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Participatory Communication Strategies Used in the Implementation of Public Water Projects in Murang'a County, Case Study of Northern Collector Tunnel, Kenya

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ABSTRACT

Development communication plays a major role in informing and influencing the behavior of the receiver of information. Effective development communication motivates people to participate in planned activities, changing the behavior and attitudes of people and empower them to focus on interactions between different stakeholders to address a common problem. Community involvement is a very important aspect in implementation of any project. Without community buy-in, a project may never get off the ground or will not be accepted once it is completed. Community involvement is regarded as a nuisance and is ineffectively addressed, or there is a lack of knowledge as to how to engage the community. Either way, the results can be disastrous and would lead to delays in construction, loss of money, filing of law suits, disgruntled citizens providing negative comments to the media or non-acceptance of the revitalization project, the very thing that was supposed to be remedied. The study sought to establish Participatory Communication Strategies used in implementation of public water projects in Murang'a County, study of Northern Collector Tunnel. The Study was anchored on the theory of Kinkaid Convergence Model of Communication. The design was descriptive survey. Target population was 192,589 households. Krejcie and Morgan sampling formula was used to arrive at 384 respondents. Data was collected using a structured questionnaire and analyzed using descriptive and inferential statistics. The study established that participatory communication strategies play a critical role in the implementation of public water projects. The study recommends the involvement of community grouping, meeting with opinion leaders and the use of various media platforms including radios, local newspapers, and television and billboard illustration will go a long way in facilitating the successful implementation of Northern Collector Tunnel project.

Keywords: Participatory Communication Strategies, Implementation of Northern Collector Tunnel, Murang'a, Kenya.

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1. Introduction and background of the study

Participatory approaches to communication are highly treasured in project development among communities. Development related communication undertakings tend to inspire notable moderation of perception and conduct at community, family and personal level as well. According to Serves and Malikhao (2010), communication development is normally used as a supportive framework to development initiatives by broadcasting information to encourage the people to support various development connected projects.

Tufte and Mefalopulos (2009) observe participatory communication as an approach based on dialogue and allows sharing of information, perceptions and opinions among the various stakeholders and thereby facilitates their empowerment. Chambers, Glasgow and Stange (2013) saw participatory development as a way of overcoming the shortcomings of top down development and the limitations of expert research and planning. Participatory methods are tools that involve partners with each other. Proper participation creates understanding, connectivity and commitment between the stakeholders and project implementers. The central role of community members ensures that messages and materials reflect the social and cultural dynamics of their daily lives. The resulting locally-specific messages resonate with community members in ways that cannot be produced by non-participatory methods. Beyene (2012) illustrated that, management of water supply by the community is the indicator of sustainability of rural water supply programs since it instills sense of ownership of these community projects.

Visser, Lugt and Stappers (2007), stated the significance of making the recipient of information participatory in the process of communication. To this end, designers become the co-creators and as well as the co-owners of the information which culminate to high degree of recognition and use. IFAD, (2010) stated that, locals should be involved in planning, management and decision making about their natural resources. IFAD, when carrying out projects in developing countries: adopted an approach dubbed, adaptive approach to participatory mapping which provides guidance on the steps needed to implement participatory mapping in IFAD supported initiatives. The project focused on the role of participatory communication in supporting the empowerment of local communities, by helping them initiate dialogues with decision makers and stakeholders and the need to implement participatory monitoring and evaluation strategies. This therefore, means that, communication process should be structured around dialogue characterized by two-way flow of information as opposed on linear persuasive approach.

Adopting a participatory strategy, helps in sharing of local spatial knowledge thereby strengthening the impact of the local people initiatives (IFAD, 2010). Gebrehiwot (2014) stated that, the success rate of water supply projects is largely linked to community participation. Facilitation of participatory communication processes inherently implies “giving voice”, hence power, to all parties involved. These processes should be based on a thorough stakeholder analysis. This analysis helps to understand who has what stake in the process and what functional and power relations exist amongst and within the different stakeholder groups. Participatory communication sees people as the nucleus of development. It allows lighting up the spirits of the local community to take pride in its own culture, intellect and environment. Therefore, success of rural water supply schemes is largely linked with community participation (Hassan et al., 2010). The study recommends adequate sensitization and involvement of community in water supply projects within all the stages.

