

# **CULINARY PARK IN THE CONTEXT OF CIREBON CITY: A BEHAVIORAL APPROACH IN ARCHITECTURAL DESIGN**

**Marcella Steffi<sup>1</sup>, Wiyatiningsih<sup>2</sup>**

1,2 Department of Architecture, Faculty of Architecture and Design, Duta Wacana Christian University

Jl. dr. Wahidin Sudirohusodo No.5-25 Yogyakarta

Email: marcellasteffi97@gmail.com

## **Abstract**

The study discusses the design of culinary park in the context of Cirebon City by implementing a behavioral approach in architectural design. Cirebon as a metropolitan city has a high population density and it is dominated by trade and service activities. Kejaksan Park, one of the landmarks of Cirebon City is located in the surrounding area of Cirebon Station. This area becomes the center of economic growth of Cirebon City. The center of economic activity in this area is shown by various routine activities dominated by informal economic activities. Street vendors play a great role in emerging crowds in Kejaksan Park. The existence of the street vendors has an impact on the spatial disorientation, the emerging of economic gaps and the difficulties to access the urban space. Based on the problem, the study purposes to implement a behavioral approach in designing the space for street vendors. By implementing the behavioral approach, it is expected that the problems emerged by street vendors can be solved by designing a Culinary Park around Kejaksan Park. The study implements the three principles of behavioral approach in architectural design, namely: 1) human and environment, 2) comfortness and happiness, and 3) the beauty and composition of forms. The Culinary Park design by the behavioral approach will improve the image of Kejaksan Park and strengthen the characteristic of Cirebon City.

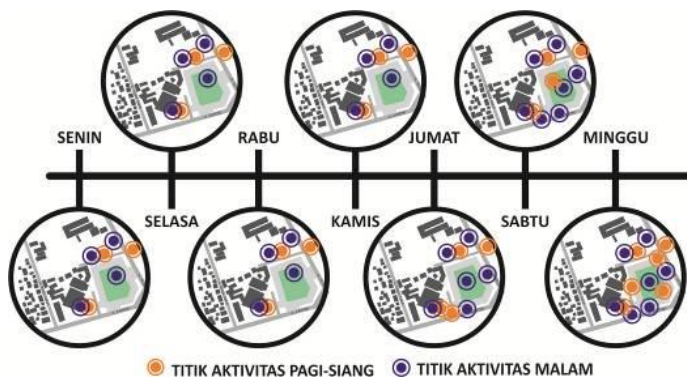
**Keywords:** architectural design, behavioral approach, Cirebon City, culinary park, street vendors.

## **Introduction**

Cirebon City has been designated as a metropolitan city by the Ministry of National Development Planning. As a metropolitan city, the development of Cirebon City is characterized by the rapid growing transportation system connecting the ports, trains, and highways. According to Bourne (1971) the term of metropolitan derives from the word "metro" referring to the "light train system" in an urban area. The urban transportation systems is required by the commuters resulted by the growth of the city. The commuters travel from peripheral residential areas to the city centre for working. According to Regional Development Planning Board of Cirebon City the people's movement increases the population density of Cirebon City, especially in Pekalipan sub-district. This area has the density level of 19,124 people/km<sup>2</sup>. The population density of Pekalipan sub-district has been increased by the existence of Kejaksan Station as the center of economic growth in Cirebon City. Pekalipan sub-district area is dominated by commercial and service activities using 35.25% of the total area of Cirebon City (<https://uptbstatistik.wordpress.com/>).

Shirvani (1985) revealed that the closer to the city center, the higher is the intensity and diversity. Such a situation occurs in Alun-alun Kejaksan (Kejaksan Square) in where the Grand Mosque At Taqwa is located. The close connection of

Alun-alun Kejaksan to Proclamation Monument of Cirebon City strengthens the image of this area as the landmark of Cirebon City. Local people and tourists visit Alun-alun Kejaksan frequently and do various activities. Figure 1 shows the diverse points of crowds occurring in Alun-alun Kejaksan. The picture also informs the community activities that always take place the whole day from morning, afternoon and evening. Activities that are usually done in this area include sports in the morning, religious activities in the mosques, culinary activities for school children and office workers. Furthermore, there are also recreation and social activities in the evening.



