

# The Building Assessment of Accessibility for the Disabled People on 1<sup>st</sup> Campus UPGRIS

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**Abstract**—As a public building, the 1st campus of UPGRIS requires to comply with the accessibility for all (including the disabled people). Yet, the current condition causes the disabled people unable to access the facilities of the building, that means they are still not capable of doing their activities on their own. How should we determine the condition? and how should advise to retrofit?

Qualitative and quantitative methods are used in the process of analyzing the problem through comparative analysis according to the regulation, hereinafter a scoring analysis will be held quantitatively to determine the priority of the problem.

This first research identifies multiple factors that could affect the accessibility of the buildings and then analyzing the requirements that have to be fulfilled in order to follow the regulation. Problem scoring analysis will be used to find out the priority of the problem and continue to design for the retrofit of the building.

The results of The Building Assessment from Accessibility Aspect in the 1st Campus UPGRIS are NOT ANDAL for all buildings. The score for the GP (Gedung Pusat) is 39.20%, Balairung 30.70%, GB (Gedung Guru) 30.20%, GU (Gedung Utama) 39, 70% and Magister & Library Building 39.70%. This shows that all buildings are not feasible to be accessed independently by persons with disabilities. The achievement of this value is very low (NOT ANDAL below <75%), where the building is declared ANDAL if it has a value between 95% - 100%, and LESS ANDAL between 75-95%.

**Keywords**—*accessibility, disability, disabled people, public services*

## I. INTRODUCTION

The 1st campus UPGRIS as one of the public buildings that serve many students has a public service function, so this building must meet the requirements for space for all, including for disabilities people. The existing buildings have not paid attention to disabled people so that they have not been able to activities independently as mandated in the law. Accessibility to buildings that are mandated by the law in practice still cannot facilitate access to their movements. Some public facilities built by considering disability even in their implementation still make it difficult for them.

The Law on persons with disabilities has guaranteed the availability of accessibility, and the technical regulation has been prepared by the Minister of Public Works but its implementation is still very rare. There are several barriers that

are still faced by people with disabilities: unavailability of ramp, lack of pedestrian and guide block, uneven road surfaces, high roadside, too narrow door widths, too slippery floors, unavailability of parking spaces accordingly, there are no elevators, too narrow sanitation facilities, too high public telephones, stairs that have no safety fences, and much more.

The demand for the provision of public service facilities that are friendly for persons with disabilities is also included in the pedestrian networks on UPGRIS Campus 1 Semarang. The existing conditions in several existing buildings (GP, GU, Balairung, GB and Magister-Library) are not designed from the accessibility aspect of the building, related to this there are various obstacles in the field. Some problems that can be found in the field are:

- There is no ramp or sloping area for access to the public service floor, making it difficult for the disabled to enter the building.
- Limited vehicle parking, so there is no special parking space reserved for disabled people
- The unavailability of lavatory that can be reserved specifically for disabled people
- Crossing of road and pedestrian pathways so that it can be dangerous for the disabled
- Lift access that cannot serve of all floor

Based on the background of the problem, the formulation of the problem in this study is "how the building reliability of accessibility for disabled people on 1<sup>st</sup> Campus UPGRIS?"

## II. METHOD

The accessibility study of this building is included in an integrated qualitative and quantitative research, in which researchers aim to describe and analyse various problems of accessibility of persons with disabilities to be able to reach the construction of the building independently, safely and comfortably of Research

The process and stages of implementation for this activity can be described as follows:

- Survey of measurement for data collection and measurement of UPGRIS campus 1 site. Data collection also includes the condition of existing road and pedestrian transportation facilities, including

various influential environmental conditions such as channels, electricity networks, telephone, drainage, and others.

- Conduct building surveys and visual documentation with an emphasis on the main elements that become the research indicators.
- Compilation of data according to building groups and indicators of disability accessibility.
- Problem analysis and comparative analysis of disability accessibility conditions with existing standards or guidelines
- Assessing the reliability of building accessibility in each building.
  - Conduct analysis of design concepts to be able to provide solutions to the problems.

