

PAPER • OPEN ACCESS

Waterfront concept development with community-based tourism

To cite this article: I R Sushanti *et al* 2020 *IOP Conf. Ser.: Earth Environ. Sci.* **447** 012019

View the [article online](#) for updates and enhancements.

You may also like

- [Development of an improved wearable device for core body temperature monitoring based on the dual heat flux principle](#)
Jingjie Feng, Congcong Zhou, Cheng He et al.
- [A Cutting-Edge Sensor to Detect Clenbuterol in Animal Biological Fluids](#)
Nguyen Mau Thanh, Do Mai Nguyen, Anh Quang Dao et al.
- [Traceable Coulomb blockade thermometry](#)
O Hahtela, E Mykkänen, A Kemppinen et al.



ECS
The
Electrochemical
Society
Advancing solid state &
electrochemical science & technology

DISCOVER
how sustainability
intersects with
electrochemistry & solid
state science research

Waterfront concept development with community-based tourism

I R Sushanti¹, I A Abednego¹, D Septanti¹, H R Santosa¹ and R Kisnarini¹

¹Department of Architecture, Faculty of Architecture, Design, and Planning, Institut Teknologi Surabaya, Keputih, Sukolilo, Surabaya, Indonesia

Corresponding author's e-mail: imarahmawati77@gmail.com

Abstract. To achieve sustainable development in urban areas requires the active cooperation of all parties, especially the people. The informal settlements in the Kalisari area of Surabaya are still not optimally handled and organized through community participation. This study was conducted to identify the role of the local community, determine the direction of the development concept and assess whether the proposed design suits the Kalisari waterfront development concept as sustainable ecotourism based on Community-Based Tourism (CBT). Literature study and empirical findings contribute to the theory of CBT for economic, socio-cultural, environmental, and life satisfaction aspects. The research method is descriptive-qualitative using both primary and secondary data. The results showed that people support the concept of the CBT-based waterfront development in Kalisari. By producing the relevant design concepts based on CBT, the areas can develop from unproductive into productive areas in terms of economic, socio-cultural, environmental aspects and life satisfaction.

1. Introduction

Sustainable development is a way to understand the world as a complex interaction between economic, social, environmental, and political systems. It is also a normative or ethical view of the world which determines that the function of society is to provide welfare for its citizens today and for future generations. Tourism is one sector that has the potential to generate foreign exchange earnings for developing countries through (1) increasing tourism growth; (2) declining raw material prices for petroleum in the world market; and (3) tourism is a non-polluting sector, unlike manufacturing. The development of the tourism sector in Indonesia is an effort to reduce dependence on the oil and gas sector for state revenue. Currently, the tourism sector is ranked as the sixth producer of revenue. The role of the tourism sector is still too small to generate foreign exchange. However, this sector has the potential for economic growth and diversification. Some of the reasons to further develop this sector are the resulting sustained increase of foreign exchange earnings, and the increase is accompanied by adequate stability [1]. Therefore, it is necessary to develop the potential of natural resources for tourist areas and not only focus on the economic/financial side of tourism. Sustainable eco-tourism is a process that utilizes natural resources but has minor negative impacts, is nature conservation-based, and has sustainable economic value.

Designing a city is not simply a process of creating a future image of the city twenty years from now [2]. It is an attempt to make a better future in social, cultural, economic, and environmental terms



[3]. Urban design is the result of integration between architecture and planning, in which urban design structures buildings to form a single composition [4]. Historically, the concept of urban design is based on human values, aspirations and the ability to achieve it [4]. Therefore, since antiquity, urban design has reflected a belief in cosmic harmony informing ideas about the ideal city [5]. In addition, the city has become a place not only to live and work, but cities also reflect the human physical and spiritual culture [4]. To develop the Kalisari waterfront for sustainable ecotourism, the design should utilize its potential and increase attractive open public spaces around the traditional markets and residential areas.

The research problem is the suboptimal handling of the Kalisari, Surabaya City, Indonesia, which has the potential as a waterfront. The development should consider various aspects, namely social, cultural, economic and environmental and involve the community through a Community-Based Tourism (CBT) approach leading to theoretical contributions to literature. The objective of this study is to determine the role of local communities in the coastal development of Kalisari via a Community-Based Tourism (CBT) approach framework.

