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## **EFFECTS OF CONFLICT RESOLUTION AND DECISION MAKING ON MANAGEMENT OF WATER RESOURCE PROJECTS IN KENYA: A PERCEPTION OF COMMUNITY BASED ORGANIZATIONS**

**CAROL MATERE**

Student, University of Nairobi, Nairobi, Kenya

**Dr. STEPHEN OKELO LUCAS** (1<sup>st</sup> Supervisor)

Lecturer, TOM MBOYA UNIVERSITY, Nairobi, Kenya

**Dr. FREDRICK OTIENO OWUOR** (2<sup>nd</sup> Supervisor)

Lecturer, MOI UNIVERSITY, Nairobi, Kenya

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### **Abstract**

*The purpose of the study was to assess the influence of conflict resolution and decision making by community based organization on the management of water resource projects from the perspective of managers. The study adopted a cross-sectional research design in which questionnaires and interview guides were used to collect data. A total of 285 Water Resource Users Association members, seven Kisumu County staff and eight Water Resources Authority staff participated in the study. Data was collected using the questionnaires for Water Resource Users Associations and the interview guides for implementing agencies. To ensure validity and reliability of the research instrument, pilot testing was done in the neighboring county of Homabay where 29 respondents participated. These included 27 Water Resource Users Association members, 1 County Water staff, and 1 Water Resources Authority staff. Cronbach's Alpha Reliability coefficient of internal consistency was computed and reliability of the pre-test instruments came to 0.82. Descriptive statistics was used to generate and present data thematically.*

*Quantitative data was analyzed using the Statistical Package for Social Sciences version 21. Results indicated that conflict resolution by community based organizations has a significant influence on management of water resource projects. From the results it was noted that decision making within community based organizations has a significant influence on management of water resource projects. The study recommends communities being involved in management of water resource projects at planning, implementation and monitoring and evaluation stages to strengthen their participation in conflict resolution and decision making in the same.*

**Key Words:** *conflict resolution, decision making, management, Water Resource Users Associations, Community Based Organizations*

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## 1. Introduction

Management of water resources has gained increasing momentum in the last decade owing to reduced access to water globally. There is also recognition that achieving success in the sector will be almost impossible without the involvement of the custodians of the land where these water resources are found. Interest in water resources management is attributed to the fact that its problems are complex and involve many different people with different opinions and interests who when brought together get to identify their own positions and gain a deeper understanding of issues (Pahl-Wostl, 2002). According to the United Nations Water Annual International Zaragoza Conference on water and sustainable development: 'from vision to action' in January 2015, the open working group proposed goal 6 which advocated for ensuring availability and sustainable management of water and sanitation for all by the year 2030 which resulted to creation of the Integrated Water Resources Management (IWRM) as a holistic approach to management of water. In Kenya this finally culminated in the Water Sector reforms.

Various countries adopted the IWRM and have mainly through participatory approaches made efforts towards achievement of the Sustainable Development Goals (SDGs) which involves enhancing conflict resolution and decision making practices. Conflicts resolution is a serious campaign globally to ensure that unnecessary wars are avoided and people co-exist harmoniously especially on matters of shared resources where different needs exist. Governments are realizing that for success of any interventions within the communities, their role in the process has to come out strongly by being part of the problem identification, solution and evaluation for ownership and self-sustainability by the beneficiaries.

In Kenya the Policy has provided a broad road map in terms of water resources management and development. Under Constitution of Kenya 2010 Article 69 (d and g) the responsibility of eliminating activities and processes that have the potential of harming the environment and the encouragement of public participation in management, protection and conservation of the environment is vested in the state. This is placed directly under the Water Resources Authority (WRA), at the national level, which is charged with supporting establishment and operation of Water Resource Users Associations at the local level as a vehicle through which communities can participate in water resources management. The Water Act 2016 was enacted to provide for the regulation, management and development of water resources, water and sewerage services, and for other connected purposes to ensure conformity to the new Constitution.

Water resources management at the national level mainly deals with policy formulation and legislations by the Ministry of Water and Irrigation with relevant corporations having offices at the regional and sub-regional levels. A mix of both formal and informal arrangements exists at the regional or basin levels whereby the formal dominate as the informal are more localized. This results in the lack of appreciation of the importance of the

informal arm which gains popularity at the sub-catchment making clear the interface (Sokile and Van Koppen, 2004).

