

The impact analysis of campaign program of the green environmental movement through hydroponic in community

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ABSTRACT

One of the negative impacts of massive development is that it can affect the physical condition and the deteriorating quality of the environment. This then has implications for an increasingly narrow and densely populated housing environment. The implications of the low green open space certainly result in lower quality of health. This condition also inspired the District Military Command (*Kodim*) of 0503 West Jakarta to organize a green environmental movement through the hydroponic method. For this reason, the aim of this study is to analyze the impact of the green environmental movement campaign program through hydroponic methods for the community. References that support this study are concepts related to campaigns for public relations, environmental communication, and hydroponics. The method used in this study is a qualitative method with a single case study design. The reason for using this method is because of the uniqueness of this program, where the impact of this campaign program can solve environmental problems while encouraging increased food self-sufficiency for the people involved in the campaign. The results of the study show that the impact of the green environment movement program through hydroponic methods can provide benefits to the environment and society. Broadly speaking, the impact of this program is *firstly*, can improve environmental quality such as improving air quality to be fresher and cooler, reducing air pollution, increasing oxygen levels in the air. *Secondly*, this program can increase community productivity. Communities can manage the narrow land to be more productive and produce vegetables that can be consumed. *Thirdly*, it is economically beneficial. Previously, narrow land was not useful, after carrying out farming activities through the hydroponic system, people could obtain vegetables cheaper and easier. The results of this farming activity can certainly be utilized by themselves. Thus, the community does not need to spend too much money to consume vegetables. At harvest time, the community can take the vegetables they harvest themselves. This means that this activity has an impact on saving and helping the economy of the community.

Keywords: campaign, environment, hydroponics

1. INTRODUCTION

The problem of the low of environmental quality is influenced by various factors including the rapidly increasing world population, unplanned industrialization, pesticides, the use of chemicals, and damage to people's subconscious (Konur & Akyol, 2017: 2109). This is also in accordance with the opinion of McHarg (1971) that urban areas that are densely populated are relatively susceptible to physical, social and mental illness. Increased density also correlates with social pressure, which also increases the risk of heart and kidney disease. Panjaitan et al. (2011) added that other health problems that also arise due to air pollution are respiratory problems, irritation, and even cancer (Shahadat, 2017: 180).

The city development certainly does not only have a positive impact on economic improvement, but also it sometimes leaves a variety of social problems. One of the examples in Jakarta massive development occurs, of course it is positive but the

impact on the massive changes in land use including the massive green open space. This condition affects the physical condition and the deteriorating quality of the environment. One of the drivers of increasing development is the increasing socio-economic needs because of population growth. This then has implications for an increasingly narrow and densely populated housing environment. The implications of the low of the green open space certainly result in lower quality of health.

In addition to causing illness, the densely population in the city also caused a lack of farming activities for people in urban areas, especially in Jakarta. No less than 275 tons of vegetables are supplied to Jakarta per day. The supply of vegetables generally comes from Java and several provinces on the island of Sumatra. Only a small portion of vegetable products are produced by farmers in Jakarta. The small amount of vegetable production in Jakarta Capital City is mainly due to the limited agricultural land and land conversion to meet the needs of housing and non-agricultural services (Sastro & Rokhman, 2016: 1).

To overcome this condition, certainly public participation in creating a green environment is very necessary. Referring to these conditions, the Jakarta Government has launched various policies for the development of clean and environmentally friendly vegetable production, including using a hydroponic technology approach as a performance tool. The advantage of hydroponic cultivation is saving space. The pattern of the approach mentioned above is expected to be able to meet the criteria for urban agriculture that has limited land, but it is effective, productive, quality, high added value, and can increase the availability of food and nutrition in sufficient quantities at affordable prices (Sastro & Rokhman, 2016: 2).

Maintaining environmental sustainability is not a seasonal trend that is only highlighted as short or medium-term goal. Environmental sustainability initiatives are long-term goals, which require direction, champions, financial means and support from stakeholders over a period of time (Hamid et al, 2016: 484). Therefore, it requires a design and campaign strategy that can touch the sensitivity of the community in order to be able to work together and provide real support and participation. Thus the process of identifying audiences is needed, how to arrange campaign messages, how to choose the campaign method, and how to choose the right media to deliver campaign messages.