2. Theory and methods

2.1. Settlement and sustainable ecotourism

Sustainable development is a human effort to improve their quality of life while maintaining life-supporting ecosystems. Sustainable development is considered a complex concept because of the interrelatedness of many elements that must be taken into consideration. One cause of the suboptimal implementation of sustainable development in Indonesia is a low understanding of the topic. Another problem is the lack of political commitment and goodwill of stakeholders to implement sustainable development [6]. A sustainable settlement does not only meet the basic needs of the current generation but also future generations while considering the quality of the environment [7]. A holistic approach is used to determine the sustainability in the construction of a residential neighborhood [8]. The development of ecotourism is an activity offered to the public, as a form of interaction between man and nature. The goal is a sustainable long-term relationship.

2.2 Community-based tourism (CBT)

Tourism development changes over time [9], one of the most positive perceptions on tourism is the perceived economic benefits in the early stages of tourism development [10-12]. Tourism has possible negative socio-cultural and environmental impacts but these are within acceptable limits [13]. In some developing countries, social and cultural impacts are ignored during the early stages of development [10-11]. Compared with negative perceptions, positive perceptions increased rapidly at the development stage because people assume that tourism benefits will outweigh the costs, which leads to support of tourism development. Despite the positive perception of tourism, communities can also slow down the pace of development, and negative perceptions may increase rapidly [10, 12]. In some developing countries, perceptions can vary based on the level of involvement of communities in tourism [14-15]. Citizens who value local resources and support the development of tourism will be more supportive of the tourism sector [15]. It also found that residents who do not participate in tourism tend to have more negative attitudes towards tourism than those who are involved [16]. This leads to the necessity of meaningfully involving the active population to partake in economically beneficial tourism activities which will help improve public perception.

In terms of measuring the sustainability of CBT, economic, social and cultural, environmental, and life satisfaction factors are important [17-18]. Tourism development policies provide benefits to the local community in terms of economic, social and cultural factors, environmental conservation, and happiness [19]. CBT has the opportunity to improve the quality of life and protect the local environment [20-21]. It can also help deliver business services that will improve visitors' satisfaction and create new revenue sources in accordance with the region's potential, which can help promote the economic sustainability of the region [22]. CBT also provides an opportunity for citizens to improve

their social identities or traditional culture, as well as improving social coherence [17]. Natural resources will be recognized, respected, and protected through CBT. To achieve sustainable development centered on CBT, the community should be able to achieve life satisfaction via material prosperity, emotional well-being, health, and financial security [18]. By assessing the community life satisfaction, managers can understand the public perception of the impact of tourism and its influence on the material, people, emotions, and health and safety that contribute to the sustainability of CBT [23].

Aspects of CBT include: 1) the economic aspects of sustainability consisting of increasing employment, improving the shopping facilities, increasing local government tax revenue, promoting local business opportunities, and attracting more investment opportunities [17, 20, 24]; 2) the social and cultural aspects of sustainability are participation in cultural activities, develop cultural activities, maintain the local culture, cultural exchanges, the positive influence on the cultural identity, and improving facilities [17, 20]; 3) environmental sustainability involves protecting the natural environment and wildlife habitats, protecting the diversity of biological communities, and raising environmental awareness [17, 24-25]; and 4) the sustainability of life satisfaction consists of good health, good security, and satisfaction in terms of family, recreational, spiritual, cultural life, social life, the local community, the housing conditions, living standards. Lastly, life is perceived as satisfactory [18, 23, 26].

2.3 Waterfront development concept

The waterfront combines urban areas and bodies of water, which is linked with the urban macro and micro, and the city center. Therefore, waterfront development needs to be carried out with the right concept and integrated according to the potential of the surrounding region and provide sustainable benefits to the local communities. To optimize the potential of the waterfront area in the concept and design, the local characteristics of the area should be highlighted [27]. Roads, infrastructure and design of the waterfront are important features and bright colors are indispensable for the development of waterfronts in the city [28-29].

In the design process, the waterfront area should consider existing design elements so that the area will have clear characteristics and increases the potential of the region. There are eight elements of urban design [30], namely: 1) land use, 2) shape and building mass, 3) circulation and parking, 4) open space, 5) pedestrian areas, 6) signage, 7) support, and 8) conservation. Aspects of waterfront development comprise comfort, safety, security, accessibility, and business opportunities [31]. Aspects of ecotourism in riverbank development also consider several aspects such as charm, facilities, infrastructure, and transport [32].

