

Public Awareness and Participation in Canal Environmental Protection: Case Studies in Ho Chi Minh City, Vietnam

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Abstract: Raising public awareness and participation of the local communities in the environmental protection has become a major objective of sound development programs. In the framework of the canal environmental protection program of Ho Chi Minh City, we had developed 32 public awareness meetings for 14 districts with about 2,726 participants from year 2012 to 2015. The program had been organized in various forms such as training, brochure, leaflet, poster, propaganda gifts, face-to-face discussion, study visits, survey questionnaire. The results of the program can add substantial value to the canal environmental protection program of the city. The information gained through public comments can help identify key issues and solutions for the authorities as district and city levels. It was determined that most important outcomes from the public participation were educating the public, incorporating public values, assumptions and preferences into decision making process.

Key words: Public awareness, participation, environmental, canal.

1. Introduction

Community involvement in protecting the environment of their impacted community and related environmental issues is generally supported for its potential to provide low-cost sources of information to government agencies, increased acceptance and confidence in government decisions, empowered community members on issues that affect them and advancement of democratic ideals [1-3]. Moreover, community involvement by local residents can result in the collective transition from victims to agents of change [4-6].

HCMC (Ho Chi Minh City) currently has 19 urban districts and 5 rural districts with an area of 2,095.01 km², a population of 7,995 million inhabitants and average population density of 3,401 people/km². HCMC is the economic center of Vietnam and accounts for a large proportion of Vietnam economy. Thanks to its favorable natural conditions HCMC

became an important traffic hub for Vietnam and Southeast Asia, including road, railway, waterway and airway.

Due to rapid population growth, inadequate and poorly functional infrastructure, low public awareness, HCMC is challenged with environmental pollution, the causes of which include direct discharge of untreated wastewater to canals, creeks and rivers. In recent years, HCMC has been significantly flooded, especially during the rainy season from June to November and during flood-tide between September and December. Flooding in HCMC is caused by high intensity of rainfall, flood-tide, and poor effectiveness of wastewater drainage system in rural areas, inefficient operation of reservoirs and land subsidence due to groundwater withdraw.

Several organizations, in recent years, have supported HCMC government to construct and operate facilities relating to drainage, flood control and pollutants removal. Some typical projects are effectively operating, including irrigation facilities along Sai Gon River (AFD), Vietnam—HCMC

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environmental sanitation (Nhieu Loc-Thi Nghe Basin) [7], Tan Hoa—Lo Gom Basin, urban development project (WB) [8], and improving the quality of the water in the Tau Hu-Ben Nghe-Doi Te Canal (JICA) [9].

Integrated flood risk management approach for HCMC, under support of the World Bank, is established to continually improve drainage systems, flood control and environmental sanitation for the city, where a focal point will be a catchment of Tham Luong-Ben Cat-Nuoc Len Canal [10].

To maintain the obtained results from these projects to the environmental improvement, and flooding prevention of the city, it needs to have the participation and commitment from whole society.

The public awareness program was developed by the city government under steering center of the urban flood control program that aims to increase the public knowledge and responsibilities on environmental, to get the public involved into the environmental protection, especially involved into the protection of the canal and sewerage systems. The program was implemented in 4 periods, corresponding to 4 catchments of the 4 canal areas. The scope of this program included stakeholders and residents along these 4 canals.

In the following pages, we will discuss public participation process, analyze the involvement of the public on the environmental protection issues of the canal's areas, compare and discuss the effects of the public involvement as well as the implication for opening one more channel for public involvement in environmental protection agencies.

2. Public Involvement Process and Methodology

As a government that involves the public in decision-making processes would first equip the public with necessary information on the issues of their concern, then provide venues for the public to express views and deliberate on alternatives, and empower

them to make decisions to advance their individual as well as collective interests [11].

As Ritva Jolkkonen [12], in the ASEAN region, environmental initiatives started to appear in the early 1980s. From the first regional environmental initiatives until the present, environmental awareness has been an issue. Attention has been paid to ways of enhancing public environmental awareness by developing and implementing environmental education and public awareness program, and to the exchange of materials containing environmental information.