## **2. Statement of the Problem**

Water resources are currently facing greater demand due to population growth, climate change, and degradation which constrains water security, a major growing challenge. Different governments have put in efforts to try and manage their water resources with less success levels. IWRM is a stakeholder participatory approach that most countries have adopted to ensure the available freshwater is saved through sustainable use. At the community level it is being done through management of water resource projects that bring community members collaborating with relevant stakeholders to ensure availability of water resources in good quality and adequate quantities.

Competing uses of water and the pressure involved has resulted to local, national and international conflicts due to competing needs with limited water resources. Communities are continually affected by failed projects attributed to inadequate involvement for participatory implementation. The communities' work commences at implementation level that has led to poor and ineffective management of water resources. Despite the efforts to promote effective management of water resources by the government of Kenya, the sector still faces challenges that make this a hard task to accomplish.

### **2.1 Purpose of the Study**

The purpose of the study was to establish the effect of conflict resolution and decision making on management of water resource projects in Kenya, a perception of community based organizations.

### **2.2 Objective of the Study**

The study was guided by the following research objectives;

- i. To establish the effect of conflict resolution on management of water resource projects in Kenya, a perception of community based organizations
- ii. To assess the effect of decision making on management of water resource projects in Kenya, a perception of community based organizations

## **3. Review of Related Literature**

This section reviews the empirical literature on the influence of conflict resolution and decision making by community based organizations and the empirical literature on management of water resource projects.

### **3.1 Conflict Resolution and Management of Water Resource Projects**

Conflict is an inevitable aspect of human relations and arises due to competition on scarce resources, power, and prestige which if not addressed can escalate to violence. Water resources issues especially those arising in the rural areas need to be resolved locally involving community leaders and representatives since water management is often a social and moral dilemma that requires participatory approaches centred on local people. Conflicts often than not arise from the use of water resources and may be between human beings, or between man and animals. These conflicts mainly arise during the water scarce periods in arid and semi-arid areas especially in prolonged drought seasons when the available water cannot meet the existing demand levels.

Full community involvement and participation at all project levels is mandatory especially in cases where the intended intervention affects their welfare as this helps resolve anticipated conflicts, build trust and sense of

ownership and responsibility for sustainability (Bell, 2001). When communities are involved in the decision making process it ensures collective responsibility and reduces chances of misunderstandings considering that different people with different backgrounds and characters come together and need to co-exist creating an environment of possible conflict especially due to shared resources. It is on this strength also that it has proved that communities are the very people who have solutions to their problems and it is important to allow them to be the managers of their own destiny.

Conflict resolution looks at building trustworthiness with the ones who are conflicting in that they know that resolving the conflict is objective for the good of all parties concerned and the need to identify public concerns and values that boarder on their various interests in relation to the water resources (Hess, 2013). Conflicts that arise from water use, just like any other conflicts, are of priority in resolving before they can escalate and result to war and even loss of lives. Although water conflicts are rarely violent, they still have serious implications on the societal welfare. With the current rate at which water is being wasted and its levels lowering, there have been predictions of possible water wars in future. This is a course for alarm.

Reasons behind involvement of community based organizations in conflict resolution on matters of management of water resources are to manage the conflict, to build consensus, and to resolve the conflict. This is because various aspects come into play namely their association in water ventures meet the formal arrangement prerequisites, meeting moral measurements of water management, settle discontinuities among geographic and jurisdictional limits for a shared conviction by moving from extremes to accord building and peace-making to sustainable solutions (Salman and McInerney-Lankford, 2014). By involving them it ensures that the conflict is understood from the root cause. Historically understanding of the cause of the problem helps to resolve it better than just addressing it from face value. Such an approach also helps in ensuring that sustainable measures are put in place to avoid future occurrence of conflicts, through early detection and containment or ensuring that when they occur the community has effective measures to address them avoiding unnecessary damages or need for outside help.

Conflict resolution looks at a range of processes applied with the aim of alleviating and eliminating sources of conflict (Rathee, 2010). The resolution process will look at the cause which in most cases is differing in goals where for example environmental managers want water conserved to meet the various needs now and in the future without compromising the environmental reserve while the business communities want to exploit as much as possible for maximum profit gains with minimal expenses. This can result to conflicts because each group has different interests which they feel have to be met by the limited resources.

