



Production Process of Urban Space: An Actor-Network Theory Analysis on Sociology-Translation of Ciliwung River Banks Public Space

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Abstract: Urban spaces are not pre-existed and was enacted through social works. This research attempts to explain how urban spaces are enacted by social interaction, that is the work of building associations. Taking an empirical study at Komunitas Ciliwung Depok, this research utilizes Actor-Network-Theory as an approach to how every actant is involved in enacting their own spaces, later known as public open spaces around Ciliwung River. Drawing previous works of Michel Callon's moments of translation, public open spaces are perceived differently among actants, while carrying their actions in enacting space by enrolling other actants. This research finds that there are 3 stages where space is realized through translation, namely the interaction of 'environmental aspects' with 'key persons', the interaction of 'social aspects' that built and formed the collective, and the increased intensity of interaction between various actants and their mediators to carry their actions in enacting space.

Keywords: Public spaces, Actor-Network-Theory, Ciliwung River, River bank

The existence of spaces in various areas is needed, both private and public spaces, from built-up spaces to open spaces. So that the realization of space must be able to reach all three dimensions simultaneously, namely land, sea, and air which are highlighted both horizontally and vertically (Jensen and Sandström 2020) with various aspects, namely economic, ecological, social and cultural as well as various interests in them such as community activities (working and living) (Allmendinger & Graham 2013). In the development of theories regarding the creation of existing space, it has spread widely with various understandings and meanings of each (Erdi-Lelandais 2014c, Kipfer et al 2013, Merrifield 2013, Stanek 2011, Brenner and Elden 2009, Goonewardena, Kipfer 2008, Milgrom and Schmid 2008, Zieleniec 2007, Shields 2005 Elden 2004, Lebas and Kofman 2003, Kipfer 2002, Elden 2001). Henri Lefebvre (1991: 375) in his book 'The Production of Space' introduces the idea that space is socially produced. The most frequent application of the Lefebvorean concept is in fields such as architecture and urban studies (Çınar 2014, Gegelioğlu and Aydın 2014, Karakaya 2010, Kaypak 2014a, 2014bY. Baş 2010, Turhanoglu 2010, Koçak 2008, CS Wilson 2007) and social movements in urban areas (Erdi-Lelandais 2014a, 2014b, 2013, Fırat 2011, Ergin 2006, Batuman 2003). Talking about social space, it is inseparable from the importance of creating a public open space whose needs are currently increasing along with the increasing number of private

spaces that are built so that public open spaces are increasingly difficult to find. Then the problem arises when the need for space to live and work is not proportional to the rapid population growth and high land prices, especially in urban areas. It causes people in urban areas to have limited options in fulfilling the need for space to live (Aschwanden & Wallraff 2017). As a result, land conversion becomes the most logical consequence of increasing activity and population and other development processes. Land conversion at a certain stage is natural, but on the other hand, if it is not controlled, it will be more problematic because generally, the conversion of function occurs on land that is still productive (Arsyad and Rustiadi 2008), such as carrying out development on a river bank which should be a public green open space area that has a function for the river ecological system can take place in a sustainable manner (Havinga 2020). In response to these problems, there is currently a new approach in space studies that can view a space no longer as a static physical container that waits to be used first but rather as the result of a manifestation of user interpretation that is constantly changing through the association of various actors occupying the space (Kim 2019). The Actor-Network Theory (ANT) approach is considered highly relevant in conceptualizing space as a phenomenon that can be explained through its network of relationships (Kim, 2019, Tornaghi 2014, Bricocoli and Savoldi 2013, Kärrholm 2007). Simply put, Actor-Network

Theory (ANT) can distinguish itself from other sociotechnical approaches by considering both human and non-human elements such as spatial material, natural conditions, to social relations as actors in a network (Webb 2011, Boelens 2010, Rydin 2010, Doak and Karadimitriou 2007)

This research intends to be able to contribute to realizing urban space by providing an overview of the interaction model of various parties (actors) by using Actor-Network-Theory (ANT) in the realization of public open space. Where ANT can easily know the interrelationship between actors involved in the process of manifesting a space. ANT focuses on tracking actants and their networks to understand their interactions within the organization (Guy and Moore 2005). According to opinion (Fox 2000), that ANT can be used to investigate how actors can come as a group to achieve something desired. Yuliar (2009), defined the actor as the initiator of an action. Actors also have roles in an agency or group called human actors and non-human actors have roles in a network. This research wants to investigate actors involved in a project to determine the optimal institutional application.

