

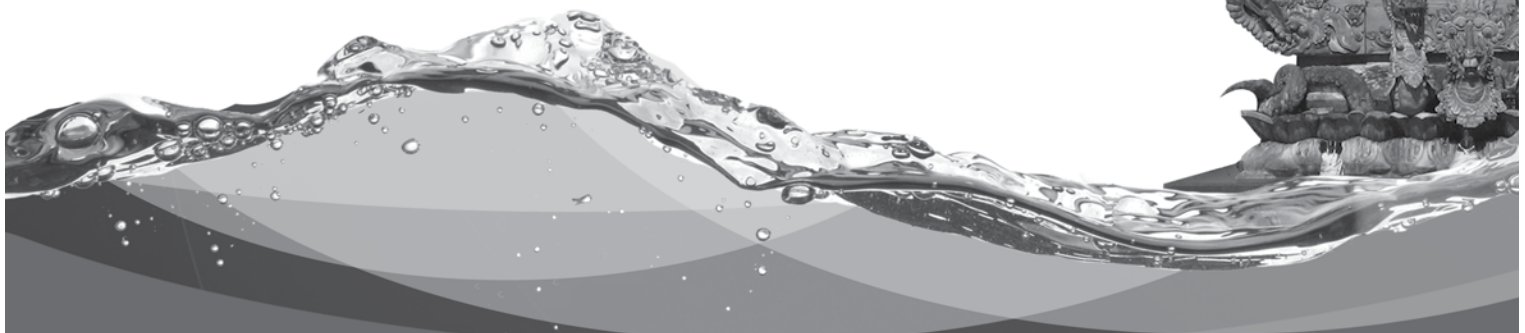
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THE 5TH INTERNATIONAL
SEMINAR
Bali
JULY 29TH - 31ST, 2016



Proceedings

INTERNATIONAL SEMINAR ON
**“Water Resilience
in a Changing World”**

BALI - INDONESIA, JULY 29TH - 31ST, 2016



INDONESIAN ASSOCIATION OF HYDRAULICS ENGINEERS
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FOREWORDS



The International Seminar with special focus on “Water Resilience in a Changing World” has been held successfully from 29th to 31st July 2016 in Bali, attended by experts and professionals from many countries including Indonesian as the host. The discussions of the Seminar covered the entire aspects of the water resilience in a changing world including its water conservation and risk and impact of extreme events, water security for all, and water governance and partnership.

The overall presentations and discussions during the seminar concluded that the outputs will undoubtedly contribute to remarkable concepts, strategies, lessons learned, and sharing of experiences on the water resilience in a changing world, particularly on the environmentally sound technologies and sustainable practices on the years to come. Based on this fact, I believe that the proceeding of this seminar will be valuable document for the implementation of the adaptation and mitigation to the climate change.

I would like to thank the organizing committee, peers and writers, seniors and all members of HATHI for enormous supports to the seminar. May God bless you all.

Bali, August 2016

A handwritten signature in blue ink, appearing to read 'Mudjiadi', written over a horizontal line.

Ir. Mudjiadi, M.Sc., Dip-HE.
Chairman of HATHI

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Water council, water governance, community based/drived activity, public private partnership

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CHALLENGES IN IMPROVING QUALITY OF LIFE AND RESTORING CIKAPUNDUNG RIVER THROUGH COMMUNITY EMPOWERMENT

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Abstract

In line with the rising of urban population, cities become centers for various activities. Bandung, under rapid development, is faced to find solution for urban river restoration, provision of clean water, inadequate sanitation facilities, inappropriate solid waste management practices, et cetera. Coblong and Cidadap are two of many districts that occupy the river bank of Cikapundung River. Due to the high density of housing and steep landscape, those districts find difficulties to access clean water and proper sanitation and manage the solid waste. This study is focused on the community-based development as a participative solution to the problem. The results showed that various challenges may arise since the communities are faced to different social and economic situation. Not only promoting capacity building, regular accompaniment program becomes crucial to ensure the program sustainability.

Keywords: Cikapundung River, community development, community empowerment, river restoration

INTRODUCTION

General Background

According to Department of Economic and Social Affairs of United Nations in World Economic and Social Survey Report, more than half of the world' population has lived in urban areas since 2007 and about 80% of the world urban population especially cities in Asia and Africa will live in in developing regions. In line with the rising of urban population, cities become centers for various ideas, commerce and industry, culture, science, social development, et cetera. Not only serving place to live in, cities also generate major economic values for the country. As consequence, expectations for services are rising enormously. The citizens expect cities can provide better or even highquality of life, completed with a full range of access, cultural, social and other opportunities. Especially in

the developing countries such as Indonesia, cities are growing under a lot of pressures. The inappropriate management, weak law enforcement, and inadequate infrastructures and technologies have led the cities to a deteriorating situation. Many cities at present are struggling to solve various problems including health and water related problems (Baker and Kooy, 2008). The Indonesian cities, without exception, are now faced with more frequent flooding, low rate of water supply service, serious water pollution, et cetera (Ministry of Settlement and Regional Infrastructure, 2002).

