with fewer than four members. With such adjustments, family needs in terms of building and space can be met while the house can be built more affordably. However, in field practice, there are policy dynamics that encourage construction to be carried out all at once until the housing building appears finished due to target demands. Although there is no explicit demand to build the house directly into a Type 36, beneficiaries also do not receive information regarding alternatives for implementing gradual construction, starting with smaller house types, so the push for accelerated completion tends to overlook the potential application of the growing core house concept, which is more adaptive to the economic conditions and needs of the residents. As stated by Turner (Harris, 2003), in self-help housing assistance practices, the beneficiary is only positioned as the party that receives the final outcome of predetermined assistance, without being able to determine for themselves what and how the house is built. Consequently, alternative adjustments to house types that should have been able to increase program effectiveness are instead not utilized, even leading to many houses being unfinished or abandoned, and being transferred.

3.2.3 Community Role Analysis

The community in this context is not merely a beneficiary but also a vital actor that determines the success and sustainability of the program. The analysis of the community's role in the implementation of the BSPS program at *Seguyub Rusunawa* Housing is based on the level of community participation during the planning, construction, as well as the management and maintenance of the development outputs. These three aspects reflect the extent to which the community plays an active role, not only as beneficiaries but also as actors in the self-help-based development process.

Based on Pretty's (1994) ladder of participation classification, the participation of the *Seguyub Rusunawa* community falls under functional participation. The community is involved in several stages of activity, but not fully and collectively from the beginning. The community's role is more supportive, such as identifying building material stores, performing cooperation (gotong royong), as well as managing dues and environmental maintenance, while the strategic direction and decisions are still assisted or determined by external parties. Community cooperation helps the program run smoothly, but they have not yet become the primary initiator. Therefore, community participation has not reached the level of interactive participation because the active involvement of all members in analysis, planning, and decision-making is still limited, resulting in community empowerment not yet being optimally formed.

Table 4: Scoring of the Community Role Sub-variable

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Community Role	Participation in planning	54.52%	**58.58%**	**Quite Effective**
	Participation in physical construction	55.16%		
	Management and maintenance	66.06%		

Source: Author, 2025

3.3 Effectiveness Analysis of Housing Product (Output) Feasibility in Seguyub Rusunawa Housing

3.3.1 Space Feasibility Analysis

Houses built through self-help by beneficiaries using RUSPIN technology generally possess diverse characteristics, depending on financial capacity, family needs, and understanding of residential space functions. The analysis focuses on the availability of adequate types of spaces and the residents' perception of comfort regarding those spaces.

Based on observation results of 51 assisted housing units, it is known that 31 units occupied by original beneficiaries have built these spaces completely and functionally. There are 6 house units occupied by non-original occupants that physically already possess adequate minimal spaces. Meanwhile, 14 unoccupied units are in an abandoned condition because they have not been finished, thus lacking complete room divisions. Consequently, it can be concluded that the space availability score obtained from observation is 72.55%.

Table 5: Scoring of the Space Feasibility Sub-variable.

Sub-variable	Indicator	Indicator Score			Sub-variable Score	Category
		Observation	Questionnaire	Average		
Space Feasibility	Availability of adequate living room/common room, bedroom, bathroom	72,55%	73,55%	73.05%	73,38%	Effective
	Perception of comfort of existing spaces	-	73,71%	73.71%		

Source: Author, 2025

3.3.2 Building Feasibility Analysis

According to the criteria established by the Ministry of Public Works and Public Housing (PUPR), a decent house must fulfill building safety requirements, minimum floor area adequacy, as well as environmental health which includes lighting, ventilation, and sanitation. In the context of this study, the physical characteristics of the houses need to be analyzed to see to what extent the stimulant assistance received can encourage the construction of residences that meet these decent housing standards.