1.1 Statement of the problem

A lot of efforts have been directed to attain sustainable change in underdeveloped countries, but the outcome has been largely disappointing. Numerous development efforts have become ineffective to bring about the desired change. Lack of participatory methods in development process of the local community has often been pointed out as one of the major barriers to achievement targets by development projects. Failure to incorporate community's participation in the design and implementation of policies and programmes in development projects that affect their lives has been acknowledged as one of the major factors that have slowed the pace of development.

Participatory development is a two-way dialogic mode of communication in terms of which communities are fully involved in identifying needs and taking ownership of activities and information. However, community participation in the implementation of the Northern Collector Water Tunnel in

Murang'a County seems to be doubtful, despite a report of a feasibility study conducted by Water Resource Management Authority (2000) that recommended involvement of the local communities. The project has received a lot of criticism from the community members, raising questions on the effectiveness of the communication strategies used to involve the local communities in implementation of water projects in the county. Therefore, this study sought to establish the participatory communication strategies used in the implementation of public water projects in Murang'a County, the case of Northern Collector Water Tunnel. The study may also benefit the academicians in the endeavor to pursue knowledge gaps and review literature to support their claims.

1.2 Objective

The objective of the study was to establish participatory communication strategies used in the implementation of Northern Collector Project in Murang'a County, Kenya.

1.3 Theoretical framework

The study was guided by convergence model of communication propounded by Kinkaid (1979). Kinkaid's model stated the importance of sharing information process. He saw it as a circuit or network of circuits by which individuals within the system are interconnected. A circuit is not a one way link but a loop with the capacity for two way exchange of information in a prerequisite for feedback. No human system can function properly or be coordinated to accomplish set goals without feedback. Feedback produces action in a response to an input and includes the results of its own action in the information by which it modifies its subsequent behavior. Project implementers need to be in constant communication with the local stakeholders so that in case of any consultation it can be made easily. Avoidance of public involvement leads to protracted conflicts and costly delays and trust between the project implementers and the public. In this study, the theory guided in understanding the influence of feedback on participatory communication strategies on implementation of public water projects in Murang'a County.

2. Literature review

2.1 Participatory communication strategies

Collaboration of key participants was seen as central to cultivating goodwill from all through holding of consultative meetings. According to Moraa and Otieno (2012) project managers have to ascertain involvement of all central stakeholders in program policy development as well as implementation. Participation of stakeholders in policy reform and development arguably foster larger ownership and commitment to successful policy implementation and consequently reducing the risk of failure. Public participation in the implementation in the local community area development projects is a significant challenge and that can lead to deprived tenure as well as unsustainable development (Bone, 2013). The approach to allow citizenry to participate in local project development planning and design had a hope to bring about a sense of possession to undertakings of development that would end to poverty eradication endeavors. Awareness brings possession and sustainable development because the entire community has the control of the development initiatives (Bone, 2008). Participation depicts very high level of communal engagement in communication structures. This is supposed to include involvement of the public in the entire process of management and planning of communication systems. The most advanced form of participation is self-management as the public will fully express power in decision making within the initiatives of communication and will be entirely involved in the design of communication guidelines and strategies

Bejene (2012) points out participation in communication refers to the engagement of the community to instill the spirit of ownership which enhances sustainability in project implementation. To this end participation of community members with due regard to financial contribution, forecasting, implementation, operation and maintenance to ascertain project development sustainability. Some of the remarkable and successful participatory communication development programs were examined at village level and utilization of interpersonal channels were seen as the utmost fruitful approach (Saik, 2010). Participatory communication views public as the heart of development which permits illumination of the spirits of the local community to be proud of own intellect culture as well the environment. Involvement of community members in terms of financial contribution, planning,

execution, operation and maintenance ensure the sustainability of development projects, such as water supply schemes (Gebrehiwot, 2006).

IFAD (2010) asserts that, the locals should be involved in entire process of project planning, management as well as in decision making about their natural resources. IFAD, when carrying out various projects in developing countries embraced an approach namely adaptive procedure to participatory mapping that provides direction on the steps prerequisite to implement participatory mapping in IFAD supported enterprises. The project engrossed on the significance of participatory communication in backing up the empowerment of local publics, helps them to start dialogues with various decision makers and stakeholders on the need to implement participatory monitoring and evaluation tactics. To this end, it means that communication process need to be structured around a two way traffic flow of information as opposed to linear to down approach. Embracing a participatory plan helps in sharing of local spatial knowledge which strengthens the impact of the local people initiatives (IFAD, 2010).