3. Research methods

The method used in this research is qualitative-descriptive using primary and secondary data. The primary data is obtained by observations and interviews with respondents in the case studies. The data collection used purposive sampling to uncover public perceptions of efforts on their inclusion in the development of the concept of the waterfront CBT. Consequently, the respondents involved in this study are representative of the communities living in the waterfront district. Meanwhile, the secondary data is obtained by a literature study relating to the waterfront with a sustainable eco-tourism concept and a CBT approach. The analysis is performed using triangulation analysis for the parameters of CBT relating to sustainable development and urban design and CBT approach. The analysis of the existing conditions is conducted to determine the potentials and the problems in the area based on the extent of public involvement in the waterfront area development. The waterfront development and proposed design use CBT design elements. This paper will contribute to theory in its discussion of literature and the empirical facts in the development of a waterfront area.

4. Results and discussion

4.1 Description of the Kalisari riverbank

The Kalisari area has multiple functions such as residential, trade and services and it has places of worship. The residential area is dominated by informal settlements with domestic and economic activities by the inhabitants. The settlements have various economic activities such as a grocery shop serving the surrounding communities, boarding houses, and laundry places. Meanwhile, outside communities and street vendors use the riverside areas for economic activities that support the local communities. These settlements are located along the road overlooking the Kalisari river. It is an unproductive settlement that requires integration to create a comprehensive spatial arrangement. Kalisari's residential area can be seen in Figure 1 below.

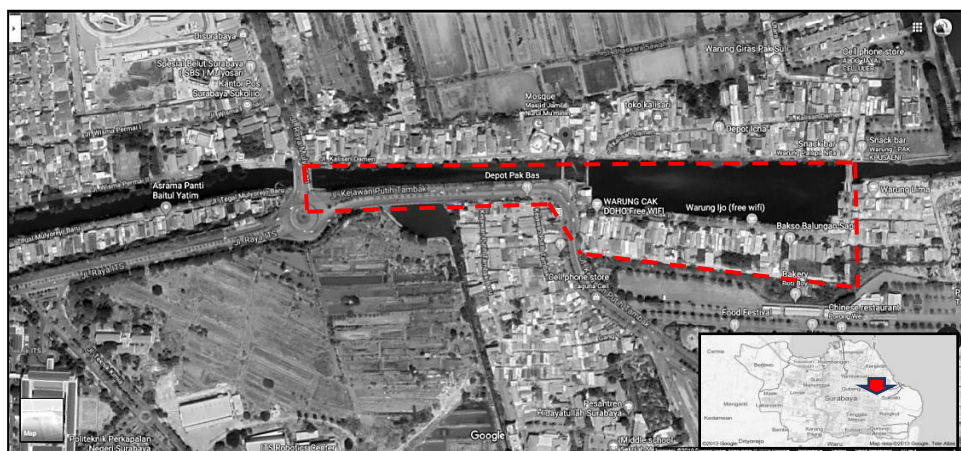


Figure 1. Kalisari waterfront based on design research 2019

This area of Kalisari is an open space that supports the activities of people in the vicinity. Space-based activities are divided into two types: active and passive open space. Active open space is an open space that has an element of activity, e.g., playing, sports, sightseeing. This open space could be in the form of plazas, sports fields, playgrounds for children and recreational areas after the reforestation of the riverbanks. Passive open space is an open space that does not contain elements of human activity, e.g., greening lane, greening the edge of the railroad tracks, greening the edge of the riverbank, or reforesting natural areas. This space functions as merely for visual beauty and ecological functions.

The area of active open space is situated along the riverbanks and the road corridor environment. It is used as vehicle and pedestrian paths, including river reforestation that has potential as a place of recreation. It can be seen in Figure 2 below. The passive open space in this area is the edge of the road, which is used for reforestation with the purpose of visual beauty and ecological functions. It can be seen in Figure 3.

Related to ecotourism, the riverbank has productive and unproductive areas. Productive areas are capable of producing large benefits or continuous production and are used regularly to form new elements. Thus, productive areas can provide added value, both in terms of results and continuous benefits. In Kalisari, the productive area consists of residential areas, traditional markets, and other services and trade areas. Meanwhile, the non-productive areas consist of open space that cannot be used optimally. This is certainly a concern for the region, both in terms of physical and non-physical influence on the Kalisari community and region.