MATERIAL AND METHODS

This research utilizes the qualitative method with the Callonian Actor-Network-Theory framework. That is a qualitative method with the sociology of association in mind in guiding its question or observation. Actor-Network-Theory was introduced by Bruno Latour (2005) in his works to follow scientists in action. Callonian version of ANT utilize moments of translation that divide the works of doing association into four phases, namely problematization, intersegment, enrollment, and mobilization. The qualitative method is used in this research to study the interaction of actors in the realization of green open space for the Ciliwung River bank and formulate a model of interaction patterns in the realization of sustainable public green open space in the Ciliwung River banks. The study began by describing this research data as a chronological narrative. Data for this research is drawn from the border of the Ciliwung River, Depok City, West Java, Indonesia. The Ciliwung River is one of the rivers that has the highest level of land criticality in Indonesia, reaching a very critical level from 2014 to the present and its size has continued to increase to reach 4,904 hectares or 11.65% of the total area of the Ciliwung River bank from the upstream to the downstream. (Ministry of Agrarian Affairs and Spatial Planning / National Land Agency 2018, p III-45). This research was conducted for 12 months from March 2019 to March 2020 using both primary and secondary data analysis. Data collection was delayed by the establishment of Large-Scale Social Restrictions (PSBB) in

Jakarta due to the Covid-19 outbreak, which took effect on April 10, 2020. Primary research data included the results of direct deep interviews and the implementation of focus group discussions (FGD) involving approximately 60 informants/actors consisting of the Central Government, Depok City Government, area developers, communities, and communities around the Ciliwung River Depok. Meanwhile, secondary research data is obtained through the results of indirect data collection, such as through the internet, literature, and internationally accredited journals. Data was gathered and analyzed by imposing Callon's Moments of Translation on the respected actants and constructing their translation phase. After that, we extract particular characteristics of the actants involved and describe how they built an association with other actants. These characteristics are then juxtaposed with the facts and findings in the field obtained through the translational actor-network theory, so that they can produce targeted planning, and can create an active and environmentally friendly public space near the Ciliwung River in the future.

Depok city is one part of the Ciliwung River whose banks are also experiencing land criticism. This is a concern of many parties so environmental organizations specifically have a role in preserving and maintaining the existence of the Ciliwung river. one of them is the Organization of Depok Ciliwung Community, which this community becomes one of the communities that have a role in maintaining the sustainability of the Ciliwung River while utilizing the river bank as an active public open space to be the location of positive activities that are non-destructive to the ecological functions of the environment. Starting in 2009, a developer from Anyelir Park Estate was doing land restoration activities. These activities were criticized for harming the environment by lowering the land area to build parking area, potentially causing the flood to the downstream part of the river. Attempts were made to cleanse the river or restore the river and got the attention of the Depok City Government. Finally in Komunitas Ciliwung Depok (Depok Ciliwung Community/KCD) was formed in 2010. KCD has begun to be more active in voicing its programs to the community, especially students from the University of Indonesia who have been invited to work together before to participate in various KCD programs, one of which is the Run4River activity which aims to introduce the Ciliwung River to children, youth and rubber boat training activities which are a collaborative program between BLH Depok City, MAPALA UI, and KCD. Various cooperation programs between institutions, companies, and universities through KKN and Community were organized. The service together with the University of Indonesia are considered successful and have

resulted in a new open space located under the Grand Depok City Bridge, and until now it has been used as the base camp of the Depok Ciliwung Community itself. Seeing the success of the collaboration between the University of Indonesia and KCD and various other stakeholders entered into the organizational structure of the Depok Ciliwung Community.

The open space of the Ciliwung River School (Sekolah Sungai Ciliwung/ SSC) is geographically the same as the KCD public space, which is located on the banks of the Ciliwung river and close to the main road. Boundary-wise, SSC is located in the administrative area of South Jakarta. In addition, the social characteristics are also similar, namely being in the middle of an urban residential area. Starting in 2006, several residents living around the Ciliwung River realized that the space on the riverbank was getting full of garbage day by day. This waste mainly piles up in empty spaces where there are no buildings and should be used as a place for plants along the river as a catchment area. Because these spaces seem they have no property and are responsible for protecting them, people can throw garbage and do anything to destroy the physical quality of the space. Seeing the condition; The citizen as well as people who often do activities on the riverbank then invites the community and other space users to clean the space on the riverbank. The movement that began in 2006 continues to involve various parties. One of those who are encouraged to contribute to the preservation of the environment on the riverbank is PLN. With this support at the same time in 2012 formed community of Masyarakat Peduli Ciliwung (Mat Peci) (The Community Cares for Ciliwung) to accommodate support provided by the Government, PLN, and other private sectors. At first Mat Peci had a basecamp on the road MT Haryono Jakarta, but because the area is not wide enough to accommodate activities then there is the idea for basecamp to be moved to Lenteng Agung (the current location) in 2016. So that the moment of problematization and interest that occurred from 2006 to 2016 occurred not on the banks of the Ciliwung River that are now used as the place of SSC. After the basecamp was moved to Lenteng Agung in 2016, it can accommodate various parties who wish to contribute to various programs initiated by SSC. There, various facilities and buildings were built to accommodate various community and community activities related to river conservation, for example, there are shelters, jetty, toilets, prayer rooms (musholla), camping ground, and others. Since then, SSC has been increasingly recognized, and many parties have contributed, and this includes receiving various awards from the Government. In addition to parties from outside the region who are interested in contributing to environmental care activities in the SSC area, various activities also involve

people living around the SSC. People who initially do not pay attention to the river as an important element of the environment then begin to assume that the river has an important role in environmental sustainability, namely providing ecological, social, and economic benefits with the activities carried out.