Various preventive ways to minimize the impact of reducing the quality of the green environment was carried out by various agencies within the government. In addition, all levels of society were involved, including Military District Command of 0503 West Jakarta. *KODIM* 0503 of West Jakarta is very progressive in promoting the green environment movement campaign program through hydroponic methods in the community. The involvement of the Indonesian Army aims to create a green environment, and improve the national food security movement in urban environments that have limited land or green space. This was as stated by Yudo Husodo (2003) that Indonesia was one of the countries with a level of food security that was not very encouraging. This is due to Indonesia's dependence on supply of foreign food which is quite substantial (Armawi, 2009: 78)

Based on these explanations, the writer is interested in examining the impact of the green environmental movement campaign program through the hydroponic method carried out by Military District Command (*KODIM*) of 0503 West Jakarta for the community. The purpose of this study is to analyze and describe the impacts of the program, and how the program will continue. Thus, this study is expected to provide an overview to the District Military Command of 0503 West Jakarta regarding the impact of the program, so that this can be an evaluation of the ongoing implementation of campaign programs.

2. LITERATURE REVIEW

2.1 Public Relations Campaign

Campaign of public relations (*PR campaign*) is an activity aimed at increasing the awareness and knowledge of the target audience, created the perception or a positive opinion for an activity of an institution or organization (*corporate activities*) for the creation of a trust and a good image of the community through delivering messages intensively in a certain period of time continuously reaches understanding and motivates the community towards a particular activity or program through continuous and planned communication processes and techniques to achieve the positive publicity and image (Libertine, 3: 2014).

Johnson-Cartee and Copeland (1997) stated that campaign activities include: 1) Pre-campaign, it is problem identification, compiling campaign objectives. According to Ostergaard (2002) that needs to be achieved “3A” i.e. awareness, attitude, and actions. These three aspects are interrelated and are the target of influences, 2) Management of the campaign is the management of the campaign starting from the design, implementation, to evaluation. At this stage of management the entire contents of the campaign program are directed at equipping and influencing aspects of the knowledge, attitudes and skills of the target audience. These three aspects are prerequisites for behavior change, 3) The evaluation process is a systematic effort to assess various aspects related to the implementation process and the achievement of campaign goals (Tyas, et al 2017: 59-61).

2.2 Environmental Communication

Scientific evidence about the state of global warming shows that the situation is now terrible, and we are very close, or exceeding an irreversible critical climate threshold for more than 1,000 years. This situation demands that various parties need to move to deal with global warming. To overcome this problem, one solution is to design and conduct environmental communication that can build the collective awareness of the world’s citizens in overcoming this problem (Brulle, 2010: 83). Then, Oepen and Hamacher explained that environmental communication is a planned and strategic communication process used by media products to support effective policy making, community participation and project implementation directed at environmental sustainability. An environmental communication involves a two-way interaction of a social process that allows the person concerned to understand certain environmental factors and interdependencies. They also respond to problems in a better way by using this method (Puji Lestari et al: 56: 2016). Environmental communication can be realized with campaign activities aimed at educating the public by expanding public knowledge often relying on asymmetrical public relations tactics. Tactics that can be used are the controlled media use (in the form of advertisements, websites, direct mail, newsletters, and public service announcements) and uncontrolled media (such as media releases, opinion pieces, and publicity from events). (Henderson, 2005: 122).

Furthermore Robert (2010) argues that environmental communication is a pragmatic and constructive media to provide understanding to the public about the environment. Therefore a message packaging strategy is needed in certain communication media, this is so that public awareness and participation grows in environmental management. The main communicator in environmental communication is the government and non-government organizations that are committed to environmental management (Herutomo, 41: 2013). Fatonah (2008) argues that environmental communication is one part of sustainable development communication by using various efforts and methods and techniques for delivering ideas and skills from those who initiated development aimed at the wider community so that the community can understand, receive and participate (Herutomo, 40 : 2013).