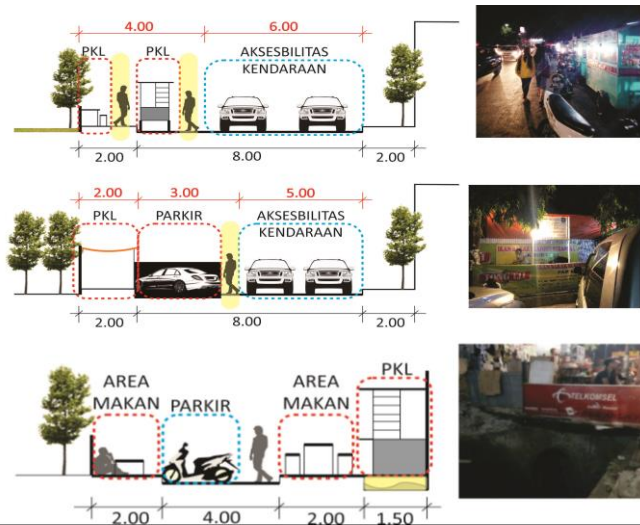
**Figure 1. The crowds in Alun-Alun Kejaksan**

Source: Steffi, 2018

The crowds at Alun-Alun Kejaksan attract street vendors (PKL) to place their stuffs on the road side. About 48 street vendors occupy Alun-Alun Kejaksan and its surrounding area. 90% of the sellers are local residents of Cirebon City. PKL or the street vendors are the low-level group of sellers having limited financial resources. They use mobile charts to sell food or goods and place their charts in public spaces informally. Mostly, they do not have any permission to sell and use public spaces for private business. However, they have to pay daily retribution withdrawn by officers. The presence of informal street vendors is often associated with negative environmental impacts, such as bad, dirty, and disorder urban spaces. This is indicated by the disordered spaces in public spaces that are occupied for the selling activities (Rachbini and Hamid, 1994: 3 in Sumarni Enni, 1: 2014).

According to the Regional Regulation of Cirebon City number 2, 2016 concerning the Arrangement and Empowerment of Street Vendors (Pedagang Kaki Lima - PKL), selling on sidewalks and road sides is prohibited, likewise selling-buying transaction with street vendors (PKL) along the road. The street vendors occupying informal areas cause displacement and disorientation of the urban space. Displacement begins with the mobile selling activities that need movement of things and people. Displacement occurring in Alun-Alun Kejaksan is indicated by the misused space of sidewalks and sewers for selling places of informal street vendors. Disorientation is a problem of losing direction due to a gap. Disorientation occurring in Alun-Alun Kejaksan is caused by the misused space of sidewalks and sewers for private business. The misused public spaces is caused by the low capability of the street vendors to rent selling. The limitedness pushes the

street vendors to find crowds that have the potential to be selling places. This can be seen in Figure 2 which describes the road sections affected by informal street vendors viewed from the width standar of highway and pedestrian way.



**Figure 2. Road sections affected by the misused space of street vendors at Alun-Alun Kejaksan**

Source: Steffi, 2018

The problems about the spatial displacement and disorientation at Alun-Alun Kejaksan is examined by behavioral approach in architectural design. This approach aims at formulating the ideas to solve the problems by designing a Culinary Park in the surrounding area of Alun-Alun Kejaksan. According to Tandal & Egam (2011), behavioral approach in architectural design considers human beings as the main criteria of design. Human beings are reactive creatures responding to the environment because their behavior is controlled by environmental factors. This theory forms a principle in which the object of psychology is behavior, all forms of behavior are returned to reflexes and emphasize the form of habits.

Based on the problems described above, it is assumed that Alun-Alun Kejaksan needs a mixed-use culinary park. The park should be equipped with various facilities including recreational and commercial activities that may accommodate the need of current lifestyle, such as comfortable and communicative. According to Labensky (1994), culinary is everything related to cooking activities consisting of food ingredients preparation, management and presentation. By implementing a behavioral approach in architectural design, the culinary park will have an influence on human beings both as the space maker and user. The culinary park forms, creates, or restores the atmosphere with food and other entertainments for human beings as visitors. The culinary park provides the basic needs of human beings through culinary and recreational activities for all involved people in this area.

## **Methods**

This study implements descriptive-qualitative methods by collecting data through observation in the field. The behavioral approach is needed to get ideas for the culinary park design. The primary data was collected through interviews, observations, and documentation. Meanwhile, the secondary data was gathered from the Regional Regulation of Cirebon City, Regional Spatial Planning (RTRW), Indonesian National Standard (SNI), and literature resources such as books, journals, and information on internet. The behavioral approach in architectural design was developed with townscape theory to expand the discussion into city scale.

