

## Urban Farming as A Civic Virtue Development in The Environmental Field

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### ABSTRACT

This research aims to describe the impact of urban farming carried out by Bandung Berkebun community as an attempt to develop the civic virtue in the environmental field. Research method used is a case study with qualitative approach. The results show that this program has educational, economic, social, and ecological impact to the society. This program managed to internalize virtue values in the environmental field through the development of society's skills and intellectuality in the independent environmental governance activity.

### KEYWORDS

Civic virtue, urban farming, farming community

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### Introduction

In Urban farming is citizens' response to the ecological crisis in urban area. This program is a counterweight to the urban development which is dominated by physical development without taking ecological equity into account resulting environmental degradation. That development priority imbalance showed citizen's lack of awareness of nature conservation (Sudarmadi et al., 2001). An effective environmental action should be supported by brand new morality that can reduce the effect of humans' ecological crime. Based on the facts regarding the resolved ecological crime, this program managed to overcome the environmental problems in urban area by strengthening the morality of environmental care (Budimansyah, 2015). This morality strengthening can also be associated with the citizenship status to maximize the natural ecosystem sustainability (Dobson, 2007). The citizens need to be made aware of their important role in the

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environmental awareness which is manifested into habits and behaviors. That awareness can be realized as positive participation and the ability to access any information regarding environmental awareness activities in order to restore the ecological support for life (McCarney, 2012).

The lack of ecological awareness became a fact that should be faced by urban society in Indonesia. It also happened in Bandung which is reflected into its poor waste management, lack of clean water availability and river pollution (Rancangan Pembangunan Jangka Menengah Daerah (RPJMD), no date). Many environmental conservation programs that have been done so far in Bandung became ineffective since it is centered on the city government (top-down) without engaging society's aspiration and participation. Whereas, this program can run optimally only with the support of bottom-up approach in the form of social movement (Certoma and Notteboom, 2015). Bandung Berkebun community runs urban farming program as social movement from the bottom layer of society to spread out the farming ideas in urban area. This program is also different from the green village development, called Kampung green and clean, which is carried out by the government of Surabaya which is more centralized (Prasetyo, 2013). The presence of the community which brought the urban farming idea is as an attempt to develop the civic virtue in the environmental field. The purpose of this program is expected to give impact not only ecological, but also educational, economic and social for Bandung society.

## Research Method

Research method used is a case study with qualitative approach. The research is conducted in three different locations which are Kebun Tubagus Ismail, Kampung Baladewa and Kampung Kacapiring. Kebun Tubagus Ismail is a garden owned by Bandung Berkebun community while the other two locations are target villages running urban farming. Research subjects are the member of Bandung Berkebun community and residents in both villages. The data collected through interview, observation and documentation were analyzed using Milles and Huberman model. The analyzing technique consists of data reduction, data presentation and data verification (Milles & Haberman, 2012). The final data were validated using triangulation technique of data resources and collection technique.

## Results

### *The Impact of Urban Farming*

Urban farming program by Bandung Berkebun community aims to utilize non-productive lands in Bandung for greening and public welfare. From macro perspective, this concept can be seen as education, ecology and economy. Education is an attempt to educate the program benefit to the society, ecology is the benefit to be achieved, and economy is an attempt to maintain the sustainability of this program. This program is focused on to be beneficial for strengthening the food security, economy diversity, and waste management (Adedeji & Ademiluyi, 2009). The implementation of this program by Bandung Berkebun community and target villages are reflected in the utilization of non-productive lands and construction of gardens in homes by following the spatial characteristics in every region. The establishment of farming community in every target village increasing the environmental awareness that is reflected as

responses of ecological damage that caused food distribution loss (Barthel, Parker & Ernstson, 2015).

### The Concept of Urban Farming

The impact of urban farming in Bandung ranging from educational, economic, social, and ecological aspects. Counseling in this kind of program brings mindset changes on society about its benefits (Okvat & Zautra, 2011). Residents in both villages realize that greening can be done simply from their homes. The presence of farming community has been educating society to understand about the importance of healthy food supply from their own gardens (Lautenschlager & Smith, 2007). It showed the success of this program as an alternative ecological education by means of exchanging knowledge and skills between farming community and target village residents. This program is also addressed to develop local economy through product selling in Bandung Agri Market (BAM) so that the residents welfare can be lifted (Specht et al, 2014). Similar to a program in England which provides recreational facilities in urban area, some parks in Bandung are made and successful in restoring mutual cooperation culture in urban society (Loram et al, 2011).

