Analysis Signage Systems Based on Local Wisdom: Study Case Setu Babakan

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Abstract

Betawi's culture such as dance, food, and language is increasingly eroded. It can be said that it is gradually become extinct and this is due to the influence of technology developments. The government has taken many steps to preserve the Betawi culture, one of which is the placement of Condet region in East Jakarta for the development and preservation of Betawi's culture. Recently, the DKI Jakarta Government takes steps to preserve the pride and mascot of Jakarta city, which is the Betawi culture in Setu Babakan.

The word setu or "situ" itself means lake, while babakan means wood fiber. In the area of Setu Babakan, the provincial government provides a variety of facilities such as educational facilities as a learning area for Betawi culture and other various entertainments related to Betawi culture. Setu babakan has transformed from a lake into a tourism area, so it becomes one of the alternative tourism spot for local residents and foreign tourists. The large area requires a signpost or commonly called signage, this is very important because signage is part of wayfinding, which has a role in providing direction inside the city. Indirect signage plays role in improving the flow system of visitors, so that there will be no accumulation in one particular location. At present, the condition of the signage area is already exist, but it has not been maximized in the role of its function as a signpost. In terms of aesthetics and design, the existing signage does not display the elements of Betawi culture which should be represented through signage.

Keywords: Signage, Wayfinding, Betawi Culture, Technology.

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INTRODUCTION

At first Jakarta was known as a port which was named Sunda Kelapa. Due to its location as a port city, the people living in this city consists of various ethnic groups. Jakarta continues to be visited by various ethnic groups, such as Portuguese, Arabic, Chinese and Dutch. The mixing of these ethnic groups led to the dynamics of the new culture which was later referred to as the typical culture of the Betawi community.

Along with the times, the Betawi culture both dance, food, Betawi language is slowly disappear. There have been many steps taken by the government to preserve Betawi culture, one of which is to accelerate the Condet area at East Jakarta as a special area of Betawi culture. after Ali Sadikin resigned from his position as governor of Jakarta, his successor was unable to reinforce the regulation that had been made. This has an impact on the Condet area, which was previously a Betawi cultural customary school can't be distinguished from other Jakarta areas with its modern buildings.

Setu babakan is a step from the government to preserve Betawi culture. Through the decree of the Governor of DKI Jakarta Province No. 92 of 2000, and confirmed by the regional regulation of DKI Jakarta Province No. 3 of 2005, located in Srengseng Sawah, Jagakarsa sub-district, South Jakarta Municipality. Setu Babakan was officially established. The word setu or "situ" means the lake, while babakan means wood fiber. The situ babakan has area approximately 289 hectares. It offers variety of facilities for education and entertainment.

The signage area is already there, but the function of the signage isn't fully maximized. This becomes very important because signage is one part of the wayfinding for visitors to determine the direction of the location, and provide information to visitors. It also indirectly improves the visitor's flow system, so there is no accumulation in one particular location.

Based on research carried out by Ridwan Yasin regarding to the potential of the area as a cultural tourism. The researchers discussed the effectiveness of signage against visitors, which had never been done before. Based on this background, the formulation of the problem in this study is as follows:

- How to find out the relationship between a sign system and culture
- How to develop a sign system based on the locality of Betawi culture in the Setu Babakan cultural reserve.

while the purpose of this study is to:

- Find and understand the relationship between sign systems with culture.
- Develop a sign system based on the locality of Betawi culture in the Setu Babakan cultural reserve.

LITERATURE REVIEW

Culture

The meaning of Culture of ideas, behavior and results of human work and / or groups of humans both physical and non-physical are obtained through the process of learning and adapting to the

environment. It comes from the word Budh which in Sanskrit means sense, which then develops into the word Budhi (singular) or Budhaya (compound), therefore culture can be interpreted as a result of thinking or human reasoning. In the book "Keesing & Strathern: ibid" translates culture as a configuration of behavior learned from behavioral results, whose elements of formation are supported and passed on by certain members of society.

according to Sigmund Freud which was translated by Budiono in his book entitled "Philosophy of Culture: The Process of Realization of Humans" (2009), explained that culture is the overall achievement and work results, with which we differentiate ourselves from our animal ancestors, and it serves on two purposes: namely protecting humans against nature and regulating relations between humans".