## **Discussion**

The Culinary Park at Alun-Alun Kejaksan is expected to be a solution for the problem of displacement and disorientation caused by activities of informal street vendors in the public space of Cirebon City. The design of the Culinary Park applies the principles of behavioral architecture developed by townscape concept that have an impact on the image of Cirebon City.

### **Principles of Behavioral Architecture and Townscape**

According to Tandal & Egam (2011), behaviorism in architecture shows that architecture is built to meet human needs, and vice versa. Architecture generates new human's needs. This affects behavioral patterns of human living in the built environment. So, architecture forms human's behavior. This is only one-way relations, in which the built architecture influences human's behavior, so that the behavior is formed merely from the architectural design. Meanwhile, human's behavior forms architecture. This means that architectural design is affected by human's behavior as users. The users review the design, so that human's behavior reshapes a new design.

Based on the concept of architectural behavior mentioned above, it may be summarized that the principles of architectural behavior in the design of Culinary Park at Alun-Alun Kejaksan Cirebon City are:

1. Humans and the environment

The design of Culinary Park reflects the building functions. Symbols illustrating the building appearance will be compared with the experience that already exists, and kept again as a new experience. The building must show the exact scale and size of space that can be used by the users properly. The building design also indicates materials and structures that appropriate to the need of users.

2. Comfort and happiness

According to Wicaksono (2017), physical comfort means comfort that directly affects the state of human body such as thermal comfort. Psychological comfort is different for each individual that will create personal sense of pleasure and quietness. This comfort is stimulated by the fulfillment of the spiritual needs of human soul, such as open spaces that meet the need of human to interact with others.

3. Beauty and composition of forms.

Beauty in architecture consists of several elements, such as integration, balance, proportion, scale, and rhythm, according to Wicaksono (2017). This must be well visualized, so that it gives an impression and atmosphere that distinguishes it from other places. A strong building character creates its own aesthetics.

Cullen's theory of townscape (1976) described the space ownership that accommodates various human needs and emotions, as well as the city traffic and vital mobility. These ideas are the physical form resulted from visual perceptions of forms that can give meaning to these terms. Thus, the great contribution of townscape to architectural design is a design philosophy based on meeting various human needs which are partially fulfilled by the visual environment. The townscape theory is also related to the local genius of a region. According to Cullen (1976), local genius provides significant differences between one area and another in order to strengthen the value of an area. This can be a form of happiness, drama, and emotional response to the physical environment. Humans can be objects of design using the townscape theory with personal experiences from the environment, creating a place, introducing the concept of serial vision, and bringing interaction between emotions and the environment.

### Site Analysis

The selected site is located on the northern side of Alun-Alun Kejaksan, precisely at Siliwangi Street, Kebonbaru Village, Kejaksan District, Cirebon City. The analysis process begins with identifying the land use of Alun-Alun Kejaksan and its surrounding area. As shown in Figure 3, there are various public facilities supporting the Culinary Park, such as the mosque as religious facility, settlements area, health facility, governmental and commercial offices, shops, schools or educational facility, and the square as public open space. Thus, the site has responded the first architectural behavioral principle regarding humans and the environment.



**Figure 3. The Supporting Facilities in Alun-Alun Kejaksan Area**

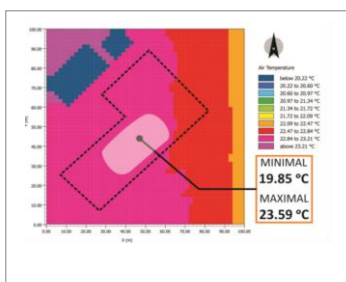
Source: Steffi, 2018

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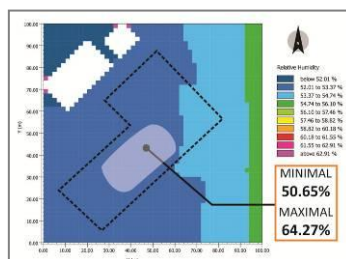
To respond to the second principle of behavioral architecture regarding comfort and happiness for the users of building, the selected site was analyzed with Envi-met software to identify its thermal comfort. Figure 4 shows the results of the analysis from the aspect of environmental temperature. Figure 5 indicates the humidity level of the site, and Figure 6 shows the wind speed in the site. These results indicate that the main activity of culinary can be placed in the middle of the site (signed with white color in the the picture).

