

The Accessibility for the Difables at City Park in Surakarta

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Abstract:

The purpose of this study was to evaluate the availability and accessibility level of city park facility in Surakarta. The objects of this study was three city parks in Surakarta. They are Banjarsari park, Balekambangpark, Cerdas park. There are sevenfacilities which is observed. They are parking areas, guiding block, toilets, stairs, RAM, signs, and sink. The research method that used is evaluation approaches, that assess the extent of an object has been achieved in accordance with the standards of Regulation of the Minister of Public Works of the Republic of Indonesia Number 30 Year 2006 on Technical Guidelines amenities and accessibility In the Building and Environment. The data were analyzed by using statistical descriptions by comparing field data with the standard provisions. The results showed that there is no accessible facility for difable, but one facility has reached the 57% accessibility level for stairs. Citypark is one of public facilities for people including difable. Therefore, public facilities in city park need to be upgraded so it can be useful for everyone, especially difable.

Keywords: Accessibility, City Park, Difable

I. PREFACE

The Fundamental Law of Indonesia Year 1945 article 28C subsection 1 mandates that every person has right to develop themselves through their basic need fulfilment, to get education and the advantage of knowledge and technology, art, and culture, for the prosperity of all society. Those rights are valid for every individual, including the difables.

Difableis an uptaken word from English "difable" which means people with different abilities (Tobronu, 2015). According to KBBI (2012), the term difable has meaning as disabled people. The opinion is strengthened by The Fundamental Law Number 8 Year 2016 article 1. It is said that the difables are every person who has physical, intellectual, mental, and/or sensory limitation in some period of time, and who has difficulty in interacting with other citizen to be in full and effective participation based on right equality.

One of the rights for difables is that they have their right for the accessibility in public facility. The Law Number 8 Year 2016 defines accessibility as an easiness provided for Disabled People to create

Oportunity Equality. Another opinion said that "Accessibility has generally been defined as some measure of spatial separation of human activities" (Morris, Dumble, &Wigan, 1978). It is said that accessibility generally defined as some spacial separation measurement. Thohari (2014) said that accessibility is a crucial requirement for disabled people to do their activities.

Speaking about accessibility for difable, they have the right in accessibility. The right is getting accessibility and proper accomodation as a form of accessibility in public facility (The Law Number 8 Year 2016 article 18 subsection 1 and 2). Ostergaard (2002) said that accessibility does not only concern on building environment. It also includes modern communication through text, voice, and symbol which are easy to be understood.

The minimum public facility needed by difables, including accessibility towards public facility which can make the life of the difables easier where most of the obstacle in accessibility, is architectural obstacle. It makes difables lose their right in getting public facility comfort and easiness. Referring to The Law Number 30 Year 2006, facility and accessibility have 4 (four) basis. There are safety, easiness, usefulness, and independent.

Related to accessibility design, (Lidwell, Holden, & Butler, 2010) said "accessibility in design focused on accommodating people with disabilities. As knowledge and experience of accessible design increased, it became increasingly clear that many required "accommodations" could be designed to benefit everyone. There are four characteristics of accessible designs: perceptibility, operability, simplicity, and forgiveness".

There are studies focused on inaccessible architecture and difables' satisfaction but there are only few that concentrate on public awareness of accessibility and universal design application (Kadir, Jamaludin, & Rahim, 2011). Follete (2002), defined universal design as a product and environment design which can be used for everybody as a whole, without adaptation or special design.

Universal design is expected to be able to fulfil difables' individual necessity and as an accessible alternative design. Accessible design is a

described as design that promotes accessibility for individual with disabilities (The City of Calgary, 2010). The opinion said that accessible design is described as a design which promote accessibility for the difables. Sozua & Post (2016) add "Universal Design does not only adjust places to be used by every person, but also contributes to bring people back to the social life, reintegrating them within the society, with a environment more safe and free of barriers".

According to Dewi, Wahyuwibowo, & Farkhan (2017), Universal Design is a design product which creates a proper environment for every user, including normal people or disabled people, in order to be useful for every body without discrimination.

Accessibility aspect has crucial role in public building, excluding aesthetic aspect design where it is based on a fact about the increasing number of difables which is not equal with accessible facilities (Wahono, 2017).

One of city which is called as an inclusive city is Surakarta. An "inclusive city" must concern on four components which two of them are service availability right – difables' right and accessibility fulfilment (Maftuhin, 2017). One of the public area in Surakarta is City Park (Iswara, Astuti, & Putri, 2017).