2.3 Hydroponic

Hydroponic basis literally means *Hydro* = water, and *phonic* = workmanship. So that generally means a system of agricultural cultivation without using land but using water containing nutrient solutions. The cultivation hydroponic usually carried out in a greenhouse so that optimal growth of plant really protected from the influence of elements outside like rain, pest disease, climate and etc. Advantages of several cultivation using hydroponic systems are: 1) the density of plants per unit area can be doubled so it can conserve the land use, 2) then the product quality such as shape, size, flavor, color, cleanliness can be guaranteed because the nutrient needs of plants supplied controlled in a greenhouse, and 3) it does not depend on season/ time and harvest, so it can be adjusted according to market needs (Roidah, 2014: 44).

Hydroponic types can be distinguished from the media used to stand up plants. The media is usually free of nutrients (sterile), while the supply of nutrients needed by plants is flowed into the media through pipes or manually sprayed. The planting media can be in the form of gravel, sand, cork, charcoal, and zeolite or without aggregate media (only water). The most important use of the planting medium is clean of pests that do not grow fungus or other diseases (Roidah, 2014: 44).

The advantages of hydroponics are: 1) the success of plants to grow and produce is more guaranteed, 2) more practical treatments and more controlled pest disorders, 3) the use of fertilizers is more efficient, 4) the plants that die are more easily replaced with new plants, 5) it does not require a lot of brute labor because the work method is more economical and has standardization, 6) plants can grow more rapidly and with conditions that are not dirty and damaged, 7) the production results are more continuous and higher compared to planting, 8) selling prices for hydroponics are higher than non-hydroponic products, 9) some types of plants can be cultivated out of season, 10) there is no risk of flooding, erosion, dryness, or dependence with natural conditions, and 11) the hydroponic plants can be carried out on limited land or space, for example on roofs, kitchens or garages (Roidah, 2014: 44).

3. METHOD

The method used in this study was a qualitative method with a single case study design. A single case study has three rationalizations. Firstly, when the case states an important case in testing a well-prepared theory, Secondly, cases present an extreme or unique case, and thirdly is a case of disclosure (Yuliawati & Irawan, 2018: 29). The reason for using this method is because of the uniqueness of this program, where the impact of this campaign program can help environmental problems while at the same time encouraging increased food self-sufficiency for the people involved in the campaign. In addition, this program was initiated by *Kodim* of 0503 West Jakarta which continues to work on media campaigns in stages but has a positive impact on the environment and society. This study was conducted at the Military District Command of 0503 West Jakarta that located at Jl. S. Parman No. 3, RT.3/ RW.8, Tomang, Grogol petamburan, West Jakarta 11440.

To obtain data as the material to be analyzed, the writer used the technique of collecting data through interviews with relevant sources and is involved in the media planning process until the use of the media campaign. In addition, the writer also collected data through field observations. This study was supported by secondary data obtained from offices, books (literature) or reports, media coverage, documentation of campaign activities, websites, photos, etc. Then the technique for selecting speakers was used is purposive technique, where the writer considered the resource person with certain considerations, one of which is involvement in the case under study, or understanding of the conditions under study. Interviewee's members were selected among *Dandim* of 0503 West Jakarta. They were Sertu Rasyidi which served as a field coordinator for the management and aquaponics and hydroponic of *Kodim* of 0503 in West Jakarta, and Letkol Kav Andre Henry Masengi who currently serves as the Commander of *Dandim* of 0503 West Jakarta.

After the data has been collected, the writer conducted a comprehensive analysis process. The data analysis technique used was referring to the stages delivered by Miles and Huberman, which include three activities together: data reduction, data presentation, and conclusion (verification). Then to determine the validity of the data, the writer conducted triangulation techniques. The triangulation is a technique of checking data that uses something else outside the study data for the purposes of checking or as a comparison. Denzin distinguishes four types of triangulation as examination techniques that utilize the use of *resources, methods, investigators* and *theory* (Irawan, 2018: 118). The triangulation technique used in this study is triangulation of data and sources. Through this technique, the writer compared the results of interviews with supporting data, then for source triangulation, the writer compared and checked the degree of trust in information obtained by: (1) comparing observational data with interview data (2) comparing the consistency of the answers of the informants, namely by comparing what the public speaker said, for example, with what was said personally (3) comparing a person's perspective, with other people in his work team.

