

Study of Development Disabilities Friendly Building

Yogabakti Adipradana Setiawan¹

Irfan Prasetya²

Rusdi H A³

¹Student, Master of Civil Engineering at Lambung Mangkurat University, Indonesia

²Lecturer, Master of Civil Engineering at Lambung Mangkurat University, Indonesia

³Lecturer, Master of Civil Engineering at Lambung Mangkurat University, Indonesia

ABSTRACT :

The population growth of the city of Banjarmasin is currently increasing, this also has an impact on the economy. As an area develops, developments in the construction sector are increasingly being carried out, buildings are no longer in big cities but have spread to areas that are relatively new. The population growth of Banjarmasin City is currently increasing, this also has an impact on the economy and the need for proper buildings for every citizen, including those with special needs / disabilities. This study will examine the feasibility of disability buildings.

The area studied is the buildings in the city of Banjarmasin, who will be interviewed and fill out the questionnaire made are the government as the building provider and people with disabilities as users, then conclusions are made after getting the desired data. According to the results of the questionnaire, it can be concluded that the buildings in Banjarmasin are not suitable for persons with disabilities.

The results of this study are first, the condition of disability buildings in Banjarmasin City in this case is not good enough, where there is a lack of disability-friendly building facilities in Banjarmasin City. Where disability facilities are more commonly found in health buildings such as hospitals and health centers. Second, the strategy for developing disability buildings in the City of Banjarmasin must be integrated with development information systems and information on laws and regulations so that the development of disability buildings and related sectors including investment plans for infrastructure, facilities and public utilities can be effective and in accordance with the strategic value development priority scale.

KEYWORDS : disability, building, concept validation

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I. INTRODUCTION

As an area develops, developments in the construction sector are increasingly being carried out, buildings are no longer in big cities but have spread to areas that are relatively new. The population growth of Banjarmasin City is currently increasing, this has an impact on the economy as well as the need for proper buildings for every citizen, including those with special needs/disability.

Disability is an Indonesian word derived from the English loan word disability which means disability or disability. Children with disabilities or often referred to as children with special needs are children who in the process of growth or development experience significant abnormalities or deviations compared to other children of their age. (Triutari, 2014). Children with disabilities can be divided into three levels, namely children with decreased body functions, limitations in activities and limitations in achievement. Children with disabilities include those with health conditions such as cerebral palsy, spina bifida, muscular dystrophy, traumatic spinal cord injury, Down syndrome, and children with hearing, visual, physical, communication and intellectual impairments (WHO, 2012).

People with special needs or disabilities require special facilities and infrastructure to be able to support daily activities such as: ram, special stairs, special toilets, guiding blocks, special floors, special sinks etc.

In some buildings there are no toilets for the disabled in public buildings and public facilities. If anything, it doesn't work optimally because the handle is too far away. Public toilets or restrooms should have

sufficient space for entry and exit for wheelchair users. The height of the toilet seat must match the height of the wheelchair user, about 45 to 50 cm.

In some buildings there is no ram for disability in public buildings and public facilities. If anything the situation is too sloping / steep. The slope of a ram in the building should not exceed 7° , with a ratio between height and grade of 1:8. The slope calculation does not include the prefix or suffix ram (curb rams/landing). Meanwhile, the slope of a ram outside the building is a maximum of 6° , with a ratio between height and slope of 1:10. Read more: Ram Accessibility Requirements for People with Disabilities.

On some roads, there is no guiding block. Even if there are some objects blocked or even cut off because of the drain hole.

Stairs must have uniform dimensions of steps and incline, have a slope of less than 60° , have no perforated inclines that can endanger stair users and must be equipped with a minimum handrail on one side of the ladder. Read more: Stairway Safety and Accessibility Standards. (Indonesian Social Circle Foundation, 2016)

The floor must be non-slip so that equipment used such as crutches, canes and wheelchairs can be used properly. The free floor space is not only for the convenience of moving and for health, it also facilitates evacuation when a disaster occurs.

The gate to the building site must be easily opened and closed by persons with disabilities. Main exit/entrance doors have a minimum useful width of 90 cm, and less important doors have a minimum opening width of 80 cm, except for hospitals that must be at least 90 cm.

The sink must be installed so that its surface height and front width can be utilized by wheelchair users. Free space in front of the sink and has space under it so it doesn't block your knees and wheelchair users. For example, at the Puskesmas and District Offices in the city of Banjarmasin

This study analyzes the feasibility level of disability-friendly buildings and the implementation of building construction so that they are disability-friendly.

The aims of this research are (1) To find out and analyze the level of feasibility of disability-friendly buildings for persons with disabilities, (2) Create an implementation strategy for the construction of disability-friendly buildings.