#### A. Research Indicator

Some of the indicators used in relation to the problem and object of research are as follows:

- Basic Size of Space
- Pedestrian & ramp
- Parking area
- Equipment & Control
- Toilet
- Door
- Lift
- Telepon (not available)
- Stairlift (not available)

#### B. Indicator and Scale

The Indicator and scale research is reference from standard assessment has been built by Ministry of Public Work and Settlement, the indicator and scale can see on this table:

TABLE I. : SCALE AND INDICATOR RESEARCH

No	Kondisi Kefungsian Komponen Uliitas	Nilai Keandalan Maks. (%)
(1)	(2)	(3)
<b>A</b>	<b>BASIC SIZE OF SPACE</b>	100,00
	The basic measurement of space has fulfilled the principle of safety, ease, usefulness and independence in accordance with the function of the building	100,00
<b>B</b>	<b>PEDESTRIAN WAY</b>	<b>20</b>
	<b>Surface</b>	
	Stable	2
	Strong	2
	Resistant to weather	2
	Smooth textured but not slippery	2
	Size in accordance with the provisions, 120 cm (unidirectional path) and 160 cm (two-way)	2
	Free from trees, signposts, holes, and obstructing objects	2
	Maximum pedestrian slope of 1: 8	2
	Every 900 cm is a flat area (rest area) of at least 120 cm	2
	Lighting is quite bright	2
	<b>Drainage of the pedestrian route</b>	5
	Depth less than 1.5 cm	1
	Easy to clean	1
	Placement is not far from the edge of the ramp	1
	<b>Safety edge / wall / low curb</b>	5
	120 cm for directional or 160 cm for two-way lanes	2
	<b>Guide path</b>	5
	Tile (guiding block) in accordance with the requirements for candy 30 of 2006	2
	Placement and installation of tiles as needed	2

No	Kondisi Kefungsian Komponen Uliitas	Nilai Keandalan Maks. (%)
<b>C</b>	<b>RAMP</b>	<b>20</b>
	In buildings, the slope is not more than 7° or the ratio of height and ramps is not more than 1: 8	4
	Outside the building, the slope is not more than 6° or the ratio of height and ramps is not more than 1:10	4
	There is enough lighting for use at night	2
	There is a handrail that is easily held with a height of 65-80 cm	2
	Minimum ram width of 95 cm (not including safety edge)	2
	Every 900 cm is a flat section of at least 120 cm	2
	The front is flat and allows for wheelchair space	2
	Prefix surface and ram suffix must be textured so it is not slippery	2
	The width of the safety edge is ram / canine / low curb 10 cm	2
<b>E</b>	<b>PARKING ACCESSIBILITY AREA</b>	<b>10</b>
	<b>Vehicle Parking Facility</b>	<b>40</b>
	The position of the parking lot is not more than 60 meters from the intended building / facility	2
	Placed near the pedestrian path	2
	The parking area has free space around it	2
	Given special markings	2
	The parking area is connected to the ram and the road to other facilities	2
	Parking space has a width of 370 cm for single parking and 620 cm for double parking	2
	<b>Passenger Up-Down Areas</b>	<b>40</b>
	The minimum depth of up and down area of passengers from busy traffic lanes / lanes is 360 cm and a minimum length of 600 cm	2
	Equipped with ram, pedestrian path and disabled signs	2
	The maximum slope is 1: 11	2
	Given special markings	2
<b>F</b>	<b>EQUIPMENT &amp; CONTROL FOR DISABLED</b>	<b>0</b>
	Socket, buttons & other control equipment are in an easily accessible position	0
	Accessibility signs	0
	<b>Emergency warning equipment</b>	<b>40</b>
	Warning in the form of sound	0
	A visual warning	4
	Warning in the form of vibration	0
<b>G</b>	<b>TOILET ACCESSIBILITY</b>	<b>60</b>
	Comes with signs	5
	Toilet seat with a height of 45-50 cm	5
	There is a handrail	5
	Installation of taps, tissues, showers is easily accessible by penca	5
	Floor material is not slippery	5
	Toilet locks and latches can be opened from the outside in case of an emergency	5
	Strategic toilet position and easy to reach	5
	There is an emergency button in an emergency	5
<b>H</b>	<b>DOOR ACCESSIBILITY</b>	<b>60</b>
	Easy to open by people with disabilities	10
	Min width is 90 cm, the door is less important can be 80 cm, special compulsory hospital is 90 cm	20
	In the area around the entrance there is no ram or difference in floor height	5
	There is a kick plate at the bottom of the door or has a closing time of 3 minutes for the automatic door	5
<b>I</b>	<b>LIF ACCESSIBILITY</b>	<b>50</b>
	More than 5 floors of buildings provide lifesaving	5
	The difference in the face of the building floor and the face of the floor lif not more than 1.25 cm	0
	The arrival arrival waiting room is quite spacious (min 185 cm wide)	5
	Lif key is easy to reach (height between 90 - 110)	5
	The panel is equipped with braille letters	5
	There is a voice indicator	0
	There is a visual indicator	5
	Equipped with a handrail	5
	There is a means of communication	5
	The minimum door open time is 3 seconds and gives enough time for the taker	5
<b>J</b>	<b>TELEPHONE</b>	<b>0</b>
	The telephone is located in an accessible location	0
	There is enough space around the phone	0
	The telephone is easily accessible by users of Korsi Roda (80-100) cm	0
	Cable length is enough to ensure the comfort of the user in a wheelchair with a height of ± 75 cm	0
	Equipped with a volume control device that is easily visible and affordable	0
	Comes with signs	0
	Deaf people are provided with a text telephone	0
	Braille lettered telephone books are provided which are also equipped with voice signal equipment	0
<b>K</b>	<b>LIF ACCESSIBILITY</b>	<b>0</b>
	Tolerance of difference in floor face with a minimum of 60 cm of seat ladder seating	0
	Seating width of at least 40 cm	0
	Button placement is easy to see and reach	0
	The buttons are placed on one of the armrests and are equipped with braille letters	0
	The slope of the hanging rail follows the slope of the stairs	0
	The hanging rail must be strong and in accordance with applicable standards	0