Bandung, as the capital city of West Java Province, has been suffering from such issues for decades. Besides threaten to wider spread of inundated areas, Bandung is also challenged to find solution as regard tourban river restoration, provision of adequate clean water and sanitation facilities, implementation of appropriate solid waste management practices, et cetera. Cikapundung River that flows through the heart of Bandung City, in fact, has a strategic role to support the city development. Due to a kind of mismanagement, along the Cikapundung River is now fully occupied already. Districts of Cidadap and Coblong are examples how the river bank has been employed by communities not only for shelter but also to make a living. Not only built irregularly, as space is limited, the houses at both districts were built in a very dense way at a quite steep side slope as illustrated in Figure 1. Under such land pressure, the public facilities even were constructed inappropriately. As results, many of the communities cannot be well facilitated with adequate access to clean water and healthy sanitation. Besides, due to its landscape situation, it creates difficulties in managing the solid waste. Low awareness of the community, in addition, has caused worse living situation. In order to improve the community awareness of healthy living as regard to the effort of restoring the Cikapundung River, this study is done based on community-based approach (CitaCitarum, 2012).

Community-Based Approach

“Community” can be described as a group of people that recognizes itself or is recognized by outsiders as sharing common cultural, religious or other social

features, backgrounds and interests, and that forms a collective identity with shared goals (UNHCR, 2008). However, what is externally perceived as a community in many cases might also be designated for who are particularly minorities and marginalized groups. In some urban situations, gap among communities may occur due to various reasons such as inequality of access and opportunity, lack of economic options, et cetera. A community-based approach is a way of working in partnership with persons to recognize and build the resilience, capacities, skills and resources of persons to gain benefit for all. Indeed, the goal of the community-based approach is to reinforce the dignity and self-esteem of people of concern and to empower all the actors to work together to support the different members of the community in exercising and enjoying their human rights (UNHCR, 2008).



Photo by SitiAisyahAdityani



Illustration by Masagus Reza Pratama

Figure 1. Housing along Cikapundung River at Coblong and Cidadap districts



Figure 2. Inappropriate provision of public facilities

Community Driven Development

World Bank, in 2003, defines the community driven development (CDD) as an approach that gives control over planning decisions and investment resources for judges of how their lives and livelihoods can be improved. It is expected that by providing adequate support, resources, and access to information, the communities will be able to organize themselves to provide for their immediate needs. In general, as given in Figure 3, CDD can be considered a subset of much broader community-based development (CBD) approach as the level of community participation can vary from simple information sharing, to social, economic, and political empowerment of community groups (Koppen, et al., 2007; Artto, et al., 2008). Under appropriate design, the CDD is believed as an excellent approach to promote equity and inclusiveness, efficiency, and good governance. As CDD is demand driven, it tends to select communities that already have in-kind commitment and planning capacity (Asian Development Bank, 2006). Thus, careful selection criteria are absolutely required to enhance the whole process.

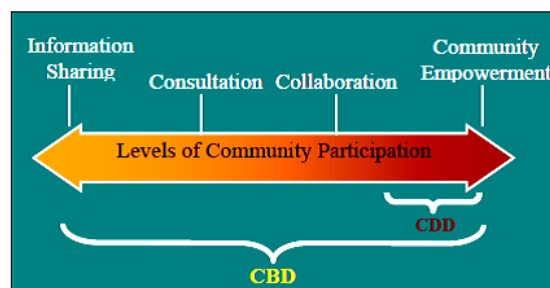


Figure 3. Distinguishing CDD from CBD in terms of community participation

Methodology of Study

According to the concept of community-based approach, this study includes some activities such as data collection, data analysis, focus group discussion, and program implementations. Data were collected through a series of survey, interview, and discussion. Besides to map the community profile, the collected data is employed to confirm the findings before determining formulating strategy and necessary actions. As both Coblong and Cidadap districts cover a wide range of area, the study is focused only at two sub-districts: RW12 of Coblong district and RW11 of Cidadap district as shown in Figure 4. There are 60 respondents involved in data collection to represent both districts.