In general, the physical condition of the housing buildings in the *Seguyub Rusunawa* Housing has met the decent housing standards. The distribution of houses with a decent housing classification is larger, reaching 52.9% or as many as 27 units. Meanwhile, houses included in the non-decent housing category amount to 47.1% or as many as 24 units, declared as non-decent because they do not fulfill one of the three decent housing criteria. The condition of houses that are not/not yet decent but remain occupied indicates the limited housing options available to the residents. Furthermore, several houses until now appear to still be in the gradual construction stage; this condition shows that residents continue to perform house quality improvements according to their capacity. Below is a table detailing the percentage of houses that have met each decent housing indicator based on observations and questionnaire responses.

Table 6: Scoring of the Building Feasibility Sub-variable.

Indicator	Reference Standard (Permen PUPR No. 29/PRT/M/2018)	Indicator Score			Sub-variable Score	Category
		Observation	Questionnaire	Average		
Dwelling Feasibility	Existence of complete building structures - Floor: water-resistant, clean, not earth - Wall: permanent, weather-resistant, no leaks - Roof: weather-resistant, no leaks, and not endangering (Strong/sturdy)	65%	55,48%	60,10%	63,31%	Effective

Indicator	Reference Standard (Permen PUPR No. 29/PRT/M/2018)	Indicator Score			Sub-variable Score	Category
		Observation	Questionnaire	Average		
Building Health	Existence of completeness - Lighting: openings and access to natural light - Ventilation: sufficient ventilation for air circulation - Sanitation: existence of WC/latrine that is not clogged, does not overflow, and is separate from clean water channels	65%	58,71%	61,71%		
Building Area Adequacy	Building area of 36 m² for the smallest type of house - Minimum 7.2 m² / person	53%	83,33%	68,14%		

Source: Author, 2025

3.3.3 Infrastructure and Facilities Analysis

Based on the standards established by the Ministry of Public Works and Housing (PUPR) No. 3/PRT/M/2018 regarding assistance for infrastructure, facilities, and public utilities (PSU) for housing, as well as observation results, it is known that the development of infrastructure and facilities in *Seguyub Rusunawa* Housing has largely met the existing reference standards. Although several facilities such as the waste bank (TPS3R), public green open space (RTH), and security post do not yet meet the standards because they are not yet available, this condition does not have a significant impact on the residents' daily lives.

Table 7: Suitability of Infrastructure and Facilities with Reference Standards.

No	Type of Facility/Infrastructure	Reference Standard (Permen PUPR No. 03/PRT/M/2018)	Field Suitability	
			Suitable	Not Suitable
1.	Mushola	• Available place of worship for areas consisting of > 50 households	√	-
2.	SPAM Installation	• Available water supply network • Borehole construction	√	-
3.	Public Park/ Green Space	Available green space at least 10% of the area with vegetation and seating	-	√
4.	Security Post	-	-	√
5.	Road Network	Roads with a width of 3-4 m using concrete or 8 cm thick paving blocks	√	-
6.	Drainage Network	Available open drainage channels equipped with building covers	√	-
7.	Electricity and PJUs	• Available electricity access for all houses • PJUs every 50–100 meters	√	-
8.	Telecommunication	Available minimum supporting communication infrastructure	√	-
9.	Sanitation Network	Available TPS3R	-	√
		Available individual or communal watertight septic tanks	√	-

Source: Author, 2025

Table 8: Scoring of the Infrastructure and Facilities Sub-variable

Sub-variable	Indicator	Indicator Score			Sub-variable Score	Category
		Observation	Questionnaire	Average		
Infrastructure and Facilities	Place of Worship	100%	64,52%	82.26%	**75,32%**	**Effective**
	TPS 3R	50%	21,94%	35.97%		
	Public Park/ Green Space	50%	21,29%	35.65%		
	Security Post	50%	21,94%	35.97%		
	Road Network	100%	98,71%	99.36%		
	Drainage Network	100%	90,32%	95.16%		
	Clean Water Network	100%	98,71%	99.36%		
	Electricity and PJUs	100%	98,06%	99.03%		
	Telecommunication	100%	90,32%	95.16%		

Source: Author, 2025

3.4 Analysis of Beneficiary Resource Effectiveness in House Construction at Seguyub Rusunawa

3.4.1 Self-Reliance Analysis

The assessment of beneficiary self-reliance was conducted to measure the extent to which beneficiaries were ready and able to continue house construction independently. This assessment was based on three main indicators: understanding of decent housing, understanding of the program as stimulant assistance, and financial readiness.