**Table 1. The Impact of Urban Farming**

The Impact of Urban Farming	Target	Description
1. Education	Members of Bandung Berkebun Urban farming target residents	Urban farming as environmental education alternative model Activists' various background makes this program as a place to share knowledge and skills. Urban farming program socialization can improve residents' skills and knowledge in creating urban farming model based on the region characteristics.
2. Economic	Members of Bandung Berkebun Urban farming target residents	Urban farming as family food security action Bandung Agri Market (BAM) is an agribusiness development scheme in this program
3. Social	Members of Bandung Berkebun Urban farming target residents	Urban farming as collaborative study to overcome the issues in Bandung This program is restoring <i>udunan</i> in urban society Increased interaction among residents promote social integration
4. Ecology	Members of Bandung Berkebun Urban farming target residents	Urban farming gives a perspective that greening can be done at home This program increases the residents' concern to the quality of foodstuffs Residents' concern to the hygiene can be increased as well Residents are able to implement healthy lifestyle by reducing, managing and utilizing the waste to support urban farming. For instance, composting and producing planting medium from consumables.



Stronger interaction during this program increases the social capital in society as well (Surls et al, 2014). Social capital gained from mutual cooperation reflected in *udunan* passion which is a cultural cooperation in overcoming social problems in Bandung society. This program also brings ecological changes to the target villages that can be seen on the greener, cleaner, and more comfortable environment. The crops are healthier as well since they are organically grown. The wide impact of this program is expected to trigger citizen's independent involvement in preserving the environment. Based on those descriptions, urban farming's impact can be presented in the table 1.

## Discussion

Urban farming fields in Bandung show similar characteristics of similar program in several countries. The plants variety of this program is similar to Nairobi (Kenya) that is dominated by vegetables such as kale and radish (Gallaher et al, 2013). The use of modern techniques such as vertical garden, rooftop garden and urban farming market procurement is similar to San Fransisco (SPUR, 2012). However, production in Bandung have not been able to contribute to food security and GDP (Gross Domestic Product) escalation as in Cuba (FAO, 2014). Nonetheless, the results of this program can be used to face food insecurity, reducing the impact of carbon emission, increasing water recycling, and developing local economy products from Bandung Agri Market activities (Specht et al, 2014).

Farming community generally directs their programs to educational institutions as part of environmental education (Nagra, 2010). Similar thing has been done by Bandung Berkebun community by means of School Urban Farming program as well. Cooperation with schools that makes this program run well. Learning about farming practice is really suitable for children to develop their environmental awareness (Sulastri, Budimansyah & Sopandi, 2015). School Urban Farming program can increase environmental awareness since it will make people think globally in local action (Nagra, 2010). Local action like familiarizing environmental awareness from the smallest parts such as family, school and society that is believed to give global influence. Therefore, teachers, parents and social communities need to get involved in the process of this program (Samong, Suryadi & Budimansyah, 2015). This kind of education is called interceptive education that is formal character education process by means of teaching and learning interaction aiming for developing environmental awareness (Dewi & Budimansyah, 2015).

Urban farming program in Bandung uses several modern farming techniques such as hydroponic, aquaponics, vertical garden, and rooftop garden. It shows that this program has been utilizing technology as the results of human intelligence. According to Comte, this intelligence development needs to be directed to benefit human being by creating ecological balance (Darmawan, 2015). This program proved as one factor of the intelligence development in creating ecological balance in the form of environmental awareness, social skills and foodstuffs knowledge (Lautenschlanger & Smith, 2007). Improving knowledge and skills through environmental awareness program requires institutionalized values in social life