From the opinion above, it can be concluded that culture is the result of human thought in social life, which is intended to protect humans from nature and regulate the relationship among human.

CULTURAL CHARACTERISTICS

Budiono in his book entitled "Philosophy of Culture: Human Realization Process" (2009) a culture has certain characteristics, some of these characteristics include; Learning process, Globality of culture, and Cultural relativity.

ELEMENTS OF CULTURE

According to Koentjaraningrat (2010: 2) there are seven elements of culture that are universal, these seven elements can be found in all nations in the world, including; Religious systems and religious ways, System and community organization, Knowledge system, Language, Arts, Living livelihood system, Systems of technology and equipment.

FORM OF CULTURE

The form of culture according to J. J. Honigsmann in his book entitled "The World of Man" is divided into three parts which include Ideas, Activities, and Artefacts. Koentjaraningrat (1996) in his book entitled "introduction to anthropology", suggested that culture can be divided into four forms, namely cultural values, mentifak, sosiofak, and artifacts.

Fig 1. Cultural Framework According to Koentjaraningrat (Source : Koentjaraningrat 1996:92)

- First circle (cultural value): Ideas that humans learn from an early age, which are the center of other forms.
- Second circle (mentifak / ideofak): ideas or thoughts from a group of people / culture.
- Third circle (sosiofak): an action or form of an idea, for example is the motion of dance, language, behavior.
- Fourth circle (artifact): human work that must be tangible such as cloths, traditional houses, and others.

Design

Toshiharu Taura and Yukari Nagai say that Design is a process of composing a desired figure / object / figure towards the future.

CLASSIFICATION OF DESIGN

Table 1. Design Classification

Design Category	To Look At	Driving Force	Thought Mode	Creativity
Category C : Ideal Pursuing	Future	Prediction (forethought)	To surpass current conditions. In order to get the desired image.	(1) unexpected (2) resonance with the human mind or society
Category B : Problem Solving	Present	Gap (problem).	to analyze current conditions and find solutions to desired goals.	Problem solving (change)
Category A : Drawing	Past	Memory	To change the abstract picture into a concrete shape or figure.	Expression (figurative)

(processed from Toshiharu Taura and Yukari Nagai, 2007)

Signage

Signs are an important element of community life. A sign in a public space is needed to control the movement and to offer advice, information, and identification. According to Mitzi Sims (1991: 8) the word "signage" is a term used by Paul Arthur, a pioneer of wayfinding. A word that he describes as 'mindset: a problem in finding the direction of the goal in an environment by placing 'Signs'. Mitzi Sims (1991: 90) writes that Romedi Passini, an author of wayfinding in Architecture, describes wayfinding as a strategy that people use to find the way that is familiar for them. This involves the way in which someone receives and assimilates information in the environment.

ENVIRONMENTAL INFORMATION

Environmental information can be separated into three categories, including:

1. **Architectural information:** contained or attached around the environment, both users are inside or outside the building. Such as doors, stairs, corridors, floors, tiles, etc. are used to determine how to get to the destination.
2. **Graphic information:** can be further divided into general information about building tenants, and directions to the destination.
3. **Verbal information:** The type of information that can be delivered by the receptionist, security, and customer service telephone (customer service).

MARK DESIGN PRINCIPLE

Drue Townsend in his article entitled "signs" of safety" mentions that there are four criteria in making signage to be effective, namely visibility, readability, noticeability, and legibility.

1. **Visibility:** A sign must be clearly visible. It is necessary to ensure that each letter on the sign can be distinguished from other design elements.
2. **Readability:** The selection of a good font can increase readability of a sign and comfort
3. **Noticeability:** Noticeability is a condition where the signage must include several design elements that will highlight the design

itself. The colors contrast, changing components, motion, design uniqueness and / or subconscious attraction can function to make signs more visible.