Balancing of existing demand and supply of water resources is crucial in ensuring that conflicts related to water use are avoided. This will be achieved through close monitoring with adequate data on the status of available resources to inform planning and allocation ensuring that what is available is distributed equitably to have everyone's needs met to the best of available resources. Water use related conflicts can be avoided by approaching water and water related problems at different levels. Right at the local level issues like guaranteeing supply of basic water requirements, economic allocation of water for other human purposes, more efficient use of water by all users and protection of water resources from pollution have to be solved (Ako A. et al., 2010). All this involves decision making that is participatory of all relevant stakeholders.

Urbanization combined with population growth is posing a major challenge to the Chinese government which has for a long time prioritized allocation of water to agriculture to keep up food production with the rapidly growing population. Irrigation takes up 70% of water use. China is also coming up as an industrialized country and thus the need to provide water for industrialization which puts the government on the spot with pressure on distributing

available water resources to these two key sectors. This is bound to cause conflicts not just in the government which needs both sections to operate well but also among the users and unless handled well with effective conflict resolution mechanisms, can result to adverse effects (Oxfam, 2011).

Cameroon also faces similar challenges whereby it experiences water use conflicts due to the competing uses in industrialization, unplanned rapid population growth and support of agriculture which is the backbone of many developing countries. Increasing competition for these main water uses definitely intensifies competition and conflicts calling for effective and sustainable water resources management. Despite being the second African country after Democratic Republic of Congo in terms of adequate available water quantities, the resource still remains scarce as a result of poor water management practices (Mafany and Fatong, 2006). Poor management of water resources, lack of political will and commitment to the long terms can be aspects that contribute to conflicts as they will result to inadequate water resources available to meet the existing needs thus increased competition and conflicts.

### **3.2 Decision making and the Management of Water Resource Projects**

Quite a number of factors have promoted community participation in development projects and especially in the water sector in Africa (DFID, 2000) with the World Bank giving a number of reasons as to why this is a key element in ensuring success of projects: several governments have shown inability to effectively manage development projects that have been entrusted to them, empirical evidence has shown immense success in projects where community participation has been involved, development workers have a moral obligation to listen to and prioritize the needs of local beneficiaries and finally their participation ensures inclusion which means that they will not be excluded from planning, decision making, implementation and even monitoring and evaluation of the projects that are meant to benefit them.

Involvement of community in matters of water resources management entails ensuring water security needs are strengthened by information management through resource monitoring, decision making, forecasting, and early warning. Infrastructure development through innovations geared towards protection, conservation, storage and recycling of the water resources is also key. It requires institutional strengthening through policy, pricing, incentives, and the integrated approach involving relevant stakeholders especially the local communities in management of their resource. The marginalized and vulnerable namely the women, physically challenged, people living with HIV/AIDs and the very old who are rarely considered nor their needs taken care of in terms of decision making need to be prioritized. This inclusion builds their capacities helping them become better water managers and will result in them becoming independent and even resolving future issues on their own without external agents.

As much as governments have come to terms with the need to cede ownership of water resources to the communities, they are still not being involved in decision making instead they only come in to implement what has been decided. (Chirenje et al., 2013). This is whereby community intervention strategies are formulated in boardrooms by government agents and potential funders, programmes are laid out and with available resources the teams move to the ground to take the projects to the community. The challenge with this approach is that the communities' priorities have not been put into consideration and also their ideas on how to address the challenges. This creates scenarios where wrong interventions for issues are implemented within the community leading to resistance, failed projects and even conflicts.

IWRM requires devolving decision-making towards water end-users at the community which requires political will and strengthening of the technical, financial and human resources. Implementation of this concept faces some

challenges especially in terms of institutional capacity. A more pragmatic approach of light IWRM which works to complement the full IWRM at the lower levels strengthening the link between the local authorities and the communities is recommended whereby the people with access to regulating authorities collaborate with communities to promote their interests and enthusiasm in water resources management (Oxfam, 2011).