The mobilization process mainly occurred when activities

Case Study A: Public Open Space in Komunitas Ciliwung Depok



Source: Private Documentation, 2019

Fig. 1. Orthophoto of Ciliwung Depok Community Public Space



Source: Private Documentation, 2019

Fig. 2. Orthophoto in the School of Ciliwung River (SSC) Public Space



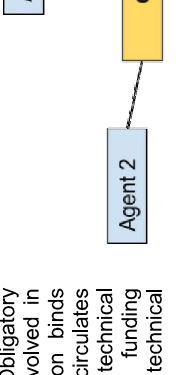
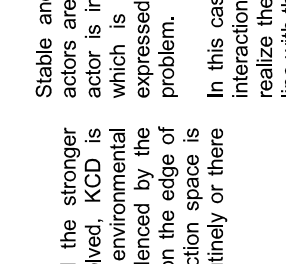
Source: Private Documentation, 2018

Fig. 3. Various activities in the School of Ciliwung River (SSC) Public Space

Table 1. Sociology-translation analysis of case study

Translation moment	Interaction between actor	Synthesis	Diagram
<p>Problematization</p> <p>KCD Public Space There has been a change in the function of the riverbank area to become a residential area and does not pay attention to the sustainability of the function of the river which has resulted in the reduction of green open space on the riverbank as a water catchment area in the Ciliwung Drainage Basin (DAS).</p> <p>SSC Public Space The accumulation of garbage in the space on the banks of the Ciliwung River has caused siltum conditions, silting, and narrowing of the river width, and it is feared that it will become a source of disease for the surrounding community.</p> <p>KCD Public Space Mr. Taufik as a resident who lives around the river quite actively interacts with other actors in discussing and planning with actors involved in the problematization phase in solving common problems. With a background as a journalist, strong interactions occur with the environmental community and local governments to voice problems and find solutions.</p> <p>SSC Public Space The community concerned about the environment of the Ciliwung River (Mat Pec), which was declared earlier in another area, interacted with Mr. Usman a resident of Lenteng Agung who became one of the residents. Mr. Usman then established strong interactions with residents who felt the same environmental and social problems regarding the condition of waste and interacted with PLN (State Electricity Company) to offer programs for their CSR (Corporate Social Responsibility) activities.</p>	<p>In each location, there is a condition that is perceived as a problem by actors who are interested in the sustainability of the Ciliwung River and the surrounding environment.</p> <p>Even though the social and economic conditions are different from each actor, the environmental conditions that occur are both considered wrong conditions so that they become common problems (collective problems). (diagram 1)</p> <p>With the capital of equality of problems (collective problems), there will be contestations between actors who are moved to be more active than other actors to solve these common problems.</p> <p>The more interactions that are done, the more active actors will be able to influence/ attract other actors to follow the opinion of the active actor. This is referred to as an intermediary in the process of translation interestment. (diagram 2)</p>	<p>Diagram 1</p> <p>Diagram 2</p>	
<p>Interessement</p>			

Table 1. Sociology-translation analysis of case study

Translation moment	Interaction between actor	Synthesis	Diagram
Enrollment	<p>KCD Public Space Along with the interaction process between actors that continues to be established, Mr. Taufik as an intermediary, and other actors including Ms. Ismala who has a background in law lecturers in UI formed Depok Ciliwung Community (KCD)</p> <p>SSC Public Space People who live on the banks of the Ciliwung river in the great temple together with Mr. Usman as intermediary at the previous moment, interacted with Mat Peci, PLN, and formed the Ciliwung River School (SSC) located on the banks of the Ciliwung river in the area of the great temple and the planned activities of the SSC.</p>	<p>Institutional form becomes the Obligatory Passage Point (OPP) of actors involved in previous interactions. The institution binds actors in common interests and circulates various media (legal documents, technical implementation proposals, funding proposals, technical training, technical manual documents, etc.).</p> <p>Through the institutional formation, the actors began to delegate each other's roles to each other by exploring each other's various competencies and at the same time becoming a knot for other actors who want to contribute to solving the common problems revealed earlier. (Diagram 3)</p>	 <p style="text-align: center;">Diagram 3</p>
Mobilisation	<p>KCD Public Space In line with the growing actors and the stronger interaction between the actors involved, KCD is more stable and sustainable from the environmental and organizational side. This is evidenced by the activities that are widely carried out on the edge of the Ciliwung so that an actor interaction space is formed. These activities are done routinely or there are incidental.</p> <p>SSC Public Space SSC and other actors who interact, various community activities and community activities began to be actively carried out both by the SSC management itself and initiated by outside parties, such as the parade Getek Ciliwung River. But generally, the activities carried out are still very dependent on the initiator of actors from outside the region.</p>	<p>Stable and sustainable interactions between actors are intertwined. The interaction of the actor is in line with realizing the same goal which is to solve the problem together is expressed at the time the moment of the problem.</p> <p>In this case, space manifests in line with the interactions that occur between actors to realize the goal. So that the space formed in line with the moment of mobilization. (Diagram 4)</p>	 <p style="text-align: center;">Diagram 4</p>