4. **Legibility:** The level of ease for eyes to recognizes a writing unhindered. The font is also very important for the effectiveness of signage communication.

LETTER VISIBILITY CHART		
LETTER HEIGHT	MAX IMPACT DISTANCE	MAX READABLE DISTANCE
3 inch	30 feet	100 feet
4 inch	40 feet	150 feet
6 inch	60 feet	200 feet
8 inch	80 feet	350 feet
9 inch	90 feet	400 feet
10 inch	100 feet	450 feet
12 inch	120 feet	525 feet
15 inch	150 feet	630 feet
18 inch	180 feet	750 feet
24 inch	240 feet	1000 feet
30 inch	300 feet	1250 feet
36 inch	360 feet	1500 feet
42 inch	420 feet	1750 feet
48 inch	480 feet	2000 feet
54 inch	540 feet	2250 feet
60 inch	600 feet	2500 feet

This is based on dark text on a plain white background in clear weather conditions. There is an approximate 10% variance when using various color combinations.

Fig 2. List of Visible Letters

(Source: <http://congresssigns.com>)

ILLUMINATED AND ELECTRONIC SIGNS

Natural and artificial light can be used to improve certain atmosphere and nuance for someone around him. The types of artificial or artificial light have various types of characteristics, including neon lights, incandescent lamps, reflector lights, and HID lamps.

1. **Fluorescent Lamp:** (Fluorescent light) utilizing electric current flowed through gas or steam to produce light.
2. **Incandescent Lights:** Incandescent lamps work by applying electrical energy to thin wire filaments that begin to glow as they heat up.
3. **Reflector Lamp:** compact, light from incandescent filaments can be accurately focused through a reflector, which is an integral part of the lamp.
4. **HID (high-intensity discharge) Lamp:** The HID lamp produces light by using high-pressure electricity released between the electrodes.

STANDARDIZATION OF SIGNAGE

PROCEDURES FOR LAYING.

a. Sticked to the wall: has a maximum thickness of 10cm and is placed with a minimum distance limit of 90cm and the upper limit is 180cm, both distances are measured from the surface of the floor. While the signposts, identifiers, prohibitions, information with a size of 15cm x 15cm up to 30cm x 30cm are affixed with a distance of 150cm from the ground Figure 3.

b. Hanged: Signage is hung with a 200 cm height placed from the floor surface to the lower limit of signage. And 500cm reading distance using letter height of 5cm Figure 4.

c. Beheaded: Signage whose placement uses poles should has a minimum height of 90 cm to 180 cm from the ground, and a width of 30cm or more, as long as it does not disturb pedestrians Figure 5.

d. Door: Signage that places on the door must have the following requirements: The first is the door must be a swing or push types, the second type is the type of sliding door with transparent or glass materials, the third is the door equipped with equipment that can open and close by its own. Signage that has braille, must have height between 120cm and 150cm from the surface of the floor, and has a

distance of 5cm - 7.5cm from the distance of the door with signage Figure 6.

Fig 3. Standardization of Wall Signage.

(Source: ADA/ ANSI Guidelines, Requirements for directional and informational sign, 1999 2. Accessibility for Disable - A Design Manual for a Barrier Free Environment, United Nation Enable)

Fig 4. Standardization of Hanging Signage

(Source: ADA/ANSI Guidelines, Requirements for directional and informational sign, 1999)

Fig 5. Standardization of Signage Using Poles.

(Source: Interior Graphic and Design Standards, 1986)

Fig 6. Standardization of Signage on Doors.

(Source: Time-Saver Standards for Interior Design and Space Planning, Signage and Graphic, 1992)

METHODOLOGY

Design / Method of Research

The design concept of the Sign System in this chapter aims to form a sign that is mutually integrated between the zones within each group. Because this Setu Babakan area is a place of cultural heritage, the design should meet international standardization, with the combination of Betawi taste, for example : the use of decorative baland on the shape of fences, and so on. This is intended so that the Sign System is not just an ordinary direction, but you can also help Setu Babakan in providing a more architectural (Betawi) experience and atmosphere towards visitors. The method of data collection used is to use qualitative research methods. data is obtained through two types of data, namely primary data and secondary data.