People's participation cannot be merely proclaimed, it has to be promoted. This takes time, resources, understanding and perseverance but the end product is a development process not exclusively in control of external professional but instead one involving, is controlled and owned by the locals, their representatives, ideas, skills and knowledge (Chikati, 2009). When communities are involved in water resources management right from the start it will ensure that sustainability is achieved in the long run because they will own the process and work to see it through for their own good. The work of external agents should be more of supporting them but in decision making it is important that they drive their own destiny. In addressing water management issues it is important to have communities identify the issues they face, propose measures of addressing them and even how they plan to go about it. It helps them conceptualize the idea and gives them the sense of owning it from birth to maturity.

People's participation can ensure sustainability, effectiveness of development activities and builds the local capacities. The charrette process in the community allows a wide range of citizens like the community members, local government and the government agents to participate in the visioning and planning process (Chikati, 2009). This promotes inclusion in decision making through representation. It is also important to recognize and respect the already existing community interventions in management of water resources where they apply their own rules and traditions. These should not be ignored or abolished instead they should be strengthened to cope with the increasing variability due to increased pressure and different uses.

Participation of community is seen as being in the form of co-option, compliance, consultation, cooperation, collective action and co-learning. The topology of community participation shows increasing degrees of participation from the low end of co-option to the upper end of collective action (Koestler, 2008). By co-opting the community it means that there are some stages where the community is not fully involved but they fully benefit when there is collective action between them and the external agents implementing projects within their locality. There is no engagement without involvement in decision making therefore it is important that they also understand the whole chain of engagement.

The level of community engagement also increases ownership and capacity thus guaranteed sustainability of the project (Munger et al, 2008) since by being involved at very stage the community will feel that they are actually implementing their own initiatives and resolutions ensuring a higher degree of success in the long run. Lockwood (2004) identifies common principles of community management as participation, cost-sharing, ownership, and control. This will ensure indefinite control, making strategic decisions from conceptualization through designing phase and all the way to long term maintenance, having legal and perception of ownership of their projects and activities and contributing to current costs. All these result to sustainability of any interventions undertaken in the community.

#### **4. Methodology**

The study used a cross-sectional research design which involved the collection of data on more than one case (in WRUAs, and staff working with Kisumu County government's water department and the Water Resource Authority) at a single point in time. In this kind of survey, data is gathered once, during a period of days, weeks or months. According to Babbie (1989), cross sectional designs are designed to study some phenomenon by taking a cross-section of it at one time. The sample size for this study was drawn from a target population of 1115

respondents. These consisted of 1100 Water Resource Users Association (WRUA) members, eight Water Resources Authority Lake Victoria South Sub-regional Office in Kisumu Officers dealing with Water Resource Users Associations, and seven Kisumu County Government Officers in charge of Water. Using the Krejcie and Morgan table of sample determination, a sample size of 285 Water Resource Users Association was deemed sufficient for this study. Purposive sampling was used in determining the sample size for both Kisumu County water staff and Water Resources Authority staff.

Data was collected using two instruments of data collection; the questionnaire and the interview schedule. The questionnaire for the Water Resource Users Association members was divided into four sections where Section A sort information on demographic factors, Section B consisted of structured questions together with the Likert scale which sort the respondents' opinion on conflict resolution, Section C consisted of structured questions together with the Likert scale which sort the respondents' opinion on decision making, section D had the Likert scale questions and sort their opinion on the management of water resource projects. Each of the sections had a 5 Likert scale ranging from Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5.

Pre-testing of the research instrument was done by carrying out a pilot study in the neighboring county of Homabay where 30 respondents (28 WRUA members, one County Water staff, and one Water Resources Authority staff) which are 10% of the sample size with similar characteristics filled questionnaires prior to the start of the actual research. A pre-test study was also done to check the legitimacy and reliability of the research instrument where unclear questions, different translations of questions and questions that would not bring out valuable data were identified. This built the accuracy and appropriateness of the exploration plan and instrument (Saunders, Lewis and Thornhill, 2007).

Processing of data involved coding, summarizing, recording, analysis, and interpretation. The study used primary quantitative and qualitative data. Quantitative data from the closed ended questions was analysed using the Statistical Package for Social Science (SPSS) Version 21 and Microsoft Excel where descriptive statistics were analysed. Descriptive statistics included the mean, standard deviation, frequencies and percentages which were used. Qualitative data was analysed using narrative and thematic analysis techniques. Quantitative data results were presented in form of tables while qualitative data results are presented in form of short narratives.