Table 9: Scoring of the Self-Reliance Sub-variable

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Self-Reliance	Understanding related to decent housing	56,13%	**53,87%**	**Quite Effective**
	Understanding related to the program	54,84%		
	Financial readiness	50,65%		

Source: Author, 2025

The results show that beneficiaries' understanding of self-help housing remained limited. Understanding of decent housing scored 56.13%, indicating that many respondents still interpreted a decent house in very basic terms, such as simply being protected from rain and heat. More specific understanding of minimum decent housing standards—namely building safety, building health, and building area adequacy—was still weak. In addition, understanding of the program as stimulant assistance scored 54.84%, suggesting that some beneficiaries had not fully understood that the assistance was intended only as an initial stimulus rather than a fully completed housing package. Financial readiness showed the lowest score at 50.65%, confirming that limited household resources remained a major constraint in continuing construction.

Income level influenced beneficiaries' ability to continue construction (Adetola Adewale Akinsulire et al., 2024), but it did not determine outcomes in a simple linear way. Households with incomes above the Jepara Regency Minimum Wage (UMK) were generally more capable of bearing construction costs and tended to produce better physical housing conditions, although four beneficiaries in this income group had still not achieved a decent house. By contrast, several beneficiaries with incomes at or below the UMK chose to transfer their units. At the same time, decent houses were also realized among some beneficiaries below the UMK, indicating that self-reliance in self-help housing is shaped not only by income, but also by commitment, household needs, and each beneficiary's ability to manage available resources.

Table 10: Relationship Between Income and Physical House Condition.

Physical House Condition	Income Category **UMK Jepara in 2020: Rp 2.040.000			
	Above UMK	Below UMK	UMK	TOTAL
Transferred		4	2	**6**
Decent Housing (Occupied)	5	10	5	**20**
Decent housing (Not Occupied)	1			**1**
Non-Decent Housing (Occupied)	4	3	4	**11**

Physical House Condition	Income Category **UMK Jepara in 2020: Rp 2.040.000 Above UMK	Below UMK	UMK	TOTAL
Non-Decent Housing (Abandoned / Not Occupied)		8	5	**13**
TOTAL	**10**	**25**	**16**	**51**

Source: Author, 2025

3.4.2 Building Materials Analysis

The process of selecting building material stores was conducted collectively by the community, represented by the community head, and accompanied by the Provincial Government, for the procurement of both structural and non-structural materials. The selection criteria considered the lowest price and the proximity of the store's location to the *Seguyub Rusunawa* Housing.

Table 11: Scoring of the Building Materials Sub-variable

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Building Materials	Distribution of building materials	57,42%	**57,42%**	**Quite Effective**

Source: Author, 2025

Regarding distribution, no delays in material delivery to the site were found. The contracted building stores tended to deliver materials immediately to the location whenever stock was available, ensuring no delivery delays even on a group (community) scale. However, the absence of delays was not always advantageous for the beneficiaries. Due to the immediate delivery system, some recipients felt unready to build when the materials arrived, owing to constraints in time availability, labor readiness, or funding. This situation mirrors the BSPS implementation in Potoro Village, where premature material delivery can cause issues if recipients are not ready for construction, as materials risk being stored improperly or exposed to damaging environmental conditions.

3.4.3 Time Analysis

Based on field findings, most beneficiaries do not have sufficient free time to supervise the construction process directly and periodically. Most of them only observe the construction progress in the morning before work, while delivering meals, and in the evening when the builders' work is finished. There are also beneficiaries who only check progress once a week, or even without any active supervision at all, thus relying solely on trust in the builders. Only a small portion of beneficiaries are present at the construction site regularly because they themselves are part of the labor force participating in the house construction.

Table 12: Scoring of the Time Sub-variable.