The success and efficiency of rural water supply systems is principally allied to community participation (Hassan & Majid, 2010). Community participation will imbue the spirit of responsibility achieved through well- designed community engagement strategies. It thus interprets that; many projects will result to failure as a result of government ignorance to the importance of involvement of the local stakeholders. Local residents should there not be viewed as inactive recipients of resolutions made outside the framework of their communities jurisdiction which would lead to ultimate project failure. The locals should be involved in preparing as well as carrying out development intercessions. The prime goal of participatory communication is to support expression of local public knowledge, priorities, concerns and decisions through effective communication processes. Lerner (2007) is of the view that that majority of the projects often fail due to failure in passing appropriate information and problem of communication to the concerned public. Effective communication in which concerned and affected people are involved in project implementation is said to be pertinent. Lerner recommended the utilization of pro-persuasion, pro-innovation and pro media focus in communication processes. The prominence was especially placed on the use of mass media to inspire the communities involved, improve levels of literacy and notably allow people to break from resentment and resistance.

Quarry and Ramirez (2009), participatory communication strategy is very prominent in listening as well as advocacy scopes. It should be more of to launch and enrich the capacity to communicate across the cultural, religious as well as linguistic confines. Therefore it translates that; participatory communication will benefit persons and the entire community by developing a robust connection with the problems and their solution. When individuals feel integral to the design of a communication strategy, they are largely likely to be more involved and as well stay involved until the initiatives are completed and the issues touching the community are addressed. New skills that will remain within the community are developed. To start with it may appear like seem like it's not a good scenario to have the participants and interested parties breath down your neck but at some point they are left coveting to have been more involved in the entire process. The best approach is to bring them on board at onset of the project even if that means having a few initial difficult meetings in an attempt to have an agreement on the way forward.

Participatory communication tactic has stood up from the criticism of the functional play communication in the dependency as well as modernization paradigm. Presently, this methodology is reflected as a new model on communication for development and progress. This method points out at the involvement of resident community for self-development via communication in the perspective of bottom up. In a nutshell, participatory communication underscores more indulgence of multiple sentiments to overcome stereotyped thoughts giving many respects to lodge self-reliance and self-determination (Servaes (1996). Indeed, the theory and practice of participatory communication has emerged as a critical paradigm which has often attracted possibilities as well as limitations in equal measure.

According to World bank (2009) within the development exercise in the course of 1990s and venturing into the new millennium, the critical approaches to participatory communication grew notably buoyed by the democratic wind blowing over the world especially in developing countries. Emanating from the large UN summits, in the 1990s as well as on the onset of the millennium coupled with the civil society clamor for participation, participatory communication has been engendered in

development policies and notable project design and implementation. International support as well as networks incorporated in the emergent global civil society has provided for innovative spaces for involvement. As a result, participatory communication is now viewed as a platform for the voice of the voiceless, the poor, as well as the marginalized.

Participatory communication assumes very many forms. It can be considered to fit various and diverse contexts. Participatory communication as a context of study is twin divided: Firstly, as the study of the inquiry of the role of media in the community and secondly as the study of the strategy for participatory as an equipment to address community development and progress. The two contexts engrossed on three topics: communication tactics, forms and scales of participation, and factors that influence people participation. (Musakophas, Polnigongit & Kasetsart, 2017). The study also reported that there was an assortment of studies in media: Community radio, community television, wire broadcasting mass media, news casting tower and in the form of radio and television as well as the new media in form websites and internet radio. Nevertheless, there was only single study that fixated on internet radio by Sroisri (2011) and another on new media, conducted by Chatwaree (2009).

2.2 Community radio

In the country of Thailand a total of eight studies conducted were largely directed on community radio. Predominantly, the research studies surveyed three functions in the participation of the public in project management: policy maker, receiver and producer. Kheerajit, C., & Alexander, G. (2013). The study conclusions indicated that a majority of the people participated in radio platforms as audiophiles, informers and also playing a significant role in passing information within the community in cohort with radio producers and presenters, while limited people were involved as producers and policy development designers. The people also took part as news makers, radio presenters, and as participants in station or outdoor shows as well as program architects. During policy formulation stage, the community was accomplice in meetings. However, at policy design and formulation and development on community radio organization were decided upon by the Radio Thailand staff as local community individuals had deficiency of particular competencies in the processes of policy development.