were held in the SSC area, either by the SSC management itself or initiated by external parties. Routine activities held by SSC administrators include the Ciliwung River *Getek* parade as part of the socialization of the Ciliwung Clean program. However, most of the activities in the SSC space came from the initiation of outsiders living in that space. So the "space" that occurs is quite dependent on the initiation of actors from outside the area.

RESULTS AND DISCUSSION

Based on both case studies it can be known that each space has its moment in the process of its existence. The space in the Depok Ciliwung Community was formed because of community concerns about the sustainability of the Ciliwung River therefore Depok Ciliwung Community space was formed through various complex stages to fight for the sustainability of the Ciliwung River and the surrounding environment. The space in the Ciliwung River School is the result of Corporate Social Responsibility (CSR) programs in maintaining and preserving the Ciliwung River through the establishment of public spaces that can be used for various socialization and learning activities about the Ciliwung River. The two spaces have the same goal of protecting and preserving the Ciliwung River, but they are formed through different approaches. Physically, the space created in the Ciliwung River School is much better and permanent. It is different from the space created in the Depok Ciliwung Community which seems simple. This is because the sources of funding obtained by the two spaces are different. Ciliwung River School gets better funding because it is supported by private donors, namely Limited Liability Company of Perusahaan Listrik Negara (PLN), while The Ciliwung Community of Depok relies on self-help assistance from local communities and other communities in helping it to fight for space on the Ciliwung river. The conditions for both spaces are different. The space created by the Depok Ciliwung Community tends to be more active and lively when compared to the space created by the Ciliwung River School. This is because the Depok Ciliwung Community has become a shared space since the beginning of its planning. The Depok Ciliwung Community has involved many actors in cooperation, especially since these actors are not only temporarily involved, but sustainable by contributing to protecting the community, and contributing materially towards the creation of space in the Depok Ciliwung Community. This causes the space in the Depok Ciliwung Community to have a greater sense of belonging when compared to the Ciliwung River School which only involves fewer community contributions in the realization of its space.

This comparative case study shows that the concept of

'space' was abstracted from associations between actants that are involved in the works of establishing a relationship. In line with Kim's (2019) and Tornaghi's (2014) arguments, to describe how 'space' is enacted, we should pay attention to how various networks were made and sustained. However, this research also finds that the 'space' to live (Aschwanden & Wallraff 2017) is not the cause of the loss of living options for people. Instead, 'the space' itself has its trajectory that can be changed, evolving, according to the actant involved and completed translations. More actants involved imply a more diverse and heterogeneous 'space' to live. While more actant completes the translation, the more 'space' can accommodate collective life. In other words: the more sustainable it is. On the account of sustainability, this research also finds that the concept of 'sustainability' in developing riverbanks as Hanvinga (2020) wrote, can't be taken at face value as an ethical proposition. Should the 'space' be understood as an evolutionary, ever-changing construct, the 'sustainability' also should consider the flexibility and malleability of the actants involved in the collective, rather than be taken as a fixed ethical proposition for an account.

CONCLUSIONS

This research finds that the conception of 'space' should be taken as a means, rather than an end. While the term open space or public space is usually taken as a fixed concept with certain characteristics embedded to explain the development of an area, this term prevents us to see that the associations between actants are ever-changing, some succeeded while some aren't. The realization of the public green open space has required a series of activities included in the four-moment of translation. Where these four stages can create a pattern of interconnected interaction in the realization of space. The created space can be said to be successful if the space can live and have continuity in it. The space created on the border of the Ciliwung River by the Depok Ciliwung Community can survive and be active every day because it has a very big sense of belonging from many actants in the process of its realization, it is not such a space created unilaterally by the Ciliwung River School. The "sense of belonging" refers to how various actants do numerous trials and enact their own 'space' as a means for living together.

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