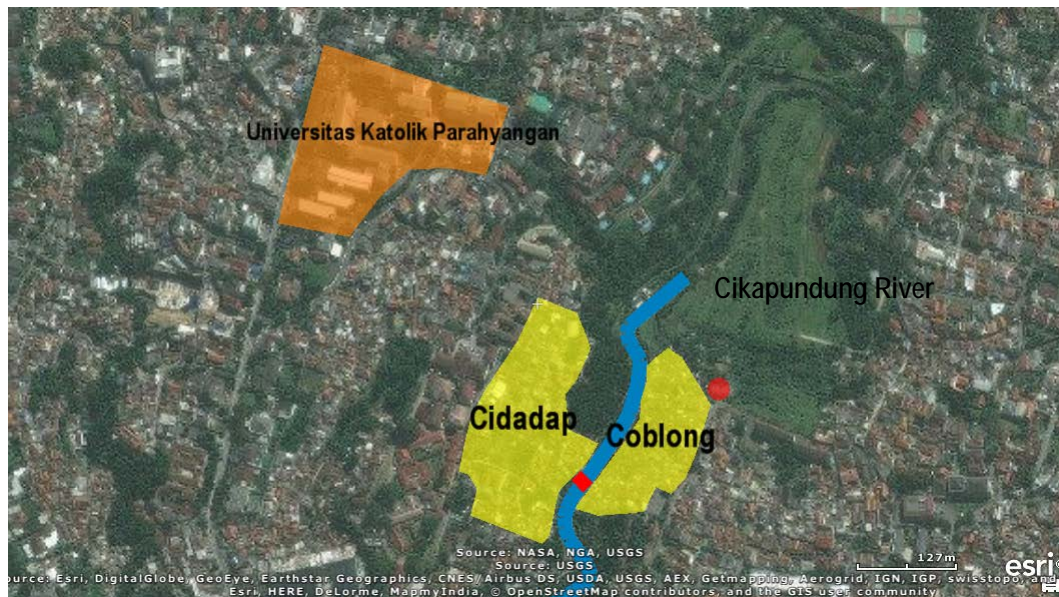


Figure 4. Study location at Districts of Cidadap and Coblong

RESULTS AND DISCUSSION

Based on the interview and questionnaires filling conducted with total respondents of 60 households, it can be generally concluded that the respondents who live in both selected locations have different level of education starting from primary school to senior high school. At present, respondents are dominated by persons with age above 40 years old. Although some of the respondents are freelance workers but many of them also work for the government institutions and private

companies. While the women, in many households, are the persons who responsible to look after the children at home. Due to its strategic location to some campuses, few people also earn their extra income from the house renting. Most respondents claimed that they have owned and lived in the house for more than 10 years. The above information indicates that communities in both districts have already literally settled. Not only owning the property, they also have built their living there. This means, to relocate them to other places will be very challenging. As human being, those communities any how are deserved to live properly. Sufficient access to clean water and healthy sanitation are two basic needs that the communities must be able to obtain. Further survey showed that none of the respondents has ever directly used water from Cikapundung River. More than 50% of them are depending on shallow (digging) well and few are using spring water. Only people who live very close to the street are the ones facilitated with piped water from the municipal drinking water company. During the dry season, however, 43% respondents stated have been experiencing difficulties to get the piped water as the municipal drinking water company only delivers water at certain time for a short duration. On the other hand, to employ available spring water, it will be very costly since the communities will have to facilitate themselves with pumping system and another pipeline.

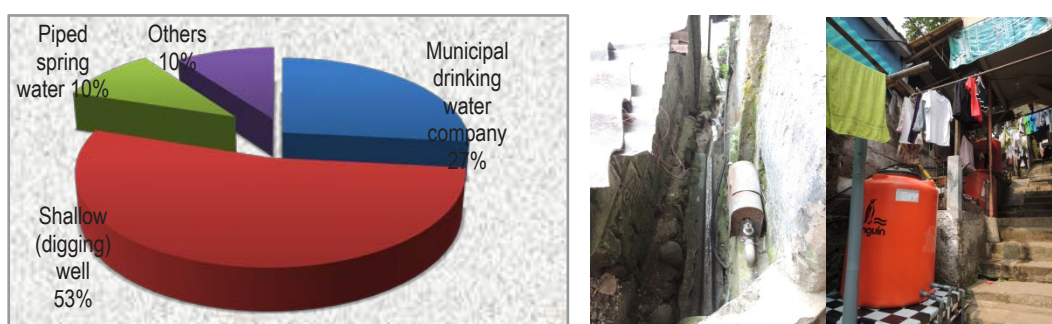


Figure 5. Source of clean water for the communities

While from the perspective of sanitation facilities, the collected data showed that all respondents in fact understand the necessity to have appropriate sanitation. About 90% of the respondents are reported have facilitated their houses with