AfriMAP (2011) pointed out that in Kenya, there exist a significant total of vernacular radio stations where local languages are used to disseminate knowledge and are also available in regions previously granted scanty consideration by the contemporary commercial media. As a result, local and vernacular radio stations given a chance can function significantly in disbursing of information to the local communities and evolution processes in governance as well as generate platforms for people participation notably in marginalized areas. This may result to enhancing the diversity and multiplicity of dissimilar views and opinions placed on the platform. Media research, AfriMAP (2011) indicates that, in Kenya, radio leads in the list of most preferred and convenient media. The latest statistical analysis from a media research company, the Synovate conducted a research under the auspices of Kenya Audience Research Foundation (KARF), the radio takes the lead in the overall media consumption while the mobile phone take first runners up followed by television, newspapers, while internet takes the last position. The usage of the devolution began, and the administration was attempting to withstand weight from the resistance pioneers on the best way to deal with various issues in the state. The difficulties were credited to the way that it was to be the initial government in the state. As indicated by the report, the idea of decentralization and people involvement in community projects was increasing diverse definitions in the psyches of Kenyans (Caruso, 2013). The vernacular stations amid this time likewise assumed a noteworthy part in transmitting the different messages introduced by the contention between the Legislature and the resistance by the local people.

Omollo (2014) states that, decentralization of the administration empowered most Kenyans to take part in government projects and enhanced the administration conveyance to the general public. In such manner, most Kenyans thought that it was workable for them to get to the diverse administrations that were offered by the local government. The endeavors of the vernacular stations were to promote, educate and involve local the general population in the accessibility of the administration inside their region. The local radio stations have made it easier for local people to participate in government projects as they air their views through the media. This expanded the quantity of people taking part in the exercises started by the local government by 23% (Khalil, 2014).

There was additionally an incredible effect on the basic leadership of the local people, and the local government serves the general population better because of an enhanced comprehension of the general population's needs at the province level (Omolo, 2010). As indicated by a report published by Devas in the people's daily on September 2013, the idea of public participation was drawing in the political consideration in the nation during that period. Clashing interests were attempting to make the country comprehend the significance of a regressed government and the pioneers of these battles were the resistance party pioneer (Oteku, Schutz & Bierhals, 2010).

According to Waters, James and Darby (2011), the local communities place very high value to the input of the radio station as community members stated their pride of the stations. Variations in community attitudes are attributable to the radio station inculcated during promotions in aspects such as health, water and sanitation as well as education. Approaches to development within which a combination of support off-air activities and on-air programming within the community is regarded central to effective project development. The radio station is therefore in a very valuable position to continued positive contribution to Tulikup Village and markedly to the entire region of Bali, Waters, James and Darby (2011) Use of local radio station would work very well to propagate messages that relate to NCT project.

2.3 The internet

Chatwaree (2009) in a study on internet utility as a way of obtaining information, reported that, in the internet radio program in the school, the students participated as producers and receivers In a study by Sroisri (2011) on use of websites as new media with collaboration on learning, found that, students participated as planners, designers senders and receivers as well. Kimutai (2011) states that, the use of internet has grown tremendously in Kenya. This has resulted into increase of smart phone sales because of high number of mobile phone users. Therefore, Northern Collector Tunnel project implementers can take advantage of this and make use of internet to communicate with the locals on any information during implementation.

2.4 Television

Three studies conducted in Thailand, focused on television and were twin divided firstly as television which is in the form of society media and mass media as well. Both of them, the aim was to examine features of people involvement. Findings pointed out that involvement in the TV program was essentially only as producers and receivers. Notably, policy design and production techniques were hardly permissible. In the production, people were involved in pre-production stages while involvement in the phase of post-production was not permitted. In the preproduction phase, the public people provided information chose the topics of the program, did data collection, penned down scripts, and casting of the players. In the production level, the local community took part as costumers, interviewees, guests, lecturers, location staff, main hosts, field hosts, performers, and property staff.