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Time	Time availability for house construction supervision	53,33%	**53,33%**	Quite Effective

Source: Author, 2025

This limitation is caused by the economic reality of the beneficiaries, who must continue working to meet daily needs while also funding the completion of the house construction itself. If they do not work, they lack the additional funds required to finish the house. In other words, economic needs prevent them from effectively allocating time for construction supervision. Consequently, it is not uncommon for errors or discrepancies to occur between the work results and the original plans or directions.

3.4.4 Labor Analysis

Most beneficiaries can access appropriate labor in terms of both cost and quality of work, although several constraints remain in implementation practices. Based on interviews, in the initial stages of house construction, specifically for the installation of RUSPIN structural components, beneficiaries utilized the expertise of one individual who is a member of the community itself. This internal labor helped install the building's main components, providing efficiency in terms of coordination and cost. Subsequently, for the completion of other building stages such as walls, roofs, and floors, beneficiaries generally sought builders from outside the community. The mechanism for finding builders was conducted informally through information sharing among recipients, especially from those who had completed their houses earlier. The average price of builder services remains within the standard range and is considered suitable for the beneficiaries' financial capacity, so it does not become a heavy burden in the financing

aspect. Additionally, some beneficiaries also performed house construction using their own labor for certain tasks to reduce costs.

Table 13: Scoring of the Labor (*Tenaga Kerja*) Sub-variable.

Sub-variable	Indicator	Indicator Score	Sub-variable Score	Category
Labor	Availability of labor with cost and quality suitable for economic conditions	68,82%	**68,82%**	**Effective**

Source: Author, 2025

However, there are a few cases, though only a small portion, where the quality of the builders' work was felt to be unsatisfactory. Recipients complained about imprecise installations or results that did not meet expectations, even having to change builders several times to fix errors. This can occur because recipients lack sufficient time to supervise construction or because the quality of the builders used is inconsistent. Conversely, some beneficiaries who received labor support or building materials from their own family members reported more satisfactory results. This outcome is attributed to emotional bonds and the spirit of mutual help among family, which often ensures higher-quality output.

3.5 The Effectiveness of RUSPIN Implementation in Supporting Community-Based Housing at "Seguyub Rusunawa" Housing

The primary output of this research is the evaluation of the effectiveness of RUSPIN implementation in supporting community-based housing, derived through sub-variable scoring. These sub-variables represent technical, social, and economic aspects, including program feasibility, product feasibility, and resources. The assessment is based on indicators from field observations, questionnaires, and interviews, which are then scored to determine the level of effectiveness. All evaluation results are integrated to illustrate the extent to which the RUSPIN program has achieved its goal of providing decent and affordable housing for MBR through a community-based self-help approach.

Table 14: Recapitulation of Effectiveness Assessment of RUSPIN Implementation in Supporting Community-Based Housing at *Seguyub Rusunawa* Housing.

Variable	Sub-variable & Indicator	Observation (%)	Questionnaire (%)	Average (%)	Average (%)	Average (%)
Program Feasibility	**Target Accuracy**					
	Has never owned or received housing assistance	-	90,20%	90,20%	82,35%	66,98%
	Rusunawa resident for more than 5 years	-	80,39%	80,39%		
	Member of the "*Seguyub Rusunawa*" community and already owns land	-	80,39%	80,39%		
	Low-income group	-	80,39%	80,39%		
	Occupancy status	-	80,39%	80,39%		
	Affordability					
	Ability to contribute to housing construction costs	-	52.26%	52.26%	60,00%	
	Perception of the program's benefits	-	67.74%	67.74%		
	Role of the Community					
	Participation in planning	-	54.52%	54.52%	58,58%	
	Participation in physical construction	-	55.16%	55.16%		
	Management and maintenance	-	66.06%	66.06%		
	Space Feasibility				73,38%	

