

A MODEL OF PARTICIPATION IN A WATER REHABILITATION PROJECT OF A LOCAL GOVERNMENT UNIT IN THE PHILIPPINES

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ABSTRACT. To eradicate water pollution, a local government in the Philippines has implemented a water rehabilitation project called “Adopt-A-River Project. The project mobilized the local communities to preserve and maintain a clean and safe environment. Promoted through the use of communication media, Adopt-A-River Project has been implemented along the three main tributaries of the area. This study was designed to propose a model of participation considering the level of awareness and perception on the project and the level of participation of the 327 residents. Data were gathered using a validated researcher-made questionnaire with reliability index of 0.970 on perception items and 0.897 on level of participation. Data revealed that local group discussion (52%) is the most commonly used medium of communication in increasing awareness of the project. This is in addition to radio, television, newspaper and the internet. The use of different media resulted in the respondents being informed of the project which led to their involvement in decision-making and consultative role. The information about the project was disseminated using words that are simple and easy to understand. The project was accepted by the residents and participation was heightened. The perception level has an effect on the information level by 0.737. Path analysis using 14 variables showed a good fit with Chi-square = 0000 and GFI, NFI and CFI having values of 0.99 and RMSEA of 0.026. Significant predictors of participation are perception ($p=.000$) and awareness ($p=.000$).

Keywords: Awareness, Communication, Participation, Path Analysis, Water Rehabilitation

1. INTRODUCTION

Environmental problems are a global phenomenon. Every country is challenged to address environmental concerns to protect not only the current societal interests but also the welfare of the future generation. Thus, sustainability of environmental programs has been one of the major thrusts of every country in response to global environmental issues and the call of the United Nations towards attainment of sustainable development goals.

With the world being aware of the effects of global warming, projects concerning the preservation of our natural resources are taking place from different points of the world. One of these resources is rivers, which are the source of living of many plant and animal wildlife. Many projects concerning the health of rivers are being created and facilitated by the government and many local and private organizations. As these projects take place in their respective rivers, the facilitators of these projects request the locals to participate in order for these projects to be successful at the same time to help the rivers stay alive.

As rivers are a very important part in nation building, many projects have emerged in different countries in order to save endangered rivers—one of these river rehabilitation programs is the Adopt-a-River Project. In the Philippines, many of these are done in parts of our country where rivers cross to metropolitan areas like Manila, Cebu and Davao which all—all still goes to processes. Most of these are proven to be successful due to the community and stakeholders' efforts to maintain the project. Previous studies prove that these projects can help areas that have rivers in their territories; however, these would only work if the community are aware of the project [1].

In Calamba City, Province of Laguna, the local government unit has been implementing the Adopt-a-River project as part of its Rivers and Creeks Rehabilitation Program. It is a multisectoral partnership aimed at restoring the environmental quality of creeks and rivers in the city.

Launched in February 2011, adopt-a-river project hopes to bring in fruitful collaboration not just with the private sector but also with the communities in cleaning up their rivers and creeks.

The project is implemented in three communities, namely San Juan, San Cristobal, and Real.

Under the said project, each company that generates waste into the river shall adopt a portion of that river and be responsible for its cleanliness and rehabilitation. Companies, together with the schools, hospitals and commercial institutions, along San Juan River, the San Cristobal River, and the Baranca de Sipit Creek in Real, shall be the private partners, while the barangay captains, Department of Education (DepEd), City Environment and Natural Resource Office (CENRO), and the Office of the Mayor shall be the public counterpart. A total of 236 private sectors signed the memorandum of agreement with CENRO, which formalized the partnership in the context of Adopt-a-River Project. On the other hand, the local government units are expected to provide guidance and technical assistance to all private partners or "the green partners". In addition, they are also responsible for dissemination of information material on the program.