City park is one of public green open space which is owned and managed by city government for citizens' need (The Law Number 26 Year 2007 article 29 subsection 1). It is supported by The Minister Regulation Number 5 Year 2008, which said that city park is an open space, that has social and aesthetic function as a recreational and educative activity or other activities infrastructure in a city level. A park is a fun place and can be used as a recreational place (KBBI, 2012).

Taley, Akpinar, & Belkayali (2010), say "*Playgrounds are important outdoor spaces where children play during their childhood. These spaces should be accessible and carefully planned to meet the needs of all children; to play, spend their free time and reinforce their development*".

Disabled people's need in every kind of disability and social status in a park has a role. The park's role in developing social interaction between citizen and disabled people, the park's psychological effect, recreation for disabled people, and the unfinished disabled people's right in the function of park recreation facility show that building park which is suitable for the disabled people is a necessary (Najmeddin & Ahmadi (2015).

Numbers of research about accessibility in Surakarta has been done. Seto (2013) showed that

disabled people's accessibility of the infrastructures in Surakarta is not enough in the case of public service. The disabled people said that the government has given good facility but it is not maximal yet and needs evaluation. Another research which is conducted by Subarkah (2017) showed that object and tour fascination as a public space in Surakarta like Jurug Zoo, Balekambang Park, Sriwedari Park, Solo Grocery Center, Surakarta Hadiningrat Palace are not accessible enough for difables. The researches about accessibility in Surakarta has been published, but there is not study yet which includes the park in Surakarta to be evaluated its accessibility.

Based on the background above, this research is aimed to evaluate the availability and public facility accessibility level of city park for difables in Surakarta. Therefore, Surakarta deserves to be called as difable-friendly (inclusive) city just like what it is called.

II. RESEARCH METHODOLOGY

The researcher used evaluation research approach as a research methodology to assess the achievement of an observed object in line with the standard. According to Ridwan (2010), evaluation research is not only called as an evaluation but also in another case, it can be called as a research. As a research, it is a part of a decision-making process that is to compare an occurrence, activity, product with standard and fixed program. The researcher conducted a study in a field, formulated the problems, and chose object as a research sample. Research sampling was conducted randomly that is by choosing three parks in Surakarta. They are Banjarsari Park, Balekambang Park, and Cerdas Park.

The research data is collected from observation, interview, and documentation. The instrument of observation is checklist. The contain of the checklist is a regulation or building standard based on Regulation of the Minister of Public Works of the Republic of Indonesia Number 30 Year 2006 on Technical Guidelines amenities and accessibility In the Building and Environment. The aim is to know whether the facility of parks in Surakarta are in accordance with The Minister Regulation Number 30 Year 2006. Interview technique was conducted by doing question and answer towards park staff or park manager in Surakarta.

The data analysis which is used is descriptive statistic. The collected data is served in table and graphic form. The researcher also conducted a comparison on facility in the park by using The Minister Regulation Standard Number 30 Year 2006.

III. RESULT OF THE RESEARCH

A. Parking Area

In the conducted observation, it is found out that there is no special parking area for the difables in

three city parks. They are Banjarsari Park, Balekambang Park, and Cerdas Park. Therefore, those three parks are not accessible yet for difables in case of parking area service availability. The following is the data of parking area for difables in accordance with The Minister Regulation Number 30 Year 2006.

Table 1. Accessible Parking Area Standard

The Number of Available Parking Area	The Number of Accessible Parking Area
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2% from total
1001-and so on	20 (+1 for every hundreds)

From the table above, it can be seen the accessible parking area for the difables. In every 25 available parking areas in public facility there must be one parking area for difables. Therefore, it can be concluded that the parking areas in those three parks are not accessible yet for difables.



Figure 1. Parking Area in One of Surakarta Parks

B. Guiding Block

One of important things in a park is infrastructure. Therefore, guiding blocks must be designed to give comfort and easiness for the users. From the three observed city parks, there is no warning block texture (round) to warn about the changing situation around the park. So, the road in the park is not accessible yet for difables.

Based on The Regulation of Minister of Public Works Number 30 Year 2006, there must be guiding blocks pedestrian connecting the road and building which have lines-textured guiding blocks.

The building of textured blocks for guiding blocks on already existing pedestrian needs to pay attention on the texture of the blocks so, there is no confusion to differ guiding blocks and warning blocks. It is better to give different color on guiding blocks and warning blocks which is usually yellow or orange.



Figure 2. Pedestrian Path in One of City Park

C. Toilet

Based on the observation, there is no special toilets for difables in the three city parks in Surakarta which is the object of the observation. Therefore it can be concluded that there is no accessible toilets for difables in Banjarsari Park, Balekambang Park, and Cerdas Park.