as environmental-institutional process (Darmawan, 2015). Institutionalized environmental awareness values process can be found in this program since it has some communities in every region, measured work programs, public acceptance of the program, and political support from Bandung government. Karl Marx thoughts about class struggling can be directed to support environmental awareness movement through rational ecological action as solution (Darmawan, 2015). The development context of urban farming program that runs the environmental preservation rational actions becomes ecological management mediator that is often overlooked by the parties interested in lands. Rational actions in the environmental field can be seen as a struggle for discourse and economic resources management in the public domain. That discourse seizure contains knowledge struggle to establish the truth carried by individuals or groups (Foucault, 1998). This program has come to contrast ideas and actions through the realization of the balance between industrialization and public interest, namely the right to a sustainable environment. The role of this program is the development in Bandung which started to pay much attention to the availability of green space, proper waste disposal and the use of non-productive land to support food supply. Target villages has been successful in straightening the perspective which assumes that development in urban area might not need any participation of the society, moreover, its ecological impact might be ignored.

Urban society tend to face many risks due to the damage of global environment such as carbon emission, climate change, water and soil quality degradation, and food insecurity (McCarney, 2012). Since potentially threaten the urban life, those risks are considered as the trigger of risk society. The presence of that potential requires the urban society to build awareness as a risk society. That awareness is manifested as manufactured risk that is human involvement in producing, preventing, and overcoming the risk. Manufactured risk is a response to risk distribution in modern society through early warning system development for social and ecological development (Darmawan, 2015). Urban farming program can play a role as manufactured risk by means of preventive actions in environment preservation and food security. Preventive actions in this program can be seen as mindset changes of the society that started to pay more attention in ecological condition in their region (Okvat & Zautra, 2011). The communities in both target villages aware of the environmental damage in Bandung so that they try to do some greening activities. This program resulting crops from residents' gardens that supply their family needs so as to strengthen their food security. As it is found in Sri Lankan urban farming aimed to face food insecurity, economic crisis, and malnutrition. While in United States, it is utilized to strengthen food security (Galhena, Freed & Maredia, 2013; Taylor & Lovell, 2014). Early warning system in Bandung has shown its benefits as target villagers no longer face any air pollution, flood, and they are even able to provide food by themselves. Society awareness in developing early warning system shows improvement in civic virtue.

Civic virtue is seen as citizens' attitude in which they are able to put themselves as individuals, have volunteerism spirit and have the ability to respond to any phenomenon around them (Weisband, 2009). Virtue is the main

character that is justified by long-term social roles to formulate the solutions to mutual problems (Dagger, 1997). Individuals that have this virtue can give safe and comfortable feeling to their environment (Chambel & Alcover, 2011). The meaning of that virtue reflected on the Bandung Berkebun's motivation where urban farming is intended for the city development. That motivation can be found in Nepal's farming program as well (Aoki, 2014). That motivation cannot be embodied on the ecological actions unless supported by the development of knowledge, intellectuality and participation for citizens' competence and responsibility (McClain, 2001). All of those competences are important for farming community to respond issues such as land usage, product biodiversity, public food security, public health, and community development (Weinberger, 2013). Those competences are collaborated with mutual cooperation of various elements of society. Mutual cooperation in this program can develop good and democratic values as role model for others. It shows that civic virtue reflected on the responsible citizen democratic values by emphasizing common needs (Nelson, 2002). Civic virtue in this program is an attempt to develop social participation and citizen responsibility on environment in Bandung. Knowledge, skill, and environmental awareness developed through this program establish commitment, confidence, and citizen competence that lead to civic virtue reflected on the ecological preservation (Winatapura, 2012; Quigley, Buchanan & Bahmueller, 1991). It can be concluded that civic virtue obtained due to intellectuality, skill and affective intelligence that have been developed in this program by participating in the environmental preservation.

### **Conclusion**

It is proven that urban farming program applied by Bandung Berkebun community and target villages can increase the civic virtue in environmental field. The development of that virtue is implemented through a series of rational actions to preserve the environment. This program helped institutionalized ecological values into society so that they are aware of the risks in any environmental vandalism actions. Environmental awareness education in this program is meant to give knowledge and skills to society to improve their ecological intelligence. The improvement of both competences can help them to participate in this program to do some greening in their environment. In the end, the society will have ecological responsibility to avoid any environmental vandalism and do more environmental preservation.

### **Disclosure statement**

No potential conflict of interest was reported by the authors.

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