Adopt-a-River project consists of seven components, namely Bantay Ilog, River Clean-up, River Restoration, Reforestation, River Campaigns, River Maintenance, Flood Protection Program, and Housing and Resettlement. The CENRO as the implementing agency is tasked to initiate the conduct of these components with the goal that the public and private sectors as partners will eventually initiate and sustain their own respective programs. CENRO has been implementing river clean-up drives every quarter of the year in the abovementioned communities.

Successful implementation of environmental, or development programs in general, is contextual. Essentially, participation and commitment of stakeholders is crucial ([2]–[4]) Understanding the level of participation requires systematic analysis of the context within which a development project exists. Lovell (1992 in [2]) suggests a number of factors such as population, employment, health literacy, among others that are associated with participation; however, Lovell stressed that these variables are not necessarily valid from country to country even when the needs appear similar. Along this line, this study aims to find out the factors associated to the level of participation of the community on Adopt-a-River project of a local government unit in the Philippines.

Specifically, it aims to determine the respondents' level of mass media exposure, their sources of information about the project, their level of awareness, perception, and participation in the project. This study further aims to present a model of

participation in the context of a community in the Philippines in the hope that such model may be adopted in similar environmental projects.

2. LITERATURE REVIEW

When development scholars recognize the limitations of modernization paradigm which advocates top-down approach to development in the 1970s, they started to rethink how development can improve the standards and quality of life [5]. This rethinking calls for humane, egalitarian, and responsive communication theories and practices [6]. Thus, the inclusion of participation in the development process.

Participation is a highly contested word. World Bank defines participation as "a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them." Willis, (2006) on the other hand, views it as "an umbrella term to refer to the involvement of local people in development activities, often NGO-based." [7] (2009) cited participatory communication as one of the major theories following modernization paradigm. He argued that participatory communication seeks to describe the power of individuals to change the world with an end goal of reaching positive development for all and better inter-cultural understanding. Dervin & Huesca [7], in their meta-analysis of theoretical and empirical researches on participation, view the latter as being positive to successful development.

Participation varies in nature. [8] cites that participation can be classified according to the degree of participation in a continuum, according to the direction of communication flows, theoretical basis and objectives for which participation is being used. [9] enumerates four typologies of participation ranging from the lowest to the highest level. These are passive participation in which stakeholders participate by being informed about what is going to happen or has already happened, participation by consultation in which stakeholders participate by providing feedback to questions posed by outside researchers or experts, functional participation in which stakeholders take part in discussions and analysis of predetermined objectives set by the project, and empowered participation in which stakeholders are willing and able to be part of the process and participate in joint analysis, which leads to joint decision making about what should be achieved and how.

The benefits derived from involving the public in environmental programs have driven policymakers

to incorporate participation in national and international policy [8], [10]–[12]. Thus, literature abounds with participation studies. While there is a growing concern for participation in development projects, previous studies support that involving the stakeholders does not happen in a vacuum. Factors such as demographic profile [13], [14]; media exposure [15]; quality of community members' life [16]; environmental values [17] and attitudes and motivation towards participation [18]. [19], on the other hand, found two variables that influence participation: "ownership variables" (personal interest and knowledge on the issue) and "ownership variables" (environmental strategies and belief in one's ability to succeed).

3. METHODOLOGY

Using the descriptive research design, the researchers administered a self-made instrument among 327 respondents from three communities in Calamba City, Philippines, where the three main tributaries are situated. The instrument is divided into four parts. The first part is the demographic profile; the second part elicits information about respondents' mass media exposure; the third gathers the level of awareness of and sources of information about the project, and the last part contains the statements on perception on the project. Data were analysed using frequency, percentage, mean and Chi-square using SPSS version 20. Structural equation modelling using path analysis was done to develop the participation model in the context of the said project.

4. RESULTS AND DISCUSSION

4.1 Respondents' Profile and Media Exposure

Respondents are comprised mostly of female (60.9 %). Their civil status is either separated (47.7%) or single (41.3%) and their age ranges from 18-47 years old. In terms of education, most of the respondents have reached elementary level. Only 17 out 327 respondents are college degree holders; however, most of them (76.5%) are employed.