Referring to the Minister Regulation Number 30 Year 2006, public facility must have special toilet which is spacious for difables using wheelchair. The height of the toilet is adjusted with the height of wheelchair user, around 45-50 cm. The toilet for difables is also must be equipped with handrail which also must be adjusted with the the height of the wheelchair user. The handrail in toilet must be turned upward. The tissue, water, water crane, and other bathroom equipment like soap and hand dryer must be set for disabled people or wheelchair user. The water crane uses leverage system. The floor must not be slippery. The key toilet must be able to be opened from the outside in an emergency situation.

There must be an emergency sound button in the reachable spot like on door area.



Gambar 3. Difabel-friendly Toilet

Sumber: disabilityaids.co.nz

Designing a disable-friendly toilet must pay attention on universal design principle. One of the principle is available size and space, extent,

manipulation, and out of users' body weight, posture or mobility. It should make easy for the users who sit or stand, make every component of the toilet comfortable. The handrail size should also be vary. The toilet should give sufficient space for difables (Santamouris, 2016).

D. Stairs

One of the important component available in park is stairs. The available stairs must be safe and accessible for citizens, including the difables. There are requirements for stairs so it can be considered as safe stairs for difables. Those requirements of accessible stairs are (a) Having same dimension for steps, (b) at a slope of less than 60 degree, (c) no holes on the steps because it can endanger the stairs users, (d) equipped with handrail at least on one of the side of the stairs, (e) the handrail must be reachable with the height 65-80cm from floor, free from unsuitable constructive elements, and the tips of the handrail must be round or be turned well to floor, wall, or pole, (f) the handrail must be more longer on its upper and lower tips, minimally 30cm, (g) the stairs on the outside must be constructed well so that there will not be puddle on the steps of the stairs (The Minister Regulation Number 30 Year 2006).



Figure 4. Stairs in one of City Park in Surakarta

Based on the observation of the three parks in Surakarta, the stairs in the parks are not completely accessible for difables because there are only some requirements that have been fulfilled such as the slope of the stairs is less than 60 degree, the same dimension for the steps, the steps of the stairs are not slippery, and no puddle on the stairs, but there is no safety handrail in those three parks for difables.

Table 2. Stair Accessibility Indicator

Indicator	BP	BLP	CP
Having same dimension for steps	√	√	√
Having slope of less than 60 degree	√	√	√
Having no holes on the steps because it can endanger the stairs users	√	√	√
Equipped with handrail at least on one of the side of the stairs	X	x	x
The handrail must be reachable	X	x	x

with the height 65-80cm from floor, free from unsuitable constructive elements, and the tips of the handrail must be round or be turned well to floor, wall, or pole			
The handrail must be more longer on its upper and lower tips, minimally 30cm	x	x	x
The stairs on the outside must be constructed well so that there will not be puddle on the steps of the stairs	√	√	√
The Number of accessible indicator	4	4	4
Stairs Accessibility Percentage	57%	57%	57%

Note: BP (Banjasari Park), BLP (Balekambang Park), dan CP (Cerdas Park).

The table above shows the percentage level of stairs accessibility in Surakarta city parks which is on the 57% and the number of achieved indicators are on the range 4 of 7 accessibility indicators. It means that the stairs accessibility of those three stairs in city parks has been more than the half of the indicator.

From the table, we can find the mean, so it can be stated that the percentage level of stairs availability in those three city parks is 57%. To make more understand about it, here are the percentage of every city park.

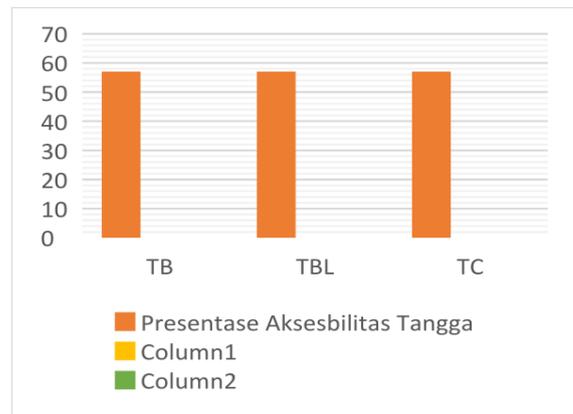


Figure 5. Accessibility Percentage of Stairs in Three City Parks

E. RAM

RAM in city parks is located in front of entry gate as a circulation track which has some certain incline. The main function is for difables who use wheelchair can get into the park if the surface on the outside and inside of the park has different height. Based on the observation conducted in the three city parks, Banjasari Park doesn't have RAM yet. So, it can be said that Banjasari Park doesn't have RAM for difables. On the other side, the two other parks, Balekambang Park and Cerdas Park have RAM for difables but not completely accessible yet for the users. The lack of accessibility in Balekambang Park is because there is no handrail for difables. Also, the incline of the RAM in Cerdas Park is not in

accordance with The Minister Regulation Number 30 Year 2006. Both of the RAMs do not have flat surface on the beginning and the end of the RAM yet and they are not in accordance with the valid standard.