A number of ethical issues were considered in this study. The researcher started by obtaining a letter of introduction and approval authorizing the research from the University to proceed to the field for data collection. A permit was then sought from the National Commission for Science, Technology and Innovation allowing the research to be conducted in the field of study. Protection of the welfare and rights of respondents was upheld through informed consent, right to privacy, confidentiality, honesty, respect of their autonomy and right to discontinue. Participation was strictly voluntary with no form of inducements given.

## **5. Findings and Analysis**

### **5.1 Respondents' Demographic Profile**

The study sought to establish the demographic information of respondents namely their gender, age brackets, marital status, and duration of membership in the water resource users associations and in order to determine how these influence management of water resource projects. This assessment was important since according to Olukayode (2013), age, marital status, educational background, organizational tenure and job status could affect the performance of a given entity.

**Table 1: Water resource managers' demographic profile**

<b>Gender</b>	<b>Frequencies</b>	<b>Percentage</b>
Male	151	53.93
Female	129	46.07
<b>Total</b>	<b>280</b>	<b>100.0</b>
<b>Age</b>		
Less than 20 years	7	2.5
21-35	48	17.1
35-50	92	32.9
Over 50 years	133	47.5
<b>Total</b>	<b>280</b>	<b>100.0</b>
<b>Marital Status</b>		
Single	19	6.79
Married	225	80.36
Separated	4	1.43
Widowed	32	11.43
<b>Total</b>	<b>280</b>	<b>100.0</b>
<b>Membership Duration</b>		
Less than 1 year	19	6.79
2-3 years	50	17.86
3-5 years	51	18.21
Over 5 years	160	57.14
<b>Total</b>	<b>280</b>	<b>100.0</b>

Table 1 presents a summary of the demographic profile of the Water Resource Users Association members. Out of the sampled 280 respondents, 53.93% (151) were male while the rest 46.07% (129) were female. There was generally a steady increase in representation of age distribution of respondents. Less than 20 years were only 2.5% (7) which represented the lowest representation while the highest 47.5% (133) were respondents aged above 50 years. Others 21 to 35 were 17.1% and 35 to 50 were 32.9%. These findings show that the burden of caring for water resources is left more to the aged than the younger generation.

80.36% of the respondents were married which was the highest representation, the widowed came second at 11.43%, the single were 6.79% of the respondents while the separated were the least at 1.43%. These findings show that majority of the WRUA membership are married. 57.1% (160) had been members to their water resource users associations for over 5 years. 18.2% (51) had been members for between 3 to 5 years, 17.9% (50) had been members for 2 to 3 years while those who had been members for less than a year were 6.8% (19). The data suggests that a bigger number of the respondents had a good knowledge of the groups' practices in relation to water resources management making their input very resourceful towards the study.

## **5.2 Descriptive Analysis on Managers' Perspective on Management of Water Resource Projects**

Information was sought from the managers on their perspective on management of water resource projects. Table 2 presents the results on their perspective descriptively.