II. RESEARCH METHODS

This thesis is a type of qualitative research. This study describes the problems in existing disability-friendly buildings. Data collection techniques in this study were carried out using two survey methods. The primary survey is a survey that directly reviews the condition of the research field in order to find existing data that supports the research. The methods of data collection carried out in this primary survey include: (1) Observation, seeing as many as 30 samples of objects and sensitivities, expressing and reading the problems that occur. Through observation, an overview will be obtained about the problems in disability-friendly buildings in the City of Banjarmasin. (2) Interview, conducting interviews directly with providers and users of disability-friendly buildings in Banjarmasin City, namely persons with disabilities. Secondary Survey. Secondary data collection can be obtained by document review. This technique is used to obtain secondary data in the form of documents. The documents examined are documents related to the morphology of the area or the profile of the City of Banjarmasin.

This data analysis is based on the identification of strategic problems and issues in housing and settlement development. Furthermore, in parallel, an explanatory analysis is carried out which explains why the issues, problems, challenges, constraints described in the previous section may arise. The cause analysis or root cause investigation will later be linked to the current process, which includes institutions/institutions, financing, actors involved, and applicable procedures. Other analyzes that need to be carried out include: analysis of resource availability and needs including quantitative analysis (amount/quantity) of resource availability, qualitative analysis of resource availability (land carrying capacity, condition of buildings and pre-facility and utility services), needs analysis (standard building needs and pre-facility and utility requirements), analysis of potential sources of financing, and needs analysis of implementation support aspects. In addition, at this stage of analysis, it is also necessary to standardize the calculation of building shortages, and calculations related to building needs, as well as the required area map format.

Data in qualitative research is also obtained from other non-human sources, including photo/map documents and statistical materials. The data obtained from the results of field literature studies and institutional observations after being identified and then analyzed according to the parameters that have been determined.

From the data that has been obtained, processing will be carried out in a descriptive way, namely by describing and describing the data that has been collected and in the end it can be interpreted and can be concluded.

Data analysis

In general, facilities for persons with disabilities in the city of Banjarmasin have not been met, such as: Toilets, Ram, Stairs and Special Parking for Disabilities. Of the 30 sample buildings, there is not a single building that has disabled toilets and disabled parking. And from the 30 samples, there are only a few buildings that have Ram, of which most of these buildings are health facility service buildings. For stairs, almost every building has stairs that are disability-friendly standards.

| | Disabled Toilet | Disabled Ram | Disabled Parking | Disability Ladder |
|---------------------------------------|-----------------|--------------|------------------|-------------------|
| Banjarmasin Civil Registry Office | x | √ | √ | √ |
| Bank BNI Lambung Mangkurat | x | x | x | √ |
| Bank Mandiri Lambung Mangkurat | x | x | x | √ |
| Bank Danamon Stomach Mangkurat | x | x | x | √ |
| South Belitung Village Office | x | x | x | √ |
| West Banjarmasin District Office | x | x | x | √ |
| Teluk Dalam Health Center | x | x | x | √ |
| Human Sanctuary Hospital | x | √ | x | √ |
| Ulin Hospital | x | √ | x | √ |
| Cempaka Health Center | x | x | x | √ |
| Pekauman Health Center | x | √ | x | √ |
| BPJS office (Birgjen Hasan Absri) | x | x | x | √ |
| Ansari Saleh Hospital | x | √ | x | √ |
| Bank BRI (Belitung) | x | x | x | √ |
| Pelambuan Health Center | x | √ | x | √ |
| Health Center S parman | x | x | x | √ |
| UNLAM Rector | x | x | x | √ |
| Telaga Biru Village Office | x | x | x | √ |
| Teluk Dalam Village Office | x | x | x | x |
| North Belitung Village Office | x | x | x | x |
| Pelambuan Village Office | x | x | x | √ |
| North Banjarmasin District Office | x | x | x | √ |
| East Banjarmasin District Office | x | x | x | √ |
| South Banjarmasin District Office | x | x | x | √ |
| Sari Mulia Hospital | x | √ | x | √ |
| Islamic Hospital | x | √ | x | √ |
| Banjarmasin City Government Office | x | x | x | √ |
| Sabilal Mosque | x | x | x | √ |
| Siring City Banjarmasin | x | x | x | x |

Table 2.1 Table of Field Observations of Disability Friendly Buildings

Disability toilets at the beginning of the study were never found in buildings in Banjarmasin. Of the 30 samples taken at random, none had a disabled toilet.

Ram with disabilities at the beginning of the study was quite often found in buildings in Banjarmasin with a total of 8 out of 30 samples. Where dominated by health buildings,

Special Parking for Disability at the beginning of the study, only 1 out of 30 samples were found in buildings in Banjarmasin, namely the Civil Registry Service and the Integrated One-Stop Licensing Service which are indeed in 1 building.

Disability ladders at the beginning of the study were almost in every building in Banjarmasin. With a total of 27 out of 30 samples, which the stairs are not too high and steep.

This is certainly very difficult for people with disabilities who have limitations in movement, depend on other people's help for their lives, are pessimistic, unskilled because of their physical limitations. Whereas people with disabilities also have the same rights as other citizens, including one of them is to get a job.