Kimutai (2011) reported that the amount of viewers who pitched from one to three stations has significantly risen as compared to statistics derived from quarter one of 2010. The study also listed various obstacles to watching of the television. Among the first three reasons noted included: absence of a TV signal or a poorly rated signal, presenters not airing favorite programmes, and also frequent power outages. Respondents also added another significant barrier notably programmes which cannot be watched by the entire family together due to sensitivity and privacy of information. The participants in the research also reported that the Citizen TV had too many marketing breaks to disrupting continuous watching. The national broadcaster was rated as least favorite as it does not present fascinating programs. The K24 station was reported as a station with news presented in virtually difficult to understand grammar (Banbersta, 2010). Among the people who are owners of the problem, interested or affected by a problem, by engaging in addressing the challenge in their locality they craft a solution through expressing their necessities and requirements. Additionally they get an opportunity to exchange their knowledge, experiences as well as skills with one another in order to examine the best solution that fits the local community. The said media features endorse that the platforms for social networking are appropriate for participatory communication. Northern Collector Tunnel project implementers need to understand not to solely use television as a media of communication about Northern Collector Tunnel implementation but also use a variety.

2.5 Print media

On print media, Kimutai (2011) asserts that analysis of findings indicate that most of the readers in local as well as the international news content use the five leading newspapers in Kenya- the Daily Nation, the Standard, The Star, the People Daily, and the Swahili paper Taifa Leo. Additionally, rated greatly is finance/ business news and sports. This information may be used by the project developers to make a decision on which print media to engage to disseminate information concerning NCT project under review. Communication development initiatives utilize various methodologies, networks and practices; usually in combination with each other Efficient communication development programs even the ones centered on the media and technology is often build on the current social systems and notably the earlier stations communication traditional in nature. Direct interpersonal exchange as well as dialogue which play significant role in notably ineffective communication for social exchange platforms markedly when they address exceedingly, sensitive matters (Goodsmith&Cooper,2010).In an extremely participatory project initiative development and management, the local community membership significantly affects program activities in making verdicts about goals and desired outcomes. As a result, organic as well as integrated practices are known to guarantee exchange and individual -representation among the concerned people. The ongoing discussion directly provides response into the project's development and progress. In the participatory methods, the ring of communication is never broken which has a direct connection to project success.

Lerner (2007), Inkeles and Smith 2008), stated that there is an emphasis on use of media technologies so as to speed up modernization. The numbers of TVs, newspaper and radio sets use were virtually accepted as great contributors in regard to participatory communication development. Countries like USA, Japan and China, where majority of the public are largely exposed to contemporary media there is higher chance of them having more positive, progressive and favourable attitudes towards modernization and development. UNESCO also reported that in nations in which the public is largely exposed to contemporary media there is likelihood to experience much more development as a result of more participation through development communication. As a result of this, national government and county government need to champion the use of media instruments, television sets, for the dissemination of intended development projects (Lerner 2007; Inkeles & Smith, 2008).

Mass media are very significant conduit for dissemination of consciousness of new opportunities and practices, especially at the phase where key decisions are formulated whether to adapt or not. Individual communication is particularly more often likely to be markedly influential. Most of the projects have been initiated worldwide within the local communities but mostly these projects fail to take or become unsustainable due to lack of appropriate communication schemes as one of the salient factors leading to their failure. In this regard, Owusu (2014) conducted a study to examine communication plans applied by collaborative development allies to involve local communities in project development and execution in Ghana, Ejura Municipality.

Study by Korzenny (2011) stated that in the United States of America and Latin America listening to the radio broadcast is part of the daily routine of the inhabitants. The researcher noted that when you visit this region there, you will always encounter a group of young Latinos listening to their radios in public places like parks. People from this area use radio as a source of their entertainment at home and other enjoyment joints; the researcher claimed that when you visit this place, you may find people dancing or barbequing for they use radio as the center of their entertainment. This tradition of radio listening is common even among inhabitants from Latin American states and even in rural regions. The researcher concluded that radio listenership is the most local of all electronic media and its use traditionally the most interactive medium through which people from the countryside can know what is happening in towns (Korzenny, 2011).