private restroom, however, only 47% of them are equipped with septic tank. The rest discharged the wastewater directly into the river. Further survey also showed that many of the septic tanks were built close to the digging well which can be very harmful to contaminate the clean water source and many of the respondents do not understand the criteria of building the septic tank. Worse situation actually was found as 33% of the respondents discharge their washing wastewater directly to the land and about 67% to the Cikapundung River through drainage channel. In case the communities will be facilitated with communal septic tank, the data showed that only 53% of respondents are willing to share the construction and maintenance cost. While for the communal public toilet and washing room, 57% rejected to contribute the cost. Space and land topographic, in addition, are also matter of concern to provide such facilities.



Figure 6. Point source of pollution from the houses

Similarly, when deep survey was done on how the communities manage their solid waste, 93% of respondents stated that they do understand the arbitrarily trashing to water and environment and all claimed have never discharged trashes into the river. Based on the collected data, about 30% of the respondents mentioned that they carry away their solid waste every day to the available disposal site, 43% are depending on the waste collector, and the rest apply burying and burning practice. Only 17% of respondents, however, admit practice solid waste sorting. Some of them still do not understand how to properly sort the solid waste and what the benefit of it, but they prefer to have such waste collection system to help them to handle their daily waste. To do so, the respondents are willing to pay for about Rp. 5,000 – 20,000 per month. As shown in the following

Figure 7, it can be noticed that it is true that the communities rely on the waste collection system. Some inappropriate waste handling, however, can be found everywhere surrounding the houses. Sanction notification seems ineffective since there is no strict monitoring and punishment.



Figure 7. Waste handling and trashes discharged into former irrigation channel

A simple focus group discussion that was conducted after the survey and attended by more than 200 household representatives explained how the communities at both districts are hoping to better quality of life and healthy environment. However, it is not denied that the communities have low of awareness in protecting the Cikapundung River sustainability. The available waste collection system is believed insufficient to help the community to properly handle their daily waste. Due to weak law enforcement, some people keep dumping their waste into the river. The unavailability of space to build proper sanitation facility and limited information about appropriate technology are the main reasons why communities live under unpleasant situation.

Although there was some disagreement between questionnaires and findings, but under some considerations the information is still necessary to understand the situation and formulate necessary strategy in improving the quality of life and

restoring the Cikapundung River. Educating the communities in aspects of healthy living, solid waste management practice based on reduce-reuse-recycle concept, and small medium enterprise development is important to enable and empower the communities. To do so, a series of workshop were conducted to promote those three aspects by involving other potential stakeholders.

For the first workshop that focuses on the small medium enterprise, the communities were introduced to the principle of credit union (koperasi) and basic accounting. As result, all participants, mostly women, were glad to know the benefit having such credit union and realized how important to learn basic accounting for their daily life since some of them have been struggling to release themselves from debt. The workshop became a little bit ineffective since the participants should take their children come along. It was also found that the communities need to be more patient to establish such credit union. In fact, it is not necessary even to establish it for their own as they can still join in the nearby credit union. For the second workshop that focuses on the issue of how to implement healthy life and the benefit of applying reduce reuse and recycle (3R) system, the knowledge sharing was delivered by involving lecturers from the Medical Institute of Boromeus and activists of Bandung Clean Action. According to the workshop, it was identified that some of the participants have limited knowledge on healthy living and do care more on how they can get healthy insurance so called BJPS. Similarly when the participants were introduced to 3R system, many participants questioned if they can be facilitated to establish the waste collection system and get benefit from it. The participants, in fact, are not pleasant to see garbage nearby but it happens as there is no strict law enforcement and none can be blame since they do not know who actually dump the garbage. The above experiences indicate that to deal with community, not only increasing the awareness and building the capacity, aregular accompaniment is very crucial to ensure that the community is truly empowered. Intensive public consultation and regular monitoring-evaluation program are therefore needed to ensure the sustainability of community development program.



Figure 8. Problems identification and demand assessment workshop



Figure 9. Socialization workshop on credit union



Figure 10. Capacity building on healthy living and 3R system

CONCLUSION AND RECOMMENDATION

Participation is absolutely necessary to enable the community empowerment. To involve the community, sequence of community based activities must be well arranged. Mapping of community profile and conducting deep survey may help to understand the problems and establish appropriate actions. Various challenges

may arise since the communities are faced to different social and economic situation. Sharing information to increase the awareness and enhancing capacity building are important before empowering the communities. Regular accompaniment i.e. public consultation and monitoring-evaluation program are keys to ensure the program sustainability. Thus, involvement of universities will advantage to successful implementation of community based development program.

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