Data Collection Techniques

PARTICIPATION

Participatory observation, that is, researchers are involved and feel firsthand the function of Signage in Setu Babakan. The observation was carried out by the writer to find out the atmosphere and clarity of the signage in the Setu Babakan Area. The author records the phenomena that occur in Setu Babakan. "With observations in the field, researchers will be better to know the context of the data in the overall social situation, so a holistic or comprehensive view will be obtained." (Sugiyono, 2005: 67).

PHOTO & VIDEO SHOOTING

The photo & video shoots were conducted to document the signage at Setu Babakan.

STAGE OF INTERVIEWING EXPERTS

Interviews with experts helped the author to get information about Betawi Culture and about Setu Babakan itself. The interview technique uses an open question type.

DATA ANALYSIS PHASE

From all the field data obtained, it was then analyzed using literature that had been compiled before, including photo data analyzed, and described to explain the components caught in the shoot.

MAKING WORK

After being analyzed, the next step is to make the work based on the wayfindings. Here the author uses adobe illustrator as the main design application. Adobe Illustrator is a vector-based application, which is commonly used by graphic designers.

STAGES OF CONCLUSION

Is the final stage, and the essence of the overall description, discussion of data, and analysis of the previous chapters.

RESULTS AND FINDINGS

Good wayfinding is needed so that visitors can find the direction of his destination. The first thing found by the author while visiting the situ was the difficulty of finding a way from the gate to the parking lot and the main area.

Setu Babakan has a total area of 289 Hectares and 2 types of zones, which these zones are further divided into several sub-zones.

Static Zone

Engineered zone, modified by the management so that it can become an area that meets the needs of visitors.

Dynamic Zones

A residential natural zone. In this zone area there is no engineering from the management, so the Development of the Dynamic Zone area is handed over to the Setu Babakan community, but the government facilitate the community in developing this Zone.

Fig 7. Setu Babakan Maps
(Source : Google maps)

Is the map of setu babakan, the red line is a line that shows the entrance to the intersection on the lake. The position of the entrance to Setu Babakan is located right on the road Mohamad Kafi two.

Fig 8. Archway
(Source: Personal documentation)

After passing through the gate, visitors will go is the next area. The problem in this area is the lack of sign system. It can be seen in the blue square in column 1, figure 4.4.1.8, there is a directional sign with a position to fix the entrance of Setu Babakan. In column number 2, there is a shop that sells souvenirs of traditional Betawi clothes, while on the right, there is a Betawi house with a dominant green color Figure 9.

The next area is the intersection before the lake. In this section there is no directional sign. The sign needs to be placed at each intersection. While the regulatory sign itself has errors, the colors used are white letters, with a red background, and white borders Figure 10.

Figure 11, is a directional sign made by traders and residents. Many errors occur in the use of colors, shapes, and height of the sign itself and the unintegrated one sign with other signs. But by looking at the number of signs and trading activities here, we are certain that this area is one of the centers for gathering visitors.

Fig 9. Directional Sign
(Source: Personal documentation)

The concept that the writer proposed was "Betawi Asri", which meant that there was continuity between the two zones in Setu Babakan. So from that architectural in the Dynamic Zone is a design for Static Zones. This is intended to allow integration between designs.

Fig 12. Ornamental Sign
(Source: Personal Documentation)

Fig 10. Lake Junction
(Source: Personal documentation)

Fig 13. Embryo Zone
(Source: Personal documentation)

Fig 11. The Road to The Embryo Zone
(Source: Personal Documentation)

Management of Setu Babakan itself uses several Ornamental Signs that can help visitors feel the atmosphere of the Betawi village. One of them is the use of lampposts, flower pots that have golden green-yellow colors that match the surrounding buildings, some of which also use green-yellow colors. The shape of the pillar itself is in the shape of the old city, which of course can also be found on the pillars of the Betawi house. For the guardrail between the mainland and the lake also uses a tumpal decoration Figure 12.

In the embryo zone, there is inadequate directional sign, both in terms of color usage, and there is no integration between one signage with other signage Figure 13.