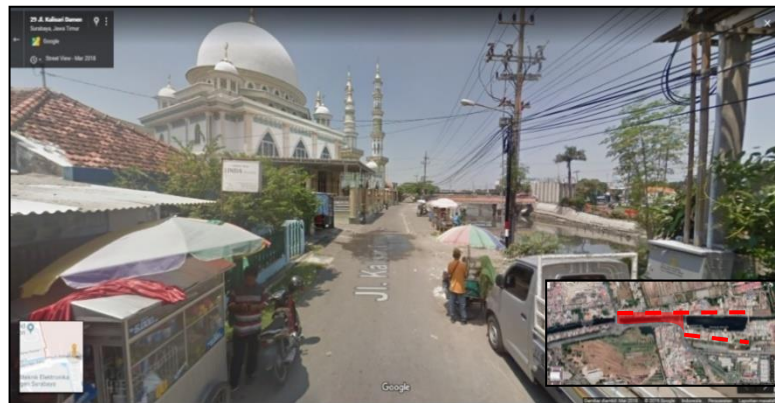


Figure 2. Active open space along the riverbanks based on observation 2019



Figure 3. Edge area of Kalisari settlement based on observation 2019



Figure 4. Productive and unproductive zones of Kalisari from design research 2019

The CBT approach attempts to develop the Kalisari area as an ecotourism waterfront concept by involving the public perception. The community is encouraged to offer their thoughts on waterfront neighborhood development efforts by considering economic, social and cultural, environmental and life satisfaction. The people who are involved consist of three categories, namely: community leaders, community organizations and residents. Based on public perception, the productive area is more dominant in achieving life satisfaction by the community rather than the non-productive areas. There are small gaps in life satisfaction. Thus, the optimum condition supporting life satisfaction of the community is still not achieved. People's perceptions about the sustainability of public life satisfaction

at informal settlements show that there are some met and unmet aspects. Aspects of life satisfaction that are met by 60% of respondents are health, safety, and satisfaction with housing. Meanwhile, 30% achieved life satisfaction in social life, family and community relationships. Aspects of life satisfaction that are still minimally fulfilled are recreational, spiritual, and cultural aspects, living standards, an extraordinary life, and overall life satisfaction. This indicates that people still need to fulfill many aspects of life satisfaction, namely self-esteem, besides basic, security, and social needs that already have been met. One solution that enables this is to design an area that could positively impact people's lives. Ensuring that the design of non-productive areas in the zone is more productive requires the optimal involvement of the community.

Based on existing conditions with the CBT approach, from an economic aspect, there are still potential areas to be developed that can increase employment and stimulate local business opportunities along the riverbanks of the Kalisari including other supporting facilities such as mosque architecture, and attractive traditional markets. Meanwhile, from social and cultural aspects there needs to be an increase in participation in cultural activities and an improvement of existing facilities with the active participation of the community. Meanwhile, to date there is still no public institution that has been formed for the purpose of this. From the environmental aspect, there is a need for intensive efforts to protect the river environment and natural ecosystems while increasing raise environmental awareness. The analysis and development efforts conducted refer to the predetermined concept using triangulation analysis based on aspects of sustainable development, CBT approach and elements of urban design.

Workshops can be conducted on various aspects of waterfront development. Economic aspects that can be addressed are 1) increasing employment via the formation of multiple businesses or SMEs; 2) creating superior products typical of the riverside area Kalisari; 3) providing interesting and informative ways of displaying the identity of the riverside area. Workshops based on the social and cultural aspects of waterfront development concept include 1) creating safe and affordable parking in open spaces that are accessible to ensure it will be more productive and profitable, 2) involving the community fully in keeping and maintaining the cleanliness and beauty of the environment with a clean and healthy lifestyle; and 3) building a community institution that supports the sustainability of the waterfront area ecotourism. Workshops on the environmental aspects of waterfront development concept include 1) keeping and maintaining the authenticity and natural state of the ecotourism area and the surrounding environment; 2) normalizing and revitalizing the river Kalisari so that it can function properly; 3) optimizing the vegetation along the riverbanks; 4) improving public services or mutual assistance in periodically maintaining the riverbanks; and 5) providing sufficient facilities such as bathrooms/or public toilets, bins, communications networks, etc. Workshops on the life satisfaction aspects of the waterfront development concept can be on optimizing the design of the riverbank Kalisari to increase the value and sustainable benefits as well as have a positive influence and contribute to the satisfaction of people's lives, for both residents and visitors.