**C. Research Object**

Selection of locations on 1st Campus UPGRIS according to the attention and policies that have a strong program and commitment to fulfilling various accessibility and requirements, including planning that implements disabled accessibility in all buildings. The current condition is that almost all buildings have not been designed with regard to access accessibility for people with disabilities so they are very difficult to be able to access independently.

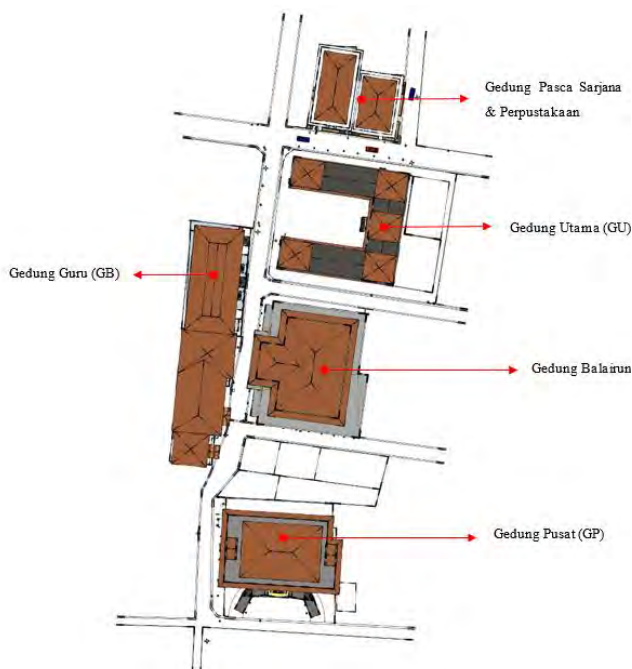
The selection some buildings is based on the frequency of the user and has not had difficulty in accessing the main room/floor, related to this the chosen building is:

- Gedung Pusat (GP)
- Balairung Building
- Gedung Utama (GU)
- Gedung Guru (GB)
- Magister & Library Building

The selection of accessibility in some buildings is based on the frequency of the user and has not had difficulty in accessing the main room/floor, related to this the chosen building is:

- GP (Gedung Pusat), which has a lobby floor on the 2nd floor, making it very difficult to reach. With the function of the Rector Building and the administration and lectures, there are many public services in this building that must be accessible to all, including disabled people.

FIG I. : BUILDING AS RESEARCH OBJECT



- Balairung building is the Ballroom as the main meeting hall on the 3rd floor and does not have an elevator/escalator so that accessibility for people with disabilities is very difficult. Although there is a ramp of

the car to the 2nd floor, the edge still requires access to the 3rd floor.