From the results of field observations, it is shown that the lack of disability-friendly building facilities where almost every public facility owned by the government is not found any disability-friendly building facilities. However, disability-friendly building facilities can even be found in private buildings, this shows that the government has not been serious in fulfilling the rights of persons with disabilities

Model Validation Test

In this study, the researcher will validate the validation concept based on direct interviews with disability-friendly building providers regarding the strategy for building disability-friendly buildings.

| | | | | | |
|----------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------------|
| | 1 | 2 | 3 | 4 | 5 |
| Toilet | Is indispensable | Is indispensable | Is indispensable | Is indispensable | Required |
| Ram | Required | Is indispensable | Is indispensable | Required | Required |
| Stairs | Required | Required | Is indispensable | Required | Required |
| Parking | Required | Required | Is indispensable | Required | Required |

| | | | | | |
|----------------|---------------|---------------|---------------|---------------|-------------|
| | 1 | 2 | 3 | 4 | 5 |
| Toilet | Good | Good | Good | Good | Less |
| Ram | Good | Good | Good | Good | Less |
| Stairs | Less | Good | Enough | Less | Less |
| Parking | Enough | Enough | Enough | Enough | Less |

The results of direct interviews with service providers, in this case the Public Works Department of Human Settlements, explained:

1. Disability toilets are considered urgent for providers to build.
2. Ram with disabilities is also something that is considered urgent in terms of future building construction.
3. Disability ladders are not really needed because the condition of building stairs in general has met the standards for people with disabilities.

Disability parking is also not really necessary because in this case there are not many private modes of transportation for people with disabilities and the legality for disabled drivers also still has many pros and cons.

Model Verification Test

In this study, researchers will verify the concept of verification based on direct interviews with users of disability-friendly buildings related to the strategy of building disability-friendly buildings.

| | | | | | |
|----------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | 1 | 2 | 3 | 4 | 5 |
| Toilet | Is indispensable |
| Ram | Is indispensable |
| Stairs | Is indispensable | Required | Required | Is indispensable | Is indispensable |
| Parking | Required | Required | Required | Required | Is indispensable |

| | | | | | |
|----------------|---------------|-------------|---------------|-------------|-------------|
| | 1 | 2 | 3 | 4 | 5 |
| Toilet | Less | Less | Less | Less | Less |
| Ram | Less | Less | Less | Less | Less |
| Stairs | Less | Less | Less | Less | Less |
| Parking | Enough | Less | Enough | Less | Less |

The results of direct interviews with users in this case persons with disabilities explain:

1. Disability toilets are considered urgent to be built for people with disabilities because the existing public toilets cannot be used for people with disabilities.
2. Ram with disability is also something that is considered urgent, especially in public facilities and offices.
3. Disability stairs are not really necessary because in general people with disabilities have used ram except for climbing floors in buildings where disabled users prefer a special lift for disability.
4. Disability parking is also not really necessary because in this case people with disabilities have not used private transportation.

III. CONCLUSION

From the results of the study several things that can be concluded are as follows: First, the condition of disabled buildings in Banjarmasin City in this case is not good enough, where there is a lack of disability-friendly building facilities in Banjarmasin City. Where disability facilities are more commonly found in health buildings such as hospitals and health centers. Second, the strategy for developing disabled buildings in the City of Banjarmasin must be integrated with development information systems and information on laws and regulations so that the development between disability buildings and related sectors including investment plans for infrastructure, facilities and public utilities can be effective and in accordance with the strategic value development priority scale;

IV. SUGGESTION

From the conclusions obtained, several suggestions can be made regarding the development of housing and residential areas in the City of Banjarmasin, namely: First, it is necessary to carry out further studies for strategies for the development of disability buildings to match the investment in infrastructure, facilities and public utilities that support the development of Banjarmasin City into an inclusive city. Second, enforcement of regulations from related institutions to new building owners related to disabled buildings and old buildings that need to be improved.

REFERENCES

- [1]. Beautiful Tri Utari. 2014. Journal of "Perceptions of Students with Disabilities About Segregation Education Systems and Inclusive Education. In scientific journals with special needs". Padang : Padang State University
- [2]. Noeng Muhadjir, 1996. Qualitative Research Methods. Yogyakarta : Rake Sarasin.
- [3]. Regulation of the Minister of Public Works (Permen PU) Number 30 of 2006 concerning Technical Guidelines for Facilities and Accessibility in buildings and the environment
- [4]. Sugi Rahayu, Utami Dewi, Marita Ahdiyana. 2013. Journal of "Public Services in the Field of Transportation for Diffables in the Special Region of Yogyakarta". Yogyakarta : Yogyakarta State University
- [5]. Susilawati. 2005. Journal of Civil Engineering "Procurement Studies by Implementing Contractors on Projects
- [6]. 1945 Constitution of the Republic of Indonesia
- [7]. Law No. 19 of 2011 concerning the Convention on the Rights of Persons with Disabilities (CPRD)
- [8]. Law Number 19 of 2011 concerning the Ratification of the Rights of Persons with Disabilities
- [9]. Law Number 8 of 2016 concerning Persons with Disabilities
- [10]. Law Number 8 of 2016 concerning Persons with Disabilities Guidelines for planning and implementation
- [11]. <https://lingkarsocial.wordpress.com/category/bangunan-ramah-difabel/>, accessed March 2, 2019

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