The standard of thermal comfort of kitchen and food area refers to the existing regulations. According to SNI-14-1993-03, the ambient temperature is in the category of cool comfort with the temperature range of 20.8 ° C - 22.8 ° C. According to SNI-14-1993-03, the level of air humidity is comfortable with the humidity range of 40% - 70%. The comfortable wind speed that may appropriate to the need of the Culinary Park refers to the wind rate as written in regulation of the Minister of Health number 261/ MENKES/SK/11/1998, that is 0.15 – 0.25 m/s.



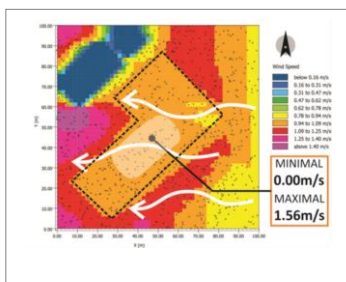
**Figure 4. Environmental thermal analysis**

Source: Steffi, 2018



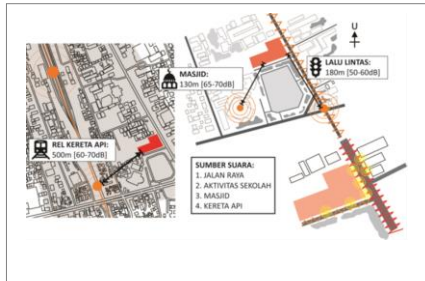
**Figure 5. Humidity analysis**

Source: Steffi, 2018

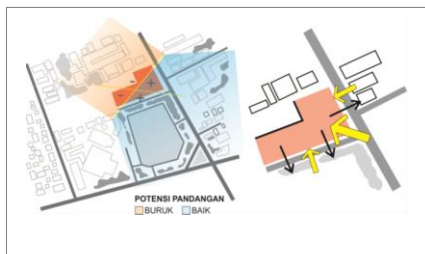




The third principle of behavioral architecture regarding the beauty and composition of the form of the selected site is analyzed through the sensory aspects, namely noise and views both outward and inward site. These sensory elements respond to selected sites by dividing public and private zones according to the convenience of the users. Thus, the arrangement of building masses will influence the spatial composition of the site and the its landscape design. As shown in Figure 7, the sound source is analyzed to identify the noise level on the site. Figure 8 describes the analysis of views both outward and inward site that are classified as good and bad.



**Figure 7. Analysis of sound sources and the noise level on the site**  
Source: Steffi, 2018



**Figure 8. Analysis of views outward and inward site**  
Source: Steffi, 2018

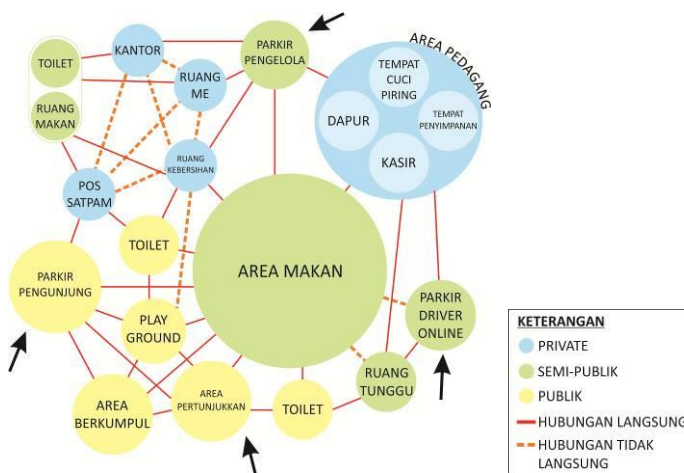
## Programming

The spatial programming of the Culinary Park is identified by the needs of various users/visitors. The spatial needs of the Culinary Park are grouped into three parts, namely: firstly, the primary needs such as kitchen and dining room; secondly, the secondary needs as supporting activities such as recreational, commercial, and gathering places; and thirdly, the tertiary needs as the beauty factor of the area such as parks, open spaces, and monuments. The visitors are identified from age level and the number of people. The age level is categorized as small children (1-12 years), teenagers (13-25 years), and adults (> 25 years). The number of people is classified into three groups, that are: 3-6 people such as family, 2-6 people such as groups of friends, and > 6 people such as a community.