Previous studies have shown that media exposure represents one variable that has association with planned behaviour change [15]; [20][21]. Thus, this study considers media exposure and its potential influence on environmental participation. Results revealed respondents are exposed to both traditional and new media. On a daily basis, they spent 30

minutes to 1 hour listening to radio (37.6%), reading the newspaper (56%) and surfing the Internet (61.5%) and 1-2 hours watching television (16.8%). It is worthy to note that most of them are exposed to the Internet among other forms of media.

4.2. Awareness of and Source of Information about Adopt-a-River Project

Respondents are only moderately aware (63.3%) of the Adopt-a-River Project. A significant number of respondents (82 or 25.1%) are unaware of the project. As to source of information about the project, group discussion serves as their main source, with 52% of the respondents citing it. Other sources of information are seminar (16.5%), television (7.3%) and radio (6.4%).

4.3. Perception on Adopt-a-River Project

Given an overall mean rating of 2.71 interpreted as "Agree", respondents apparently have favourable perception on the project. Specifically, respondents agreed with the message of the project (mean=2.89). They also agreed that the project's message is acceptable (mean=2.83) and understandable (mean=2.82) and that simple words were used to promote and implement the project (mean=2.72). Moreover, the project provided positive and useful learning to the residents (mean=2.72).

Table 1. Mean perception on the project

Statements	Mean	SD
1. I understand the message of the project.	2.82	0.93
2. The message of the project is acceptable.	2.83	0.92
3. I agree with the message of the program.	2.84	0.96
4. I easily comprehended the message of the project.	2.79	0.94
5. Simple words were used to promote and implement the project	2.72	0.95
6. The project offered opportunities to the citizen of the benefited community.	2.65	0.93
7. I have enough knowledge of the purpose of the project.	2.62	0.90
8. The project was continuously implemented in a way it's visible to the residents.	2.64	0.90
9. The project provided positive and useful learning for the residents.	2.72	0.91
10. The project used effective communication instruments in disseminating substantial information.	2.64	0.91
11. Timely and appropriate communication tools were used in the project.	2.69	0.94
12. Persuasive project design was used.	2.67	0.91
13. Information about the project was properly distributed.	2.69	0.92
14. The communication tools used in the project were sufficient and necessary.	2.60	0.94
Overall mean perception	2.71	0.78

Legend: 4-Strongly agree; 3-Agree, 2-Disagree, 1-Strongly disagree

4.4. Level of participation in the project

Anchored on Mefalopulos' typology, this study considers four levels of participation: Passive (Level 1), Participation by Consultation (Level 2), Functional Participation (Level 3), and Empowerment (Level 4 and 5). Results reveal that respondents have demonstrated different levels of participation in the project. However, in general they mostly showed passive participation. Respondents agreed that they were informed about the programs and regulations of Adopt-a-River (46.5%); however, they were not hindered or limited by the facilitators in their participation (45.9%). In contrast, respondents disagreed that they were part of the decision-making and implementation of Adopt-a-River, that were consulted by LGUs or facilitators about matters involving Adopt-a-River and that they are currently participating in Adopt-a-River.

Table 2. Level of participation

Response	Level1		Level2		Level3		Level4		Level5	
	Fre		q		%		%		%	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Strongly disagree	52	15.9	56	17.1	58	17.7	53	16.2	45	13.8
Disagree	75	22.9	126	38.5	123	37.6	102	31.2	95	29.1
Agree	152	46.5	116	35.5	117	35.8	134	41	150	45.9
Strongly agree	48	14.7	29	8.9	29	8.9	38	11.6	37	11.3
Mean	2.60		2.36		2.36		2.48		2.55	

Legend: 4-Strongly agree; 3-Agree, 2-Disagree; 1- Strongly disagree

4.5. Factors associated to participation level

All levels of participation are significantly correlated with level of awareness and level of perception (see Table 3). Passive participation is significantly correlated with the type of radio program exposed to and type of internet sites used. Likewise, participation by consultation and empowerment level are significantly correlated with type of TV program respondents are exposed to.