Referring to this opinion, in this study the writer conducted a process of checking the validity of the data by preparing a technique of comparing and checking the degree of trustworthiness of information obtained by: (1) comparing observational data with interview data (2) comparing the consistency of the answers of the informants that is by comparing what is said by the public speaker for example, with what is said personally (3) comparing one's perspective, with other people in the work team (Kusuma, 2018: 53). Thus, it is expected that the information received is valid and accountable information.

4. DISCUSSION

The campaign of the green environmental movement carried out by Military District Command of 0503 West Jakarta is a commitment to the environment and also an effort to empower people to care more about the environment. The activity of farming is using hydroponic and aquaponic media in a field at the Military District Command of 0503 West Jakarta, and the land is named *Rumah Lestari* (Sustainable House). *Kodim* of 0503 West Jakarta practiced this environmental campaign program so that the area or units in its shade were the Military Regime Command (*Korem*) of 052/ Wijayakrama led by Major General Joni Supriyanto. Jaya Military District Command/ Jayakarta is a Defense Regional Command whose territory includes DKI Jaya, Tangerang and Bekasi and *Kodim* of 0503 Jakarta, one of the units that are in it. Together with *Kodim* of 0502/ North Jakarta, *Kodim* of 0503/ West Jakarta, *Kodim* of 0506/ Tangerang, and *Kodim* 0510/ Tigaraksa can implement similar programs in their respective regions.

In the future this program is expected to be implemented in every region or Military Regiment Command (*Korem*) under the command of District Military Command of 0503 West Jakarta. With the increasingly widespread implementation of the green environmental movement campaign program with the hydroponic method, it is hoped that the Indonesian Armed Forces (*TNI*) can synergize with the community in promoting this program, so that the community and the *TNI* can create a healthy and comfortable environment.

The results of the study show that the campaign program for the green environment movement with the hydroponic method received supports from the community. The community participates in this program. Not a few general public and students to see how the District Military Command of 0503 West Jakarta implements farming with hydroponic techniques. In addition, students are also involved in promoting this program through their social media. With the participation of the community in disseminating this program, of course this program has become widely known by the public, that was covered by various mass media and online media .

Furthermore, this program certainly can minimize a variety of social problems and urban environments at all. This is explained by the fact that in densely populated urban areas it has the potential to cause environmental problems which cause limited land that can be utilized by urban communities to grow crops. This has implications for the low activity of farming for people in urban areas, especially in Jakarta. No less than 275 tons of vegetables are supplied to Jakarta per day. The supply of vegetables generally comes from Java and several provinces on the island of Sumatra. Only a small portion of vegetable products are produced by farmers in Jakarta. The small amount of vegetable production in Jakarta Capital City is mainly due to the limited agricultural land and land conversion to meet the needs of housing and non-agricultural services (Sastro & Rokhman, 2016: 1).

The statement is in accordance with the findings that various health problems have the potential to afflict the population of Jakarta, considering that based on data from the Jakarta Park and Cemetery Office, the number of Green Open Space (*RTH*) in Jakarta reaches 3.3131. These green open spaces are in the form of city parks, environmental parks, interactive parks and also the green path of the road. Central Jakarta is the region with the most *RTH*, which is 913 *RTH*. Although the number has spread widely throughout Jakarta area, the area of open green space in Jakarta is only 9.98% of the total area. This figure is still far from 30% that must be owned by Jakarta. So far, the process of land acquisition and land purchase are still delaying.

One of the steps taken in overcoming this problem is to promote a green environmental movement campaign program using the hydroponic method. Through the implementation of the program, Military District Command of 0503 West Jakarta hoped that the community areas that close to the *Korem* of 052/ Wijayakrama led by Major General Joni Supriyanto. Jaya Military District Command/ Jayakarta is a Defense Regional Command whose territory includes DKI Jaya, Tangerang and Bekasi and *Kodim* of 0503 Jakarta, one of the units that are in it. Together with *Kodim* of 0502/ North Jakarta, *Kodim* of 0503/ West Jakarta, *Kodim* of 0506/ Tangerang, and *Kodim* 0510/ Tigaraksa can be motivated to carry out the same program.