Visual directives based on the concept of a sustainable ecotourism waterfront development can be described as follows:

1. Structuring the area using the concept of riverbank development as a tourist area by integrating sustainable components of an existing design. This is through a CBT approach, which consists of various aspects, i.e., economic, environmental, and social-cultural. Whereas, aspects of life satisfaction are an integral part of design purpose. Efforts to normalize and revitalize the riverbank comprehensively integrate the river with the surrounding environment to gain sustainable benefits. The conceptual arrangement of the riverside area and surrounding residential environments can be seen in Figure 5.
2. The arrangements for the Kalisari area with a sustainable ecotourism riverside development concept can transform the river edge, the Kalisari settlement, and open spaces into productive areas. For this area to be able to provide added value to the community and the surrounding environment, there should efforts to create economic and business opportunities that can

empower community participation and improve the visual quality of the area. The proposed design for this can be seen in Figure 6.



Figure 5. Active Open Space in Kalisari Waterfront, designed in this research.



Figure 6. Waterfront Kalisari into Productive Zones, designed in this research.

5. Conclusion

The study of the Kalisari area in Surabaya shows that:

1. The community supports the waterfront development concept as sustainable ecotourism using the CBT approach. This is evident from the positive response during the interviews and observations.
2. The concept of waterfront development refers to economic, socio-cultural, environmental aspects and community life satisfaction by optimizing the active role of the community.
3. Based on the CBT theory, aspects of life satisfaction are important part of regional development that can shape the character of the region. Thus, life satisfaction is integral in the design of an area, in which designers address the impression, meaning and satisfaction of each person and can increase the productivity of the area to ensure the continuous provision of value and positive contribution to society and the environment.

In order to achieve the vision and mission of the city of Surabaya, it is strongly suggested that the active participation of many parties in a holistic approach to planning toward sustainable settlement development needs to be practiced. This involves managing and evaluating all stages of development in urban areas to achieve the city's development goals and deliver valuable benefits on an ongoing basis.

Acknowledgment

The authors wish to thank the ITS Architecture Department of Housing and Human Settlement especially the members of the laboratories for all the support and guidance, so this research can be completed.

References

- [1] Kuntjoro-Jakti D 1989 Pariwisata dan pembangunan ekonomi: Tinjauan dalam perspektif Indonesia *Ekonomi* **5** 37-58
- [2] Barnett J 1982 *An introduction of urban design* ed C L Dingler (New York: Fitzhenry & Whiteside Limited)
- [3] Moughtin J C 1992 *Urban design: street and square* (Oxford: Architectural press)