The spatial programming of the Culinary Park is also considered by the principle of architectural behavior, in which human's behavior forms space. The first principle concerning the ability of communication between humans and the environment is implemented through the meet of spatial needs for the main

culinary and managerial activities. This can be seen from the arrangement of selling-buying space, dining area, and management area such as administrative offices and service rooms like cleaning rooms, electrical-mechanical rooms, and storages. The second principle regarding the facilitating of comfort and pleasant spaces for user's activities is manifested through providing supporting activities such as children's playgrounds, meeting rooms and show areas. The third principle concerning the fulfillment of the aesthetic value and form composition is realized through the forming of multiple building structures and building facade topology.

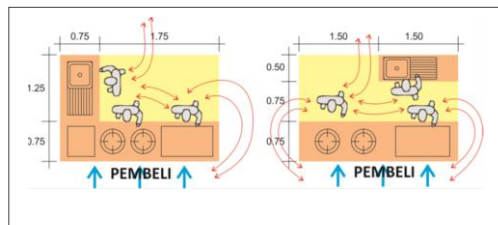
Based on the described design principles, the spatial programming of the Culinary Park is represented in the bubble diagram as shown in Figure 9. The bubble diagram describes the direct and indirect relationships among spaces. The private, semi-public, and public zones are formed according to individual's needs that contribute to the form of activities typology in the Culinary Park.



**Figure 9. The bubble diagram of the spatial programming of the Culinary Park at Alun-Alun Kejaksan**

Source: Steffi, 2018

Besides the interconnected spatial programming, the design of the Culinary Park is considered by the typology of human's behavior of culinary activities. Culinary activities are related to the interaction between sellers and customers, so that an appropriate access is necessary to accommodate the activities of all users.



**Figure 10. Access according to the typology of culinary behavior**

Source: Steffi, 2018



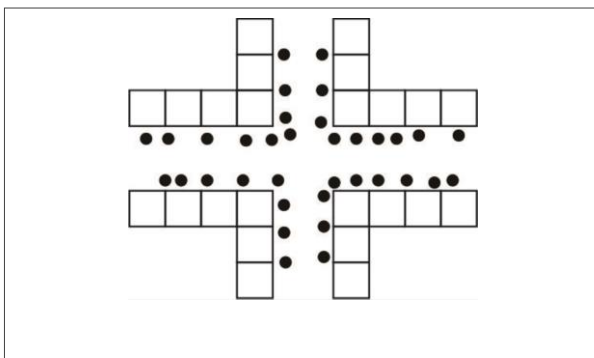
Figure 10 describes the access pattern formed by the behavior of sellers in the kitchen and customers in the dining area.

## Design Ideas

Referring to the results of site analysis and spatial programming, design concept of the Culinary Park is formulated. The design concept is sharpened by the principles of architectural behavior. Each element of the Culinary Park applies the principles of relationship between human and the environment, comfort and happiness, as well as the beauty and composition of form.

The design of the Culinary Park is also considered by the mobility system of vehicle and people. As shown in Figure 12, the vehicle circulation is distinguished according to the users, namely: the management, visitors, and online drivers. The vehicle circulation system influences the placement of the parking lot. The parking lot is divided into 3 types of parking, namely: the private parking lot for the management, the public parking lot for visitors, and the semi-public parking lot for online drivers. The last type of parking lot is located closed to the culinary activities. The circulation for people or pedestrian is also divided into 2 type, namely the circulation for the management and visitors. Such a circulation is formed with linear and centralized pattern of circulation (Figure 11).

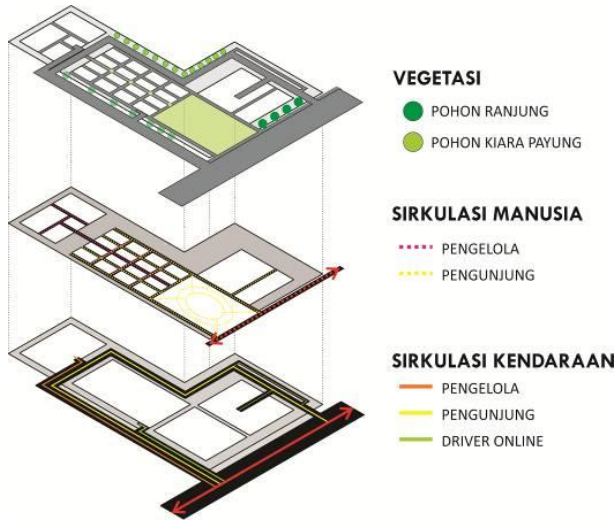
According to McGee and Yeung (1977), the longitudinal spread pattern of circulation is influenced by the pattern of the road network. The activities of informal street sellers that form longitudinal spread patterns can be seen along the main road. This location is strategic and accessible that has the potential to attract both sellers and customers.