- GU (Gedung Utama) is building with the main function for classes and student activities that are equipped with elevator (7 stories).
- GB (Gedung Guru) with the main function of lectures that are not yet equipped with an elevator (5 stories).
- The Magister & Library Building with functions as lecture halls and library services. These two buildings are planned differently, but the current condition is coinciding and holding and connected directly.

**D. Data Collection Method**

The types of data needed in this research include:

- Primary Data, is data that will be obtained directly from the source without going through an intermediary. Collecting is done by mapping and measuring data in the field for physical data in the field.
- Secondary data is data that will be obtained indirectly from the source. To collect secondary data, documentation techniques will be used to obtain planning drawings (as-built drawings), standards and guidelines.

Techniques in collecting data are:

- Field Measurement and Data Collection Techniques is a collection technique that is carried out through a process of mapping and measuring in detail the dimensions of the pedestrian path. This technique also performs visual recordings with photos or videos, to obtain a complete and clear portrait of environmental conditions.
- Techniques Interviews, interviews or interviews are data collection techniques by asking questions to information sources. Data or information is in the form of knowledge and information about everything with research problems.
- Documentation technique is a method of data collection carried out with the categorization and classification of written materials related to research, both from journals, books, standards/guidelines, websites, newspapers, scientific magazines, and others.

**E. Data Analysis Methods**

From the results of the data compilation that has been structured, will be analyse in each indicator in each building with comparative techniques on standards or guidance. The results will provide an analysis of the existing conditions of each building for each indicator by comparing the applicable standards or guidelines.

The next analysis is quantitative analysis through scoring and weighting to determine the ranking of the quality level of each pedestrian pathway. Assessment by giving weight to each indicator according to its role and influence, so that from the calculation of weight and scoring will be obtained a comparison value of the reliability condition of accessibility in each building.

**TABLE II. : SCORING AND LEVEL ASSESSMENT OF THE BUILDING**

No.	Aspek yang dinilai	Kriteria Penilaian (%)					Bobot Penilaian (%)	Nilai Total Keandalan (%)
		Andal	Nilai K	Kurang Andal	Nilai K	Tidak Andal		
1	Arsitektur	95 -100		75 - < 95		< 75 %	10.00	
2	Struktur	95 -100		85 - < 95		< 85 %	30.00	
3	Utilitas dan Proteksi Kebakaran	99 -100		95 - < 99		< 95 %	50.00	
4	Aksesibilitas	95 -100		75 - < 95		< 75 %	5.00	
5	Tata Bangunan dan Lingkungan	95 -100		75 - < 95		< 75 %	5.00	
Jumlah Total							100.00	
Bangunan yang diperiksa : -							Masuk kategori :	
Keterangan :								
Andal : $\mu_{ku} = 95 - <100\%$ ; Kurang andal : $\mu_{ku} = 75 - <95\%$ ; Tidak andal : $\mu_{ku} = <75\%$								

This evaluation analysis is carried out using the assessment standard of the Ministry of PUPR from the Directorate General of Human Settlements in assessing the reliability of buildings. In assessing the reliability of this building actually includes 5 aspects that are carried out in full including architectural elements, accessibility, structure, utilities and fire protection as well as building and environment. In this study only used for

accessibility elements that have a weighted value in the overall building assessment of only 5%.

Ranking of reliability rating is determined with the following conditions:

- **Reliable building** if the value is between 95-100%
- **Buildings are less reliable** if the value is 75- <95%
- **Buildings are not reliable** if the value is less <75%

### III. RESEARCH RESULTS

From the results of the field survey and the analysis that has been carried out on each building as the object of research, then in the analysis of the level of accessibility of each building and the comparison between buildings will be carried out in this section. The tools and instruments used in this analysis are referring to building assessment tools issued by the Dirjend. Cipta Karya, Ministry of Public Work and Settlement. The results of the assessment details for each building and component can be seen here:

**TABLE III. : ACCESSIBILITY ASSESMENT OF GP (GEDUNG UTAMA)**

No	COMPONENT OF ACCESSIBILITY	Maks. Score %	$\mu_{ku}$ (%)	RESULT ASSESMENT (%)			Score with factor %	Keandalan $N_{ku}$ (%)	
				Andal	KA	TA			
				99 - 100	90 - <99	<90			
1	Ukuran Dasar Ruang	20	100,00	100	x	x	20,00		
2	Jalur Pedestrian & RAM	20	5,00	x	x	5	1,00		
3	Area Parkir	10	0,00	x	x	0	0,00		
4	Perlengkapan & Peralatan Kontrol	5	44,00	x	x	44	2,20		
5	Toilet	20	0,00	x	x	0	0,00	<b>39,2</b>	
6	Pintu	10	70,00	x	x	70	7,00		
7	Lif Aksesibilitas	10	90,00	x	90	x	9,00		
8	Telepon	5	0,00	x	x	0	0,00		
9	Lif tangga	0	x	x	x	x	0,00		
Total Nilai Keandalan seluruh Komponen Utilitas				Maka Utilitas gedung secara keseluruhan : Andal/ Kurang/Tidak Andal					<b>TIDAK ANDAL</b>
$\Sigma (\mu_{ku.i})$									

**TABLE IV. : ACCESSIBILITY ASSESMENT OF BALAIRUNG BUILDING**

No	COMPONENT OF ACCESSIBILITY	Maks. Score %	$\mu_{ku}$ (%)	RESULT ASSESMENT (%)			Score with factor %	Keandalan $N_{ku}$ (%)	
				Andal	KA	TA			
				99 - 100	90 - <99	<90			
1	BASIC SIZE OF SPACE	20	100,00	100	x	x	20,00		
2	PEDESTRIAN WAY	20	5,00	x	x	5	1,00		
3	PARKING ACCESSIBILITY AREA	10	0,00	x	x	0	0,00		
4	EQUIPMENT & CONTROL FOR DISABLED	5	44,00	x	x	44	2,20		
5	TOILETS	20	0,00	x	x	0	0,00	<b>30,7</b>	
6	DOOR	10	75,00	x	x	75	7,50		
7	ELEVATOR	0	x	x	x	x	0,00		
8	TELEPHONE	5	0,00	x	x	0	0,00		
9	STAIFLIFT	10	0,00	x	x	0	0,00		
Total Value of Reliability of all Components				Final score					<b>TIDAK ANDAL</b>
$\Sigma (\mu_{ku.i})$									

**TABLE V. : ACCESSIBILITY ASSESMENT OF GB (GEDUNG GURU)**

No	COMPONENT OF ACCESSIBILITY	Maks. Score %	$\mu_{ku}$ (%)	RESULT ASSESMENT (%)			Score with factor %	Keandalan $N_{ku}$ (%)
				Andal	KA	TA		
				99 - 100	90 - <99	<90		
1	Ukuran Dasar Ruang	20	100,00	100	x	x	20,00	
2	Jalur Pedestrian & RAM	20	5,00	x	x	5	1,00	
3	Area Parkir	10	0,00	x	x	0	0,00	
4	Perlengkapan & Peralatan Kontrol	5	44,00	x	x	44	2,20	
5	Toilet	20	0,00	x	x	0	0,00	30,2
6	Pintu	10	70,00	x	x	70	7,00	
7	Lif Aksesibilitas	0	x	x	x	x	0,00	
8	Telepon	5	0,00	x	x	0	0,00	
9	Lif tangga	10	0,00	x	x	0	0,00	
Total Value of Reliability of all Components				Final score				<b>TIDAK ANDAL</b>
	$\Sigma (\mu_{ku.i})$							

**TABLE VI. : ACCESSIBILITY ASSESMENT OF GB (GEDUNG GURU)**

No	COMPONENT OF ACCESSIBILITY	Maks. Score %	$\mu_{ku}$ (%)	RESULT ASSESMENT (%)			Score with factor %	Keandalan $N_{ku}$ (%)
				Andal	KA	TA		
				99 - 100	90 - <99	<90		
1	Ukuran Dasar Ruang	20	100,00	100	x	x	20,00	
2	Jalur Pedestrian & RAM	20	5,00	x	x	5	1,00	
3	Area Parkir	10	0,00	x	x	0	0,00	
4	Perlengkapan & Peralatan Kontrol	5	44,00	x	x	44	2,20	
5	Toilet	20	0,00	x	x	0	0,00	30,2
6	Pintu	10	70,00	x	x	70	7,00	
7	Lif Aksesibilitas	0	x	x	x	x	0,00	
8	Telepon	5	0,00	x	x	0	0,00	
9	Lif tangga	10	0,00	x	x	0	0,00	
Total Value of Reliability of all Components				Final score				<b>TIDAK ANDAL</b>
	$\Sigma (\mu_{ku.i})$							