To realize the implementation of the program, the community participation in the program is very important. Lt. Col. Inf Wahyu Yudhayana said that this program was designed so that all members of *KODIM* of 0503 West Jakarta together with the community could spread the spirit of farming with this hydroponic technique, especially in the West Jakarta region. Therefore, this environmental campaign hopes to change the old paradigm that farming and greening can only be done if you have adequate green open space. But in principle, there are many ways that people can do to create green open spaces by cultivating crops that are space-saving but easy to do, which is by farming through hydroponic techniques.

The community participation is a key word for the success of the program. Then self-participation is participation or involvement both physically and non-physically from an individual or community. The statement is in accordance with Santosa that participation can be defined as a person's mental/ mind and emotional/ feeling characteristics in a group situation that encourages someone to contribute to the group in an effort to achieve goals and take responsibility for the business concerned (Sulistiyorini, Darwis, & Gutama, 2015: 73).

According to Sastropetro, the types of participation include: 1) Participation of thought is a participation in the form of contributions of ideas, opinions or constructive thoughts, both to compile programs, and to facilitate the implementation of the program and to make it happen by providing experience and knowledge to develop the activities that are followed, 2) Participation of power is a participation provided in the form of energy for the implementation of businesses that can support the success of a program, 3) participation of skill is to provide encouragement through the skills they have to other community members who need it. With the intention that the person can carry out activities that can improve his social welfare, 4) Participation of goods is a participation in the form of contributing goods or property, usually in the form of work tools, 5) Participation of money is a form of participation to facilitate efforts for achieving people needs who need help (Sulistiyorini, Darwis, & Gutama, 2015: 74).

Participation is proceeding and to differentiate the process steps are made/ levels of participation. This level of participation theory is used as a basis for weighting the benchmarks of the level of community participation. The concept of the level of participation of various theories and experiences are in the field of participatory planning. The opinion expressed by one of the field practitioners in the field of participatory planning in Indonesia was Sumarto (2003: 113). Looking at the practical experience of participatory planning in several regions of Indonesia, Sumarto grouped the level of community participation into 3 parts. They are as follows:

1. High. The initiatives come from the community and are carried out independently starting from the stages of planning, implementation to maintenance of development results. Then the community does not only participate in formulating the program, but also determines the programs that will be implemented
2. Medium. The community has participated, but in its implementation there are still dominated by certain groups. People can voice their aspirations, but are still limited to everyday problems
3. Low. The community only witnessed project activities carried out by the government. The community can provide input either directly or through mass media, but only as a consideration. Communities are still very dependent on funds from other parties so that if the funds stop, stimulant activities will also stop (Sulistiyorini, Darwis, & Gutama, 2015: 75).

Based on the results of the study, the community participation in the green environmental movement campaign program through the hydroponic method is in the moderate category. This is because the public is still in the process of training and mentoring. But from the results of the study, the community participation began to grow to become more independent in implementing the program. This means that this program will soon rise to be a high participation, where the public can receive benefits or results from farming through hydroponic methods.

Moreover, the community has a significant role in this program, where the participation includes: *firstly*, students help disseminate campaign messages by publishing farming activities with hydroponic techniques to social media and youtube, so that many people came to this location. After the publication of this activity, various media slowly and surely reported the campaign

for the green environment movement program in supporting national food security through the activities of farming with this hydroponic technique. *Secondly*, the public visited the Sustainable House, a hydroponic demonstration plot owned by *Kodim* of 0503 West Jakarta. The public learn how to cultivate in a narrow area with hydroponic methods. *Thirdly*, the public participate in farming using hydroponic methods in their respective environments. In this third stage, the public was accompanied by competent instructors prepared by District Military Command of 0503 West Jakarta.