**Table 2: Descriptive statistics on water resource managers' perspective on management of water resource projects**

	Statement on management of water resource projects	SD	D	N	A	SA
<b>MWP01</b>	There is enhanced financial support towards management Of water resource projects	42 (15.0%)	96 (34.3%)	41 (14.6%)	55 (19.6%)	46 (16.4%)
<b>MWP02</b>	There is increase in water resource areas under conservation	5 (1.8%)	83 (29.6%)	62 (22.1%)	59 (21.1%)	71 (25.4%)
<b>MWP03</b>	There is improved communication at the community level On water resource management issues	6 (2.1%)	18 (6.4%)	47 (16.8%)	106 (37.9%)	103 (36.8%)
<b>MWP04</b>	There is active contribution by WRUA members in decision making on matters of management of water resource projects	3 (1.1%)	14 (5.0%)	23 (8.2%)	99 (35.4%)	141 (50.4%)
<b>MWP05</b>	WRUA members engage in negotiation as a means of resolving water related conflicts	32 (11.4%)	39 (13.9%)	29 (10.4%)	67 (23.9%)	113 (40.4%)
<b>MWP06</b>	WRUA members mediate in water related conflicts	25 (8.9%)	40 (14.3%)	29 (10.4%)	73 (26.1%)	113 (40.4%)
<b>MWP07</b>	WRUAs take legal action on resolving matters related to management of water resource projects	33 (11.8%)	72 (25.7%)	50 (17.9%)	50 (17.9%)	75 (26.8%)
<b>MWP08</b>	WRUAs successfully resolve conflicts related to water resource use	20 (7.1%)	46 (16.4%)	65 (23.2%)	47 (16.8%)	102 (36.4%)
<b>MWP09</b>	The WRUA participates in development of the County Integrated Development Plan (CIDP)	66 (23.6%)	42 (15.0%)	27 (9.6%)	61 (21.8%)	84 (30.0%)
<b>MWP10</b>	The WRUA is adequately involved in the water resources management process	1 (0.4%)	45 (16.1%)	48 (17.1%)	97 (34.6%)	89 (31.8%)
<b>MWP11</b>	The WRUA is fully in charge of implementing water resources management projects	0	45 (16.1%)	27 (9.6%)	83 (29.6%)	125 (44.6%)
<b>MWP12</b>	The WRUA members understand the process of monitoring and evaluation of their projects	1 (0.4%)	35 (12.5%)	34 (12.1%)	79 (28.2%)	131 (46.8%)

Table 2 presents the descriptive statistics on the manager's perspective on management of water resource projects. 12 statements were used to determine the perspective of the managers. MWP01 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that there was enhanced financial support towards management of water resource projects. 42(15.0%) of the respondents strongly disagreed with the statement, 96(34.3%) disagreed, 41(14.6%) of the respondents were neutral, 55(19.6%) agreed while 46(16.4%) strongly agreed with the statement that there was enhanced financial support towards management of water resource projects.

MWP02 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that there is increase in water resource areas under conservation. 5(1.8%) of the respondents strongly disagreed, 83(29.6%) disagreed, 62(22.1%) of the respondents were neutral, 59(21.1%) agreed while 71(25.4%) of the respondents strongly agreed with the statement that there is increase in water resource areas under conservation

MWP03 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that there is improved communication at the community level on water resource management issues. 6(2.1%) of the respondents strongly disagreed, 18(6.4%) disagreed, 47(16.8%) were neutral, 106(37.9%) agreed while 103(36.8%) of the respondents strongly agreed with the statement that there is improved communication at the community level on water resource management issues.

MWP04 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that there is active contribution by WRUA members in decision making on matters of management of water resource projects. 3(1.1%) of the respondents strongly disagreed, 14(5.0%) disagreed, 23(8.2%) were neutral, 99(35.4%) agreed while 141(50.4%) of the respondents strongly agreed with the statement that there is active contribution by Water Resource Users Associations members in decision making on matters of management of water resource projects.

MWP05 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that WRUAs engage in negotiation as a means of resolving water related conflicts. 32(11.4%) of the respondents strongly disagreed, 39(13.9%) disagreed, 29(10.4%) were neutral, 67(23.9%) agreed while 113(40.4%) of the respondents strongly agreed with the statement that WRUAs engage in negotiation as far as resolution of water related conflicts is concerned.

MWP06 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that that WRUA members mediate in water related conflicts. 25(8.9%) of the respondents strongly disagreed, 40(14.3%) disagreed, 29(10.4%) were neutral, 73(26.1%) agreed while 113(40.4%) of the respondents strongly agreed with the statement that WRUA members mediate in resolution of water related conflicts.

MWP07 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that WRUAs take legal action on resolving matters related to management of water resource projects. 33(11.8%) of the respondents strongly disagreed, 72(25.7%) disagreed, 50(17.9%) were neutral, 50(17.9%) 50(17.9%) agreed while 75(26.8%) of the respondents strongly agreed with the statement that WRUAs take legal action on resolving matters related to management of water resource projects.

MWP08 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that WRUAs successfully resolve conflicts related to water resource use. 20(7.1%) of the respondents strongly disagreed, 46(16.4%) disagreed, 65(23.2%) were neutral, 47(16.8%) agreed while 102(36.4%) of the respondents strongly agreed with the statement that WRUAs successfully resolve conflicts related to water resource use.