**TABLE VII. : ACCESSIBILITY ASSESMENT OF GU (GEDUNG UTAMA)**

No	COMPONENT OF ACCESSIBILITY	Maks. Score %	$\mu_{ku}$ (%)	RESULT ASSESMENT (%)			Score with factor %	Keandalan $N_{ku}$ (%)
				Andal	KA	TA		
				99 - 100	90 - <99	<90		
1	Ukuran Dasar Ruang	20	100,00	100	x	x	20,00	
2	Jalur Pedestrian & RAM	20	5,00	x	x	5	1,00	
3	Area Parkir	10	0,00	x	x	0	0,00	
4	Perlengkapan & Peralatan Kontrol	5	44,00	x	x	44	2,20	
5	Toilet	20	0,00	x	x	0	0,00	39,7
6	Pintu	10	70,00	x	x	70	7,00	
7	Lif Aksesibilitas	10	95,00	x	95	x	9,50	
8	Telepon	5	0,00	x	x	0	0,00	
9	Lif tangga	0	x	x	x	x	0,00	
Total Value of Reliability of all Components				Final score				<b>TIDAK ANDAL</b>
	$\Sigma (\mu_{ku.i})$							

TABLE VIII. : ACCESSIBILITY ASSESMENT OF MAGISTER DAN LIBRARY BUILDING

No	COMPONENT OF ACCESSIBILITY	Maks. Score %	$\mu_{ku}$ (%)	RESULT ASSESMENT (%)			Score with factor %	Keandalan $N_{ku}$ (%)
				Andal	KA	TA		
				99 - 100	90 - <99	<90		
1	Ukuran Dasar Ruang	20	100,00	100	x	x	20,00	39,7
2	Jalur Pedestrian & RAM	20	5,00	x	x	5	1,00	
3	Area Parkir	10	0,00	x	x	0	0,00	
4	Perlengkapan & Peralatan Kontrol	5	44,00	x	x	44	2,20	
5	Toilet	20	0,00	x	x	0	0,00	
6	Pintu	10	70,00	x	x	70	7,00	
7	Lif Aksesibilitas	10	95,00	x	95	x	9,50	
8	Telepon	5	0,00	x	x	0	0,00	
9	Lif tangga	0	x	x	x	x	0,00	
Total Value of Reliability of all Components				Final score				TIDAK ANDAL
		$\Sigma (\mu_{ku.i})$						

From the result of the first analyses on each building, comparison between building score have been done. The

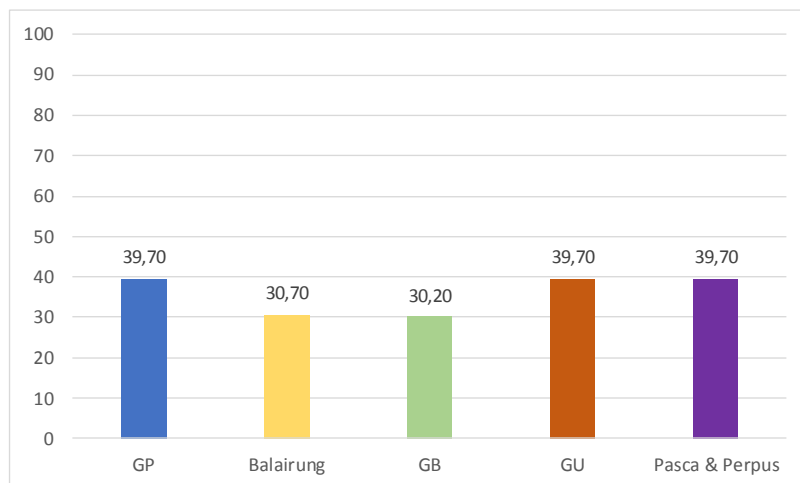
results of the assessment of the reliability of buildings on 1<sup>st</sup> Campus UPGRIS can be seen in the table below:

TABLE IX. : RECAPITULATION OF THE ASSESSMENT OF THE RELIABILITY OF ACCESSIBILITY

No	Component of Accessibility	Score Accesbilty					Average Score
		GP	Balairung	GB	GU	Pasca & Perpus	
1	Ukuran Dasar Ruang	20,00	20,00	20,00	20,00	20,00	20,00
2	Jalur Pedestrian & RAM	1,00	1,00	1,00	1,00	1,00	1,00
3	Area Parkir	0,00	0,00	0,00	0,00	0,00	0,00
4	Perlengkapan & Peralatan Kontrol	2,20	2,20	2,20	2,20	2,20	2,20
5	Toilet	0,00	0,00	0,00	0,00	0,00	0,00
6	Pintu	7,00	7,50	7,00	7,00	7,00	7,10
7	Lif Aksesibilitas	9,00	0,00	0,00	9,50	9,50	5,60
8	Telepon	0,00	0,00	0,00	0,00	0,00	0,00
9	Lif tangga	0,00	0,00	0,00	0,00	0,00	0,00
Nilai Keandalan tiap Bangunan		39,20	30,70	30,20	39,70	39,70	35,90

Source: Analysis researchers, 2018

FIG III: RESULTS OF ASSESSING THE RELIABILITY OF ACCESSIBILITY



Source: Analysis researchers, 2018



From the results of the assessment of the reliability of buildings from accessibility, points are NOT ANDAL with values for the GP (Gedung Pusat) is 39.20%, Balairung 30.70%, GB (Gedung Guru) 30.20%, GU (Gedung Utama) 39, 70% and Magister & Library Building 39.70%. This shows that all buildings are not feasible to be accessed independently by persons with disabilities. The achievement of this value is very low (NOT ANDAL below <75%), where the building is declared ANDAL if it has a value between 95% -100%, and LESS ANDAL between 75-95%.

From the table above, it can be seen that the highest values are for the GU building and Post and Library buildings that have elevators, for the GP building is somewhat reduced in value because the elevator service access is only for floors 2 to 7, where the 1st floor cannot be accessed by the elevator.

#### IV. CONCLUSION

From the results of the research that has been done, there are several conclusions that can be drawn as follows:

- Value of Building Assessment from Accessibility Aspect in the 1st Campus UPGRIS are NOT ANDAL for all buildings. The score for the GP (Gedung Pusat) is 39.20%, Balairung 30.70%, GB (Gedung Guru) 30.20%, GU (Gedung Utama) 39, 70% and Magister & Library Building 39.70%. This shows that all buildings are not feasible to be accessed independently by persons with disabilities. The achievement of this value is very low (NOT ANDAL below <75%), where the building is declared ANDAL if it has a value between 95% -100%, and LESS ANDAL between 75-95%.
- It is generally seen that this condition occurs because most are old buildings and at the planning stage do not pay attention to this aspect of accessibility, at the planning stage not yet pay attention to this aspect of accessibility.
- The problem of vertical transportation where the wheelchair users cannot access public spaces because the elevator does not serve from the 1st floor (ground floor). The existence of existing ramp is only for vehicles that are too steep, so it cannot be used for wheelchair users. Accessibility problems also occur in the Hall Building which does not have an elevator with the playing public function on the 3rd floor, as well as the Building Teacher (GB).
- Actually, Gedung Pusat (GP) have 2 (two) elevators, but it doesn't serve for all floor. Elevator start from 1<sup>st</sup> until 7<sup>th</sup> floor. The ground floor doesn't access by elevator, so
- Provision of toilets for persons with disabilities is not yet available in all existing buildings. The main obstacle is the insufficient dimensions of the toilet space so that the movement of users with wheelchairs is very limited and the dimensions of the door width are less than 90 cm so that the wheelchair cannot enter.

- The provision of a washsink is appropriate for the Balairung Building, but for the Central Building (GP) it does not meet the standards. This facility is not yet available in other buildings.

- Dimensional conditions of the width and height of stairs in almost all buildings are very limited so that in addition to being difficult and defeating to go through, it is also very dangerous to go down the stairs, especially in emergency situations. The most dangerous condition is on the main staircase of the Balairung building which serves up to 3,500 users.

- The direction of the opening of the doors of building and class are all still made with the direction of opening inward (except the main door in the GP and Post and Library Building), this is very dangerous when an emergency occurs.

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