Citizen participation in implementation of public water projects has been shown in the following ways: Moraa, Otieno and Salim (2012) pointed out those technology application platforms notably USSD, Desktop applications SMS and Web address matters like billing in costing, water access, and management of complaints as well provision of common information. Notable is the examples of applications that have been produced include MajiVoice, M-Maji, SODIS as efficient technologies that have been executed on the grassroots with notable and remarkable social influence. Both formal and informal groups have been spawned where inhabitants in a community collaborate and combine strength to confront the water related concerns in their respective communities. Government

engagement with various local institutions notably Water Action Groups (WAGs) by WASREB (Water Services Regulatory Board) to ascertain involvement of local communities in addressing water related emerging problems in decision-making processes. Moreover, through the ministry of water and Irrigation, its website functions as an e-governance podium where the community can obtain information on the various services (Moraa, Otieno & Salim, 2012).

The media which include private media, local radio stations, print media are known to play a significant role in championing community issues by reporting on water issues as well as forming a very informative media. The Media notably the local vernacular radio stations, the interviews, the county editions to mention a few have often been engaged as a way to report several issues at grass root level to embark on active via elevation of the voice of citizenry to check corruption in the country.

3. Methodology

The study adopted a descriptive survey design and was guided by the convergence model of communication propounded by Kinkaid (1979). The targeted population was 192589 and consisted members of public around the areas where Northern Water Collector Project was under implementation in Murang'a County. Krejcie and Morgan (1970) sampling formula yielded a sample size of 384 respondents. Data was collected using a questionnaire that was administered to the sampled respondents. Expert opinion of the supervisors was used to ensure validity of the tools, while the researcher employed Cronbach's Alpha coefficient to establish the reliability. Data was analyzed using descriptive and inferential statistics. Measures of central tendency, dispersion and frequency distribution were used for descriptive statistics while multivariate regression model was used for inferential analysis. The findings of the study are presented in form of tables.

4. Results and discussions

The objective of the study was to establish the participatory communication strategies used in the implementation of the Northern Collector Project in Murang'a County, Kenya. The respondents were asked which of the following communication strategies were used to involve members of public in the Implementation of the Northern Collector Tunnel Project.

A five point Likert scale that ranged from Very Often (5), Often (4), Rare (3), Very Rare (2) and Never (1). The responses obtained were used to compute a mean score (\bar{x}) for each statement and the findings were summarized in Table 1.

Table 1.

Communication Strategies used to involve the Public in the Implementation of the Northern Collector Tunnel Project

Communication Strategies	Never	Very Rare	Rare	Often	Very Often	Mean (\bar{x})
1. Media	52(24.4%)	38(17.8%)	43(20.2%)	46(21.6%)	34(16.0%)	2.9
2. Meetings	55(26.8%)	36(16.9%)	47(22.1%)	37(17.4%)	38(17.8%)	2.8
3. Community groups	66(31.0%)	31(14.6%)	43(20.2%)	43(20.2%)	30(14.1%)	2.7
4. Posters/Billboards	52(24.4%)	23(10.8%)	53(24.9%)	46(21.6%)	39(18.3%)	3.0

Aggregate mean score = 2.8

Results in Table 1 show that majority, 52(24.4%) of the respondents indicated that the implementers did not use the media to involve the public in the implementation of the Northern Collector Tunnel Project (NCTP). On use of meetings as a communication strategy, 55(26.8%) indicated never, 36(16.9%). On whether community groups were used as communication strategies to involve the public, majority 66(31.0%) indicated never while on use of posters/billboards majority 52(24.4%) indicated never.

The computed mean scores (\bar{x}) for use of the media, meetings and community groups as communication strategies to involve the public were 2.9, 2.8 and 2.7 respectively. These mean scores indicate that on average these approaches were rarely used to involve the members of public in the Implementation of Northern Collector Tunnel Project. On the other hand the respondents rated the use of posters/billboards as rare as indicated by the mean score ($\bar{x}=3.0$). On a scale of 1-5, the average mean of the responses was 2.8 which means that majority of the respondents did not acknowledge the use of

the various forms of communication strategies that were used in the implementation of the Northern Collector Tunnel Project.

Various communication strategies can be adopted for use by project implementers to bring on board members of the public. The inclusion of all citizens in project implementation is an essential choice on the strategies of communication; it provides the residents with an opportunity to participate totally and effectively in decisions concerning their welfare. This presupposes comprehensive free access to essential information, integration, instruction, and inclusion of the society. However, the effectiveness of these strategies differs depending on its use.