Figure 6. RAM in One of Surakarta City Park

RAM must be designed safe for the difables. It should be designed to minimize the danger and bad consequences intentionally or unintentionally. The construction is made to minimize risk and accessible. There should be warning sign and safe material for RAM (Santamouris, 2016).

Referring to The Minister Regulation Number 30 Year 2006, the accessible RAM for difable must have maximal incline 60 degree. It also must have flat surface and not slippery on the beginning and the end of the RAM. The RAM must be spacious to turn the wheelchair with the minimal width 160 cm and 10 cm on the each side. RAM must be built in order that the wheelchair not be slipped or out of RAM. There also should be lamps at the area of RAM for night usage. In addition, RAM must be equipped with firm and reachable handrail with 65-80 cm height.

F. Signs

Sign is one of important thing in fulfilling accessibility for difables in public facility. The observation shows that Banjarsari Park is very lack of signs. There is only mosque sign in Banjarsari Park. Whereas, Balekambang Park and Cerdas Park apply signs as direction for the users eventhough those signs are not accessible enough for difables because those signs do not meet the need of difables like special parking sign for difables, signs without braille, audio signs, sign language facility, etc.

According to The Minister Regulation Number 30 Year 2006, sign is used for giving information, direction, signal, and indication, including information and communication multimedia equipment for difables. Accessible sign is the usage of the sign in every building facility. Braille sign is an embossed pictorial sign and symbol so difables can understand it easily. International

signs apply special requirements, for example: soil hardness, contrasted color, etc.

The signs must be made from non-glare material. The letter proportion of the signs must have ratio of width to height between 3:5 and 1:1, with the thickness of the letter between 1:5 and 1:10. The height of signs' letters and numbers must be measured suitably with view distance from where the sign is read. There must also be emergency lamp-alarm, audio, teletext, light sign, TV sign, and sign language for the deaf. The sign must be located strategically and appropriately so it gets enough light or if it is on the not-enough-light area, lamps can be added. The signs must not block way.

The accessible signs must be in accordance with the universal design principle. One of the principle is that the design can communicate and give information for users effectively by using different model (pictorial or oral). The information must be readable and easy to understand. It also must have various compatibility (Santamouris, 2016).



Figure 7. Sign in One of Surakarta City Park

G. Sink

Sink is used for washing face and hands and rinsing mouth or brushing teeth both for normal and disabled people. Based on observation, the researcher found the sinks in the three city parks in Surakarta are not accessible yet for difables. In Banjarsari Park, the sink is more than 85cm height and does not have handrail. Therefore, it is not accessible for difables. In Cerdas Park, the sink is 88cm height, uses rotating crane, and does not have handrail. Whereas, in Balekambang Park, there is no sink in the toilet, so it can be said that the sink in Balekambang Park is not accessible yet for the difables.



Figure 8. Difabel-Friendly Sink

Source: www.pppi.or.id

The Minister Regulation Number 30 Year 2006 mandates that the accessible sink must be set appropriately so the height and the width can be used for the wheelchair users well. The movement space in the front and under of the sink so it does not bother knees and legs of the wheelchair users. The height of the mirror must also be considered to be used by the wheelchair users. The water crane must use leverage system.

IV. CONCLUSION

Based on the research conducted in the three city parks in Surakarta, it can be said that the provided facilities are not accessible for the difables. From the nine observed facilities, there is only one facility which has accessibility level more that 50%. It is the stairs which has accessibility level in the amount of 57%. The observation result found that there is no facility in the city parks in Surakarta which fulfill the whole accessibility indicators based on The Minister Regulation Number 30 Year 2006 Technical Guidelines amenities and accessibility In the Building and Environment.

The difable-friendly implementation city for Surakarta on its public facility, especially on the city parks, needs to be repaired periodically. By doing the reparation, Surakarta is expected to be a difable-friendly city just like what it is called. Besides, the accessibility is highlu needed for the difables, especially on the public facility so that the difables are be able to do their activity and use public safely and comfortably just like normal people.

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