- [4] Akkerman A 2000 Harmonies of urban design and discords of city-form: Urban aesthetics in the rise of western civilization *Journal of Urban Design* **5** 267-90 DOI: 10.1080/713683970
- [5] Abdoellah O S 2016 *Pembangunan berkelanjutan di Indonesia: Di persimpangan jalan* (Jakarta: Gramedia Pustaka Utama)
- [6] Chiu R L H 1999 *Sustainable development: A new perspective for housing development* (Hongkong: Centre of Urban Planning and Environmental Management, The University of Hongkong) Available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.509.2134&rep=rep1&type=pdf> Accessed 19-01-2020
- [7] Thorns D C 2004 *Creating sustainable housing: The challenge of moving beyond environmentalism to new models of social development* (Canterbury: Social Science Research Centre, University of Canterbury) Available at https://pdfs.semanticscholar.org/e4d8/cdd64d57f68ba3aca410784534fc01440567.pdf?_ga=2.82895318.1529195658.1579448869-1020586802.1579448869 Accessed 19-01-2020
- [8] Butler R W 1980 The concept of a tourist area cycle of evolution: Implications for management of resources *Canadian Geographer* **24** 5-12 DOI: 10.1111/j.1541-0064.1980.tb00970.x
- [9] Diedrich A and García-Buades E 2009 Local perceptions of tourism as indicators of destination decline *Tourism Management* **30** 512–21 DOI: 10.1016/j.tourman.2008.10.009
- [10] Lepp A 2007 Residents' attitudes towards tourism in Bigodi village, Uganda *Tourism Management* **28** 876-85 DOI: 10.1016/j.tourman.2006.03.004
- [11] Long P T, Perdue R R and Allen L 1990 Rural resident tourism perceptions and attitudes by community level of tourism *Journal of Travel Research* **28** 3-9 DOI: 10.1177/004728759002800301
- [12] Kang S K, Lee, C K, Yoon Y and Long P T 2008 Resident perception of the impact of limited-stakes community-based casino gaming in mature gaming communities *Tourism Management* **29** 681–94 DOI: 10.1016/j.tourman.2007.07.011
- [13] Nicholas L N, Thapa B dan Ko Y J 2009 Residents' perspectives of a world heritage site: The Pitons management area, St. Lucia *Annals of Tourism Research* **36** 390-412 DOI: 10.1016/j.annals.2009.03.005
- [14] Shakeela A dan Weaver D 2018 “Managed evils” of hedonistic tourism in The Maldives: Islamic social representations and their mediation of local social exchange *Annals of Tourism Research* **71** 13–24 DOI: 10.1016/j.annals.2018.04.003
- [15] Hunt C and Stronza A 2014 Stage-based tourism models and resident attitudes towards tourism in an emerging destination in the developing world *Journal of Sustainable Tourism* **22** 279-98 DOI: 10.1080/09669582.2013.815761
- [16] Choi H-S C and Sirakaya E 2006 Sustainability indicators for managing community tourism *Tourism Management* **27** 1274-89 DOI: 10.1016/j.tourman.2005.05.018
- [17] Gurung D B and Seeland K 2008 Ecotourism in Bhutan: Extending its benefits to rural communities *Annals of Tourism Research* **35** 489-508 DOI: 10.1016/j.annals.2008.02.004
- [18] Lee T H 2013 Influence analysis of community resident support for sustainable tourism development *Tourism Management* **34** 37-46 DOI: 10.1016/j.tourman.2012.03.007
- [19] Ohe Y and Kurihar, S 2013 Evaluating the complementary relationship between local brand farm products and rural tourism: evidence from Japan *Tourism Management* **35** 278-83 DOI: 10.1016/j.tourman.2012.07.003
- [20] Ohe Y 2008 Impact of rural tourism operated by retiree farmers on multifunctionality: evidence from Chiba, Japan *Asia Pacific Journal of Tourism Research* **13** 343-56 DOI: 10.1080/10941660802420945
- [21] Ohe Y 2012 Evaluating operators' attitudes to educational tourism in dairy farms: the case of Japan *Tourism Economics* **18** 577-95 DOI: 10.5367/te.2012.0131

- [22] Woo E, Kim H, and Uysal M 2015 Life satisfaction and support for tourism development *Annals of Tourism Research* **50** 84-97 DOI: 10.1016/j.annals.2014.11.001
- [23] Yu C P S, Chancellor H C and Cole S T 2011 Measuring residents' attitudes towards sustainable tourism: a reexamination of the sustainable tourism attitude scale *Journal of Travel Research* **50** 57-63 DOI: 10.1177/0047287509353189
- [24] Sirgy M J and Lee D J 2006 Macro measures of consumer well-being (CWB): a critical analysis and a research agenda *Journal of Macromarketing* **26** 27-44 DOI: 10.1177/0276146705285669
- [25] Kim K, Uysal M and Sirgy M J 2013 How does tourism in a community impact the quality of life of community residents? *Tourism Management* **36** 527-40 DOI: 10.1016/j.tourman.2012.09.005
- [26] Chen K, Qian L and Yan Z 2016 An exploration of the regeneration strategy of harbor city interface waterfront-a case study of Marseille old port in France *Urban Development Studies* **4** 27-39
- [27] Xian N and Zhao R 2015 A primary exploration of the waterfront park landscape design in modern cities *Design* **13** 125-26
- [28] Liang Y and Zhu J 2014 On the construction of the planning and design strategy of mountainous city and river landscape under the ecological catalyst effect--a case study of Kuxi river in New Tea Garden district, Chongqing *Construction of Small Towns* **1** 50-56
- [29] Shirvani H 1985 *The Urban Design Process* (New York: Van Nostrand Reinhold Co)
- [30] Sastrawati I 2003 Prinsip perancangan kawasan tepi air kasus: kawasan Tanjung Bunga *Jurnal Perencanaan Wilayah Kota* **14** 95-117 Available at <http://journals.itb.ac.id/index.php/jpwk/article/view/4305/2340> Accessed 19-01-2020
- [31] Spillane J J 1994 *Pariwisata Indonesia: siasat ekonomi dan rekayasa kebudayaan* (Yogyakarta: Penerbit Kanisius)
- [32] Chafid F 2002 *Perencanaan kepariwisataan alam* (Yogyakarta: Universitas Gajah Mada)