Alternative Design for Problems in Setu Babakan

DIRECTIONAL SIGN

The Finger Post design above uses iron material which is painted to resemble the color of plitur wood. Minimum height of 2 meters is intended to be easily seen from a considerable distance, and to avoid marking damage by some people. The design of the lamp itself, took from the lights in the city of Jakarta during the Dutch colonial period.

FINGER POST

Fig 14. Finger Post
(Source: Personal design)

The material used for signage in Setu Babakan is Aluminum. Aluminum is used so that the sign is not easily corroded and easy to maintain. Another alternative is preservative wood. The wood used is jackfruit wood, which is a wood material commonly used by Betawi people to build houses.

Fig 15. Fingerpost Directions
(Source: Personal design)

The sign uses two standard size types, the first is 30cm high and 60cm lengths, and the second is 30cm high and 120 cm long. For the second type, there are two symbols, the first is the symbol of the target object, and the second is a color symbol that is adjusted to the color guide on orientational sign. Both sizes have a minimum height of 200 cm from the ground. The use of colors and shapes is adjusted to the finger post to be integrated.

INFORMATIONAL SIGN

The use of poles with Betawi elements is intended to integrate Signs in Setu Babakan. Another addition is laying a board that shows "Information" on the roof. The material used is wood or aluminum. the information itself uses glass for the cover layer, in order to protect the information paper. The roof of the tile uses clay material. Another change is on the roof of the board, which takes the form of the roof of a traditional "Joglo" Betawi house. But there are alternative forms such as the gate in Setu Babakan which takes the form of a traditional house. The addition of decorative rante in some parts such as retaining the roof and anchoring the information board itself to add Betawi decorations Figure 16 and 17.

The distance from the edge of the board to the contents is around 10 cm, this is intended so that the information board looks neat, organized and easy to read by visitors.

ORIENTATIONAL SIGN

The unavailability of an Orientational Sign in the Setu Babakan area makes the writer who was there during observation must often ask the surrounding residents Figure 18.

Is an alternative to fence design, both used on the edge of the lake, and for parts of the park that visitors cannot step on. For the design of the fence using a tumpal ornament with two alternative designs, the first is a form that has been used on fences on several edges of the lake, and the other is a tumpal design that can be found in

the Betawi house (figure 19). for the raw material, it uses two alternatives, the first is iron, and the second is cement.

Fig 16. Information Board
(Source: Personal design)

Fig 17. Existing Information Board
(Source: Personal design)

Fig 18. Orientational Sign
(Source: Personal design)

ORNAMENTAL SIGN

Fig 19. Tumpal
(Source: Personal design)

Fig 20. Existing Water Bicycle Lockets
(Source: Personal documentation)

Fig 21. Water Bicycle Lockets
(Source: Personal design)

CONCLUSION

The link between the Sign System and culture is very strong. If you look at the elements of culture, then the form of the sign system is part of the Cultural Artifact, if you look at the overall meaning of the

Sign System, the sign system is includes Ideofak, Sosiofak, and Artifacts. In a Sign Sytem certainly has an initial idea, which is there are people who use or implement the idea of the sign system.

Setu Babakan is still experiencing shortcomings in its Sign system, among others, there is no integration between signage, so that one sign with another sign does not really correlated to each other. By conducting observations and research, finally a design recommendation that is suitable for Setu Babakan can be made.

The concept of development proposed is the international standard sign system combined with the taste of the Betawi culture. The use of decorative shapes is adjusted in both zones in Setu Babakan. This is intended so that between one Sign and another Sign can be integrated, which later will make it easier for visitors to find their direction.

The ultimate goal of developing the sign system is to help Setu Babakan in managing the flow of visitors, providing accurate information for visitors to Setu Babakan, and providing a thicker Betawi atmosphere without sacrificing functionality and standardization of the Sign system.

This recommendation is a basic / initial design for the sign system. This is due to the unfinished construction of Setu Babakan. However, this recommendation can be used as a basis that can later be developed in accordance with the developments of Setu Babakan itself.

Acknowledgements

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