The public awareness program was organized for four residential areas that located along the four canals. Depending on the location of canal's catchment, from 4 to 13 public meetings were organized for each area. In total, there have been 32 public awareness meetings for 14 districts with the participation of about 2,726 stakeholders. These meetings were organized in the period of 2012 to 2015 [7-9, 13]. The process of the public awareness meetings began with the preparation and sending of invitation letters the relation public organizations of the District such as Veteran Union, Women Union, Youth Unions, Business, and Residents. Representatives from the steering center of the urban flood control program, district authorities were invited to attend the meetings to support and listen to the public as required.

The speakers of the program are academic professors on environmental and health fields, they also have experiences in public relations.

A power point presentation was prepared to facilitate understanding by the stakeholders with 3 sections including: (1) Urban plan to reduce flooding in the City, (2) Basic knowledge on environmental problems and public health, (3) Regulations and public roles in together with the government on reducing flood and protecting environment. In addition, a video was presented about the former problems, project construction and the better environment when the project is completed.

From these meetings, we organized the study tours

for interested residents to visit one of the wastewater treatment plans of the city to let people understand how the wastewater treatment plan is working.

Other methods that have been used to attract the interest from the public include: useful products for life such as raincoat, cup, hat, key-hanger, with the propaganda message on it, and printed materials in the form of project information, environmental and public health problems, brochures and survey questionnaires.

After that, there is an open forum, the participants were given the opportunity to raise their questions, concerns and comments either orally or in writing. The raised issues and concerns, suggestions and recommendations were recorded during the public meetings.

The survey questionnaire was used after the meeting to survey and evaluate the public awareness program on environmental protection for canals.

During the public awareness meeting, the participants were informed of the office address and contact numbers of the steering center of the urban flood control program where they could send further complaints and comments regarding to the environmental protection in their areas.

3. Results and Discussion

3.1 Proposes Raised during the Public Meetings

After equipping the public with necessary information on the issues of their concern, then it needs to provide venues for the public to express views and deliberate on alternatives, and empower them to make decisions to advance their individual as well as

collective interests. By giving them the forum, they can discuss how to protect the environment of the canals.

With a diverse social, political and educational background, the interests or concerns of every stakeholder involving in a public participation program could vary [14]. In total, we collected 596 proposes from the participants via a direct speak which were noted into the meeting minutes and written on paper (Fig. 1). We divided these proposes into main 4 groups of comments: (1) Regulations, (2) Enforcement, (3) Technology, and (4) Awareness (Fig. 2).

3.1.1 Proposes on Improving Regulations

The meetings received 101 comments (17%) relating to the improving regulation. Most of these comments are focused on the following issues:

- Every household has to registration for the waste collection at source and pay for this collection fee;
- Household and enterprises have to commit not to dispose waste to the canal or public areas;
- Information on environmental problems and regulation has to be presented in the local residential meeting regularly;
- Village steering committee has to monitor and remind the residents on environmental protection and sanitation weekly;
- Deliver mission on environmental protection and management to the village steering committee.

3.1.2 Proposes on Improving Enforcement

The meetings received 125 comments (21%) relating to improving the enforcement. Most of these comments agreed to the penalization to the violation to the environment, they included:



Fig. 1 Participants gave comments in the public meetings.