Product (Output) Feasibility	Availability of spaces	72,55%	73,55%	73.05%		70,67%
	Comfort of the spaces	-	73,71%	73.71%		
	Building Feasibility					
	Housing adequacy (weather conditions)	65%	55,48%	60,10%	63,31%	
	Building health (lighting, ventilation, sanitation)	65%	58,71%	61,71%		
	Adequacy of building size	52,94%	83,33%	68,14%		
	Infrastructure and Facilities					
	Worship facilities	100%	64,52%	82.26%	75,32%	
	Public parks/green open space	50%	21,94%	35.97%		
	3R waste management facility (Reduce, Reuse, Recycle)	50%	21,29%	35.65%		
	Security post	50%	21,94%	35.97%		
	Road network	100%	98,71%	99.36%		
	Drainage network	100%	90,32%	95.16%		
	Clean water network	100%	98,71%	99.36%		
	Electricity and public street lighting network	100%	98,06%	99.03%		
	Telecommunications network	100%	90,32%	95.16%		
Resources	**Beneficiary Self-Reliance**					
	Understanding of adequate housing	-	56,13%	56,13%	53,87%	58,36%
	Understanding of the assistance program	-	54,84%	54,84%		
	Financial readiness	-	50,65%	50,65%		
	Building Materials					
	Distribution of building materials	-	57.42%	57.42%	57.42%	
	Time					
	Willingness to allocate time for supervising house construction	-	53,33%	53,33%	53,33%	
	Labor					
	Availability of labor at a cost and quality aligned with economic condition.	-	68,82%	68,82%	68,82%	
EFFECTIVENESS OF RUSPIN STIMULANT IMPLEMENTATION						**65,34%**

Source: Author, 2025

The findings indicate that the implementation of RUSPIN-based BSPS at Seguyub Rusunawa has improved beneficiaries' living conditions in several important respects, but these gains remain partial and uneven. Physically, beneficiaries gained access to more adequate residential space and supporting infrastructure than was available in their previous rental-based Rusunawa setting. Economically, the program widened access to homeownership through a more attainable pathway than conventional mortgage schemes, which are often inaccessible to low-income households due to formal credit requirements. In terms of tenure, the transition from rental occupancy to ownership under Sertifikat Hak Milik (SHM) represents an important improvement in residential security.

However, although the overall effectiveness score places the program in the effective category (65.34%), the findings show that this effectiveness remains conditional in practice. The benefits generated by the program are constrained by substantial post-assistance burdens, including affordability pressures, limited self-reliance, uneven community participation, construction delays, technical defects, and the emergence of abandoned or transferred units. These constraints reduce the extent to which the housing can be regarded as fully decent and sustainable. In this sense, the case supports Curley's (2012) critique that self-help housing may expand access to individual housing units without fully addressing the broader structural barriers that shape the living conditions of low-income households. RUSPIN therefore operates as an enabling intervention rather than a complete solution, and its practical effectiveness depends on the continuity of household financial capacity, implementation support, and the ability of beneficiaries to complete and maintain the house over time.

Beyond the case itself, the study contributes to the broader discussion on aided self-help housing and community-based housing for low-income households. The findings suggest that program effectiveness should not be

assessed solely in terms of initial material delivery or nominal access to housing assistance. Instead, effectiveness also depends on whether beneficiaries possess sufficient financial, organizational, and technical capacity to transform initial support into a truly habitable and sustainable dwelling. In this sense, the Jepara case shows that the success of RUSPIN is inseparable from the institutional and socio-economic context in which it is implemented. This implies that strengthening affordability support, improving beneficiary understanding of the stimulant nature of the program, reinforcing community participation, and improving the quality and durability of non-structural components are all critical to the long-term sustainability of such housing initiatives.

This study has several limitations. First, it is a single-case study of one community-based RUSPIN housing project in Jepara, so the findings should be interpreted cautiously and should not be generalized automatically to all RUSPIN-based housing initiatives in other settings. Second, although physical observation covered all 51 assisted housing units, respondent-based data were obtained only from the 31 accessible original beneficiaries residing in occupied units. As a result, the 6 units occupied by non-original occupants and the 14 unoccupied units were not equally represented in the questionnaire and follow-up interviews, which may make the perception-based findings more optimistic than the full condition of the program on the ground. Third, the evaluation captures the program at a specific post-implementation moment and does not follow households longitudinally, so it cannot fully explain longer-term trajectories of housing completion, transfer, abandonment, or post-occupancy sustainability.