5. Regression analysis

The study carried out regression analysis to establish the various forms of communication strategies that were used in the implementation of the Northern Collector Tunnel Project. The results were as follows.

Table 2.

Communication strategies model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.751	.564	.555	.62320

The results in Table 2 indicate that R square was 56.4%. This means that media, meetings with opinion leaders, community grouping, posters and billboards explain 56.4% of the variations in the dependent variable which is implementation of Northern Collector Project. This means that we have other factors (43.6 %) which influence the implementation of Northern Collector Project.

Table 3.

Communication strategies analysis of variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.396	4	26.099	67.199	.000
	Residual	80.784	208	.388		
	Total	185.180	212			

Results in Table 3 indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors explaining the implementation of Northern Collector Project. This was supported by an F statistic of 67.199 and the reported p-value of 0.000 which was less than the conventional probability significance level of 0.05 implying that the independent variables (media, meetings with opinion leaders, community grouping, posters and billboards) were significant in predicting the dependent variable (the implementation of Northern Collector Project).

Table 4.

Communication strategies regression of coefficient

Communication strategies	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.210	.141		1.495	.137
Media	.169	.052	.190	3.273	.001
Meetings with Opinion leaders	.248	.053	.281	4.721	.000
Community/Groups	.287	.051	.320	5.654	.000
Posters& Billboards	.135	.046	.165	2.924	.004

Regression of standardized coefficients results in Table 4 show that media and implementation of Northern Collector Project are positively and significantly related ($r=.169$, $p=0.001$). The table further indicates that meeting with opinion leaders and implementation of Northern Collector Project are positively and significantly related ($r=.248$, $p=0.000$). The results are in agreement with Katz and Lazarsfeld (2010) who stated that, interpersonal relations were strong in channelling and shaping of opinions and there should be engagement of local opinion leaders in matters relating to development projects.

The study further established that community grouping and implementation of NCT project were positively and significantly related ($r=.287$, $p=0.000$). According to McKee (1992), interpersonal

communication works out for the success of several projects; nothing can be used to replace community involvement, media centred models have been used but have not given the expected results of behavioural change. Participatory communication emphasizes the use of dialogue in matters related to community development projects. Finally, the study established that posters and billboards and implementation of Northern Collector Project are positively and significantly related ($r=.135$, $p=.004$). The multiple regression model indicated that community grouping had the largest influence on implementation of Northern Collector project with a coefficient of .287, followed by that meeting with opinion leaders (.248), media (.169) and posters and billboards with a coefficient of 0.135.

The results of this study agrees with Ewensu (2014) who established that the preferred method of communication by project implementers is the use of impersonal communication where they meet with elders and leaders of the community to inform them of the project needs. This has been found to be a mildly effective communication method for the project implementers. However, Doak et al (2011) asserts that the use of political campaigns as the preferred method of communication, was not entirely effective as it did not reach majority of the community members; hence, their lack of knowledge about the programs.

Similarly, Doak (2011) found that the method was not entirely effective as it did not reach majority of the community members; hence, their lack of knowledge about the programs. The study is also in agreement with McKee (1992) who observed that interpersonal communication works out for the success of several projects. Nothing can be used to replace community involvement, Media centred models have been used but have not given the expected results of behaviour change. Participatory communication emphasizes the use of dialogue in matters related to community development projects.

6. Conclusion and recommendations

The study has concluded that, there exists a positive relationship between participatory communication strategies and successful implementation of any public project. Members of the local community where the project is being undertaken should be allowed to take the centre stage in all the matters that concern the project. This means that, they must get involved. This would result in the members of the local community gaining ownership of the project and therefore facilitate smooth and easy implementation of the the project without any delay in form of resistance or filling in of law suits. Dzizo (2011) study concluded that, lack of adequate community participation in all the stages of Samburu Virurungani water project led to its failure. This therefore calls upon all project implementers to seek the best participatory communication strategies that should reap the best outcome, for example, use of interpersonal communication, meeting with community opinion leaders and community groupings. The study recommended that, project implementers should give more attention to those communication strategies that give a chance for feedback from the stakeholders. This will strengthen community participation during the entire period of project implementation. Project implementers, that is, national government, county government and or nongovernmental organizations are also recommended to come up with well structured policies taking into account the role that the local community play during the entire period of public project implementation.

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