The benefits or direct impacts felt by the public from the green environmental movement campaign program through the hydroponic method are the increasing quality of life of the public, especially in the environmental aspects. The following details are the impacts of implementing this program, as follows:

1. Improving the quality of the environment. Through the application of this hydroponic system, the environment will: a) Make the air cooler. Hydroponics is a plant cultivation system that is able to make the surrounding air environment fresher and cooler. The main reason is that this system does not use chemicals for fertilizing and controlling pests and disease attacks. The type of fertilizer used in hydroponic plants is in the form of nutrients in the form of liquid which is a food source plant. Currently there are many types of nutrients or fertilizers that can be used as fertilizers for hydroponic plants and some of them can be made by farmers themselves, b) Be able to reduce air pollution. The advantages of hydroponics for the next environment are its ability to reduce and minimize air pollution. Everyone must realize that recently the level of air pollution in the surrounding environment continues to increase. This pollution is the result of forest fires, factory smoke, motor vehicle fumes, and cigarette smoke and so on. If the pollution level is not reduced, the air become dirty and polluted. After that it can have an impact on the health of humans and animals, especially livestock. So that this problem can be overcome, then one of the best alternatives is to use hydroponic methods for crop cultivation. Hydroponic systems can be applied in urban areas that have higher air pollution levels. Large land is no longer needed because hydroponic systems can be applied on narrow land, including in the home environment, c) Be able to increase oxygen levels in the air. In additions, to cleaning the air from pollution, the cultivation of hydroponic plants can also be used as a medium to increase oxygen or O₂ levels in the air. The more oxygen content available in an environment, the quality of human health can be improved. Furthermore, when associated with livestock farming, the availability of more abundant oxygen will make the quality of livestock more perfect. The meat or eggs produced are more abundant and multiply. This is certainly a big advantage for farmers. Those are some of the advantages and benefits of hydroponics for the environment. Hopefully this simple info and reviews can add to our knowledge and insight. In addition, it can also be a recommendation for farming on narrow lands as explained in <http://www.sistemhidroponik.com> .
2. Increasing public productivity. Several public environments are not well managed because of the reasons for the limited land so that they cannot be utilized. Through this hydroponic method, the community becomes more productive to use previously unused land to be used and the results can be utilized for daily needs. In addition, through this hydroponic method of farming activities familiarize people to consume organic vegetables which are certainly healthier and safer.
3. Economic benefits. Previously, narrow land was not useful, after carrying out farming activities through the hydroponic system, people could obtain vegetables cheaper and easier. The results of this farming activity can certainly be utilized by themselves. Thus the public does not need to spend too much money to consume vegetables. At harvest time, the public can take the vegetables they harvest themselves. This means that this activity has an impact on saving and helping the economy of the community.

Environmental problems in urban areas can be seen from the high population density so that green open spaces become increasingly limited. Through the program of the environmental movement's green through the hydroponic method, *Kodim* of 0503 West Jakarta create a social movement in the community to be actively involved in preserving the environment through the planting of vegetables through the hydroponic method. Through this program, citizens become more aware of protecting and preserving the environment. Based on the results of this study, it can be explained that the program of green environment

movement through the hydroponic method has many benefits. The benefits are 1) improving the quality of the environment that becomes cleaner, healthier and more comfortable, 2) increasing the productivity of the public, and 3) economically beneficial, which is to minimize costs for vegetable consumption.

5. CONCLUSION

From this study it was found that the impact of the green environment movement program through hydroponic methods can provide benefits to the environment and society. Broadly speaking, the impact of this program is *firstly*, can improve environmental quality such as improving air quality to be fresher and cooler, able to reduce air pollution, able to increase oxygen levels in the air. *Secondly*, this program can increase society productivity. The public can manage narrow land to be more productive and produce vegetables that can be consumed. *Thirdly*, economic benefits. Previously, narrow land was not useful, after carrying out farming activities through the hydroponic system, people could obtain vegetables cheaper and easier. The results of this farming activity can certainly be utilized by themselves. Thus the community does not need to spend too much money to consume vegetables. At harvest time, the public can take the vegetables they harvest themselves. This means that this activity has an impact on saving and helping the economy of the society.

Based on the results of the study, the writer suggested that *Kodim* of 0503 West Jakarta should optimize campaign activities by increasing the campaign media in the society. This is aimed at increasing the number of people involved in this program. In addition, *Kodim* of 0503 West Jakarta should involve universities and schools in Jakarta to participate in campaigning this program to the public. To ensure that the green environment movement program through the hydroponic method runs continuously, the assistance process must be carried out intensively.

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