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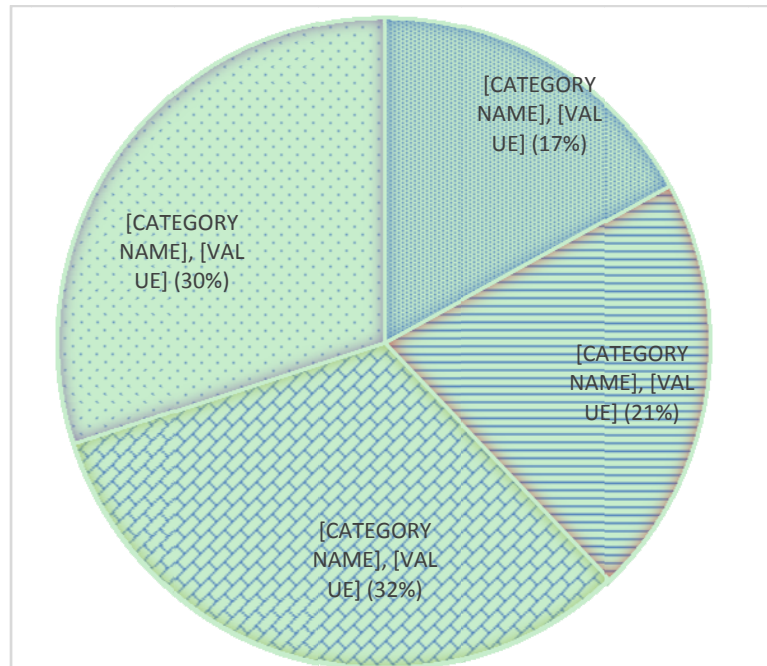


Fig. 2 Proposes raised during the public meetings.

- Penalizing those who disposed waste to the public areas, including private, enterprises and vendors;
- Penalizing household that does not pay the waste collection fee;
- Penalizing those who release pet to defecate to the public areas;
- Increasing fee of supplied water to reduce using water and reduce polluted water to the canal.

3.1.3 Proposes on Technical Solutions

The 191 comments from the meetings (32%) are relating to technical solutions. These comments appeared in almost meetings on the following issues:

- Improving the old drainage systems;
- Dredging canals regularly;
- Preventing waste by changing new sewer net;
- Equaling the level of the streets;
- Installing more public toilets and waste bins along the canals;
- Completing the waste separation at source;
- Limited uses of plastic bag;
- Installing camera and hotline for monitoring and warning from the public.

3.1.4 Proposes on Improving Awareness

Together with the technical solutions, participants

almost agreed on increasing public awareness on environmental knowledge, they propose several ways to do, such as:

- Put the content of the environmental protection into the early education program such as at the primary school or even at the kindergarten;
- Build the propaganda team to guide in the public awareness activities;
- Publish information on projects and environmental issues as news at the local public area;
- Organize the propaganda into different forms, such as brochure, leaflet, flyers, poster, meetings, and painting;
- Organize the public activities such as a green Sunday, or study tour to the wastewater treatment plan, or study tour to the solid waste treatment center.

There are many important positive outcomes from the community involvement and citizen participation in these public meetings. The question for the government and policy advisors is how we can see a more systematic change in government decision-making from passively responding to public claims on an ad hoc basis to actively engaging the public and thus enhancing the legitimacy and mass support for public

policies.

3.2 Results of the Questionnaire Survey

The 1,157 surveyed questionnaires were collected from the participants. The questions were related to feedbacks from the participants to all propaganda program activities and their awareness.

About 99% of the surveyed participants show that they understand the problems of waste littering, flooding, environmental pollution and health problems. About the same amount of participants would like to have more information on regulations and enforcement to the environmental behaviors, about 95% of participants are willing to participate in environmental protection program from the local organizations, and promote others to compliance regulations.

Almost 100% of participants like the given propaganda products such as raincoats, cups, reused bags, or hanging posters. They evaluated them as the useful gifts and variety propaganda forms for effective public awareness program.

4. Conclusions and Recommendations

The public awareness program had been organized in various forms. The participants have evaluated the process and activities as an effective program.

The results of the program can add substantial value to the canal environmental protection program of the city. The information gained through public comments can help identify key issues and solutions for the authorities as district and city levels. In the frameworks of these public awareness programs, it was determined that some of the most important outcomes from the public participation were educating the public, incorporating public values, assumptions and preferences into decision making process, increasing the substantive quality of decisions fostering trust in institutions, reducing conflict and achieving cost-effectiveness as mentioned by Refs. [15-17]. Without understanding and prioritizing the grievances of affected groups, the values to the entire society, the

thoughts of the government, and the worries of the pressure groups, it is impossible to reach a consensus [18]. In view of this, more education for the community about the value of public participation, as well as the need to respect each other, is desirable.

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