4. Conclusion

This study concludes that the implementation of RUSPIN in the “Seguyub Rusunawa” Community Housing, Kedungcino, Jepara, is effective in supporting the provision of decent and affordable housing for low-income households through a community-based self-help approach, with an overall effectiveness score of 65.34%. However, this result lies at the lower end of the effective category, indicating that important implementation constraints remain. The main limitations identified in this study relate to affordability, community participation, beneficiary self-reliance, building materials, and time available for construction supervision.

These findings suggest that RUSPIN-based stimulant assistance has significant potential to support self-help housing for low-income households, but its success depends on how far the program can accommodate the economic realities of beneficiaries after the initial assistance is delivered. The modular character of RUSPIN provides an opportunity for more gradual and adaptive housing development, which may ease the financial burden of self-help construction when combined with stronger implementation support. Future studies should extend this evaluation through comparative research across other RUSPIN sites and longitudinal tracking of unfinished, transferred, or abandoned units, in order to clarify whether the constraints identified in Seguyub Rusunawa reflect a broader implementation pattern or are specific to this case.

The findings suggest that improving the effectiveness of RUSPIN-based community housing requires action at several institutional levels. First, provincial and local housing agencies should redesign the assistance scheme so that it is more compatible with the financial realities of low-income households. Rather than assuming that beneficiaries can complete a standard Type-36 house within a short period, the program could more explicitly support staged modular completion, beginning with a smaller habitable core and allowing incremental expansion as household resources permit.

Second, implementation support needs to be strengthened. Local governments and technical facilitators should provide clearer communication from the outset that the assistance is stimulant in nature rather than a fully finished house package. Beneficiaries need better pre-construction orientation regarding cost-sharing responsibilities, construction stages, material limitations, and realistic completion requirements. In addition, post-assistance supervision should be improved, especially for units showing signs of prolonged delay, poor workmanship, leakage, overheating, or unresolved drainage problems.

Third, community-level support mechanisms should be reinforced. Community organizations can play a stronger role in coordinating collective labor, monitoring material use, reducing the risk of loss or misuse of materials, and maintaining basic environmental infrastructure. At the same time, financial support mechanisms beyond the initial material package should be explored, particularly for vulnerable households with unstable incomes, so that the program does not rely excessively on self-help capacity that many beneficiaries cannot sustain in practice.

References

Adedeji, I., Deveci, G., & Salman, H. (2023). The Challenges in Providing Affordable Housing in Nigeria and The Adequate Sustainable Approaches for Addressing Them. *Open Journal of Applied Sciences*, *13*(03), 431–448. https://doi.org/10.4236/Ojapps.2023.133035

Adetola Adewale Akinsulire, Courage Idemudia, Azubuike Chukwudi Okwandu, & Obinna Iwuanyanwu. (2024). Strategic Planning and Investment Analysis for Affordable Housing: Enhancing Viability and Growth. *Magna Scientia Advanced Research and Reviews*, *11*(2), 119–131. https://doi.org/10.30574/msarr.2024.11.2.0114

Aqliansyah, M. R. A., Yoyok, & Nurhasan. (2024). Analisa Kenyamanan Rumah Subsidi Instan Panel (Ruspin) Pb. Mandiri Karanganyar. *Siar V 2024*, (Seminar Ilmiah Arsitektur). http://siar.ums.ac.id/

Bps. (2023). *Persentase Rumah Tangga Yang Memiliki Akses Terhadap Hunian Yang Layak Menurut Provinsi (Persen), 2023*. https://www.bps.Go.Id/Id/Statistics-Table/2/Mti0msmy/Persentase-Rumah-Tangga-Yang-Memiliki-Akses-Terhadap-Hunian-Yang-Layak-Dan-Terjangkau-Menurut-Provinsi--Persen-.html

Curley, A. (2012). Self-Help Housing Organisations. In S. J. Smith (Ed.), *International Encyclopedia Of Housing And Home* (Pp. 292–296). Elsevier. https://Doi.Org/https://doi.org/10.1016/B978-0-08-047163-1.00483-5

Faisal, M. (2020). *Evaluasi Rumah Pracetak Modular Sederhana Dua Lantai (Studi Kasus Pada Penelitian Ruspin Balitbang Pupr)* [Doctoral Dissertation]. Institut Teknologi Sepuluh Nopember.