MWP09 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that WRUAs participate in development of the County Integrated Development Plans (CIDP). 66(23.6%) of the respondents strongly disagreed, 42(15.0%) disagreed, 27(9.6%) were neutral, 61(21.8%) agreed while 84(30.0%) of the respondents strongly agreed with the statement that WRUAs participate in development of the County Integrated Development Plans (CIDP).

MWP10 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that WRUAs are adequately involved in the water resources management process. 1(0.4%) of the respondents strongly disagreed, 45(16.1%) disagreed, 48(17.1%) were neutral, 97(34.6%) agreed, while 89(31.8%) strongly agreed with the statement that WRUAs are adequately involved in the water resources management process.

MWP11 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that the WRUA is fully in charge of implementing water resources management projects. 45(16.1%) of the respondents disagreed, 27(9.6%) were neutral, 83(29.6%) agreed while 125(44.6%) strongly agreed with the statement that the WRUA is fully in charge of implementing water resources management projects.

MWP12 sought to establish the extent to which managers agreed, disagreed or were neutral on the statement that WRUA members understand the process of monitoring and evaluation of water resource management project activities. 1(0.4%) of the respondents strongly disagreed, 35(12.5%) disagreed, 34(12.1%) were neutral, 79(28.2%) agreed while 131(46.8%) of the respondents strongly agreed that WRUA members understand the process of monitoring and evaluation of water resource management project activities.

## 6. Discussion

The objective of this study was to examine the perception of community based organizations on the influence of conflict resolution and decision making on management of water resource projects in Kenya. Civil society organizations from Asia, Latin America and Africa increasingly share the conviction that successful and effective water resources management is only possible if communities have the capacity and opportunity to develop and negotiate their own visions and solutions to challenges related to water resources management (Dmayanti and Koudstaal, 2016). From the results of the study, conflict resolution and decision making by community based organizations were found to be significant indicators of management of water resource projects.

Results of the descriptive statistics on the community based organizations' perception on effect of conflict resolution and decision making on management of water resource projects indicate that majority of the members strongly agreed that conflict resolution through negotiation, mediation, and taking legal action, and decision making through involvement in development of the County Integrated Development Plan (CIDP), being in charge of implementing water resources management projects and understanding of the monitoring and evaluation process were important indicators of community based organizations influence on management of water resource projects. The data based on the perspective of the community based organizations indicate that their practices have a positive effect on the management of water resource management projects.

## 7. Conclusions and Recommendations

The study concluded that conflict resolution by community based organizations has a significant effect on the management of water resource projects. It further concluded that decision making by community based organizations had a significant effect on the management of water resource projects. Community based organization practices majorly conflict resolution and decision making have an influence on management of water resource projects.

Water use conflicts can be addressed effectively at the grassroots before they escalate to big wars that can even go international especially where transboundary resources are concerned. All relevant stakeholders should enhance capacity building of the community based organizations in conflict resolution to allow them to handle their internal conflicts using indigenous approaches from an informed position. It will prove less costly for the government too.

The Water Resources Authority as an institution dealing with Water Resource Users should ensure that the community involvement in management of water resource projects is strengthened by putting in measures to ensure their support by government and their involvement in decision making at project planning, implementation and monitoring and evaluation stages is entrenched within the policy.

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### Author's Bibliography

My names are Ms. Carol Matere, born on March 12<sup>th</sup> 1981 now aged 38 years.

I sat for my Kenya Certificate of Primary Education (KCPE) in the year 1996 and my Kenya Certificate of Secondary Education (KCPE) in the year 2001. I attained my undergraduate degree in Bachelor of Environmental Science from Kenyatta University from 2003 to 2007. I attained an Advanced Diploma in Community Development and Project Management from Premese College Kenya in September 2016 and enrolled for and acquired a Masters of Arts in Project Planning and Management from University of Nairobi from 2016 to 2018.

I was employed in Water Resources Authority in the year 2010 as a Stakeholder Relations Officer a position I held for two years until September 2011 where I was re-designated to Catchment Management Officer. I served in this position for 3 years and was re-designated to Community Development Officer in August 2014, a position I hold to date.