**Figure 11. Linear and centralized pattern of circulation**

Source: Graphic by Steffi, 2018

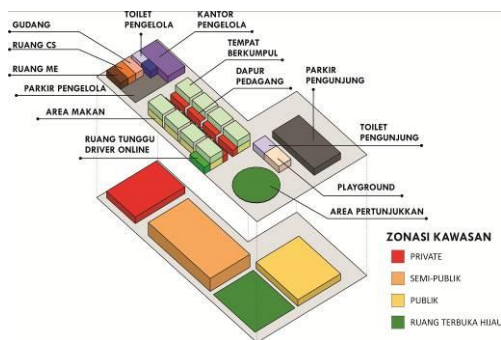
The spatial arrangement of the Culinary Park is also done through the design of outdoor landscape including the type of vegetation and its placement. The vegetation is arranged according to its functions and uses to provide comfort for users in the site. One of the vegetation type is Tanjung trees. This kind of tree can reduce noise and air pollution from vehicles, so that it is placed near the highway. Kiara Umbrella tree can be used as shading from the sun, so it is placed on the west side of the site that can reduce the heat of the sun in the afternoon.



**Figure 12. The design concept of the circulation and vegetation**  
 Source: Steffi, 2018

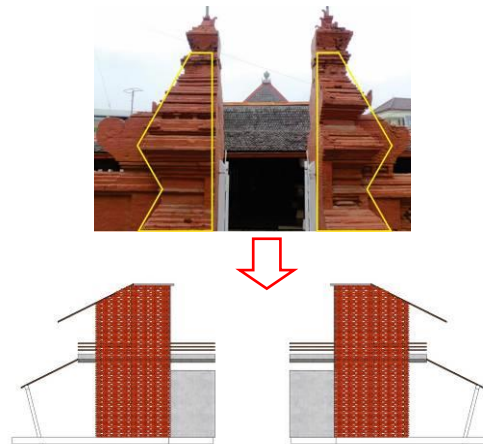
The concept design of the Culinary Park is strengthened by the structuring of building mass on the site according to the zoning characteristic, namely: private, semi-public and public zone and green open spaces. The zoning concept formed from the results of the site analysis is developed with the spatial programming of the Culinary Park. By implementing the idea of compound buildings, this park is formed by several separate building masses arranged according to the zoning (Figure 13).

The private zone is used as an office for the management, storage, cleaning service room, electrical-mechanical room, toilets and parking lot. The semi-public zone is the center of culinary activities. This area is used as a kitchen for the food sellers, dining area for visitors. This area is equipped with a gathering place on the second floor and a waiting room for online drivers. The public zone accommodates some extra activities of visitors, such as parking lots, toilets and children's playgrounds. The green open space becomes an area for performing music or other type of entertainment. This area can be flexibly used according to the needs of the show.



**Figure 13. The building mass according to the zoning concept**  
 Source: Steffi, 2018

The building form of the Culinary Park is designed by considering the local type of architecture, that is the Bentar Style of Cirebon Gate. As shown in Figure 14, the building form is referred to the Bentar Style Gate. The local context can be easily recognized through the use of brick for the building material. This material is used as walls and structure materials of heritage buildings in Cirebon City.



**Figure 14. The concept of building form of the Culinary Park**

Source: Steffi, 2018

## Conclusion

The behavioral approach in architectural design is appropriate to formulate design concept of the Culinary Park around Alun-Alun Kejaksan in Cirebon City. By considering the behavior of the street vendors and the customers, the spatial programming and the form of building mass can accommodate the needs of a comfortable recreational facility in Cirebon City. The measurement of physical thermal of the site is sharpened the design concept of the Culinary Park that can be used both for economic and recreational purposes of the users.

The applying of local form of Bentar Style Gate for the Culinary Park will give a strong impression and great memory about Cirebon City for the visitors.

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