Hapsari, I., & Dewi, S. P. (2012). The Effectiveness of Housing Development at Semarang Periphery to Meet the Demand for Housing. *Jurnal Pembangunan Wilayah dan Kota, 8*(1),25-34. https://doi.org/10.14710/pwk.v8i1.11555

Harris, R. (2003). A Double Irony: The Originality and Influence of John F.C. Turner. *Habitat International*, *27*(2), 245–269. https://doi.org/10.1016/S0197-3975(02)00048-6

Leiwakabessy, J., Cahyani, P. I., & Lewerissa, S. (2023). Sosialization Of Knowledge of Safe and Liveable House Requirements According to SDGs (Sustainable Development Goals). *Jurnal Pengabdian Pada Masyarakat Indonesia (Jppmi)*, *2*, 26–32. https://doi.org/10.55606/jppmi.V2i3.753

Menteri Pekerjaan Umum Dan Perumahan Rakyat Republik Indonesia. (2018). *Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia Nomor 07/Prt/M/2018*.

Menteri Pekerjaan Umum Dan Perumahan Rakyat Republik Indonesia. (2018b). *Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia Nomor 29/Prt/M/2018*.

Mirsa, R., Muhammad, Saputra, E., Ardyan, M., & Hassan, S. M. (2024). Praktek Perakitan Panel Ruspin Kepada Kelompok Masyarakat Desa Uteunkot. *Mejuajua: Jurnal Pengabdian pada Masyarakat*, *4*(2), 399–406. https://doi.org/10.52622/mejuajuajabdimas.v4i2.204

Muhtadi, T. Y. (2020). *Implementasi Kebijakan Program Penyediaan Rumah Layak Huni Bagi Masyarakat Berbenghasilan Rendah di Kota Tangerang*. *20*.

Pretty, J. N. (1994). Alternative Systems of Inquiry for A Sustainable Agriculture. *Ids Bulletin*, *25*(2), 37–49. https://doi.org/10.1111/J.1759-5436.1994.Mp25002004.X

Putra, M. R., Siswanto, A., & Teddy, L. (2020). Penerapan Rumah Susun Panel Instan pada Bangunan Tingkat Rendah di Daerah Rawan Gempa di Kota Bengkulu. *Prosiding Applicable Innovation of Engineering and Science Research*, *2020*(1), 241–245.

Realisasi Program Tuku Lemah Oleh Omah Jateng Capai 1.790 Unit. (2024, July 1). Bloranews. https://www.bloranews.com/Realisasi-Program-Tuku-Lemah-Oleh-Omah-Jateng-Capai-1-790-Unit/

Sugiyono. (2013). *Metode Penelitian Kualitatif, Kuantitatif, Dan R&D*. Alfabeta.

Sunarti, S., Yuliastuti, N., & Indriastjario, I. (2019). Land Provision for Decent and Affordable Housing for Low-Income Community in Salatiga City. *Geoplanning*, *6*(2), 113–121. https://doi.org/10.14710/geoplanning.6.2.113-121

Tinjau Bantuan 49 Unit Ruspin, Ganjar Terus Kembangkan "Tuku Lemah Oleh Omah." (2023, March 30). jatengprov.go.Ii. https://jatengprov.Go.Id/Publik/Tinjau-Bantuan-49-Unit-Ruspin-Ganjar-Terus-Kembangkan-Tuku-Lemah-Oleh-Omah/

Umam, S., Wibowo, K., & Sumirin, S. (2024). *Study Of Cheap Housing Development and Finance (Case Study of Developer and Community-Based Housing Models)*. *15*(2), 124–136. https://doi.org/10.34001/jdpt