Table 3. Correlation between level of participation, awareness, perception, and length and type of media exposure

	level1	level2	level3	level4	level5	awareness	perception
awareness	-.326**	-.248**	-.205**	-.304**	-.287**	1	
perception	.625**	.512**	.475**	.486**	.485**	-.449**	1
Length of exposure to radio	0.002	-0.023	0.039	-0.007	0.068	-0.027	0.028
Length of exposure to TV	-0.062	0.004	-0.038	-0.058	0.054	-0.027	0.1
Length of exposure to newspaper	0.027	-0.006	-0.062	-0.06	0.032	-0.044	-0.009
Length of exposure to Internet	0.037	-0.022	0.06	-0.023	0.011	-0.006	0.055
Type of radio program	.171**	0.085	0.082	0.042	0.09	-.169**	.114*
Type of TV program	.140*	.129*	0.06	0.084	.121*	-0.1	.136*
Type of newspaper article	0.103	0.099	0.053	-0.01	0.083	-0.019	0.015
Type of sites used	.176**	0.058	0.043	-0.016	0.077	-0.07	.150**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Structural Equation Modelling using Path Analysis reveals the following model of participation.

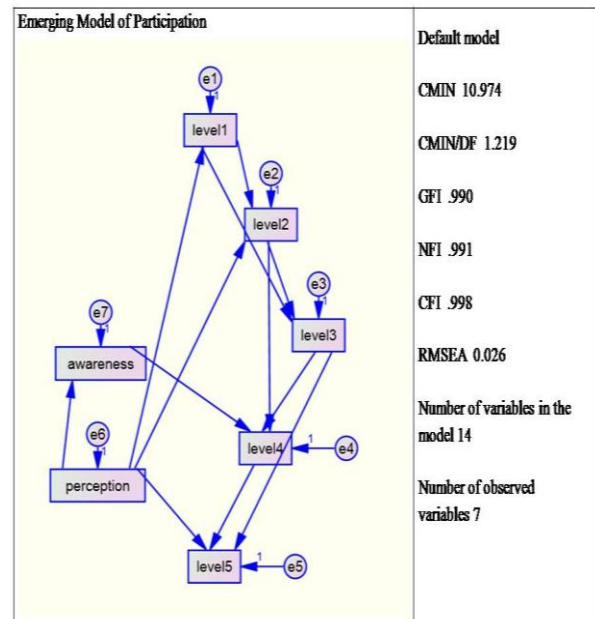


Fig. 1. Structural Equation Modelling Using Path Analysis

The emerging model shows a significant direct effect of perception on level 1 (.737), level 2 (.139) and level 5 (.183) participation, as well as on awareness (-.350). Level 1 participation has a significant effect on level 2 (.581) and level 3 (.271) participation. Level 2 participation has a significant effect on level 3 (.523) and level 4 (.434) participation. Level 3 participation has a significant effect on level 4 (.340) and level 5 (.230) participation. Level 4 participation has a significant effect on level 5 (.47) participation

5. CONCLUSION

In the context of this study, the local residents who took part in the study are mostly female, elementary graduates but employed. In terms of media exposure, they are light users of radio, television and Internet. Such exposure to media

results in their awareness of the Adopt-a-River Project. However, their main source of information about the said project is group discussion. The Adopt-a-River Project was favourably perceived by the local residents. They agreed with the message of the project. They also agreed that the project's message is acceptable and understandable and that simple words were used to promote and implement the project. Moreover, the project provided positive and useful learning to the residents. While perception on the project is positive, results revealed that most local residents have passive participation in the project, suggesting that they were only informed of the programs and regulation, although some claimed that they were not hindered in their participation in the project. Path analysis showed that both awareness of and perception on the project are significant predictor of participation.

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