Common Resource Pooling Strategies for Alleviation of Conflicts over Natural Resources among Communities in Kenya's Asal Regions

Clement O. Olando1,*, Muinde Kimuyu2

1Mount Kenya University, Kenya
2Kensoft Institute of Technology, Kenya

Abstract Despite the ASAL regions of Kenya having been endowed with rich deposits of resources essential for economic development and sustainable livelihood, the communities living in these regions are in constant conflicts accelerated by searching for rare visible resources. Such conflicts are threatening peaceful coexistence among neighborhoods. This has significantly hampered any development in this region in form of economic, social and even political. Although empirical studies have revealed that resource pooling strategies aid in converting available resources into a rich pool in wealth to the communities having access to these resources, most studies on conflict resolution are not cognizant of the role played by common resource pooling as a strategy for peace building in ASAL regions of Kenya. It is against this background that the present study sought to lock the gap. The main objective of the study was to assess the influence of Community Resource Pooling strategies on conflicts alleviation in Kenya’s ASAL regions. The study used descriptive research and purposively sampled 108 farmers of Kavete village of Nzaui sub County of Makueni County. Data was collected from primary sources using a structured questionnaire, which was pretested for validity and reliability before administration. Data was analysed by using both descriptive statistics and thereafter inferential analysis. Based on the results obtained, the study concludes that the through communities in Kenya’s ASAL region should be encouraged to participate communally on utilizing the resources available (pain sharing-gain sharing), hence a peaceful living owing to abundance of resources. Once a community is enlightened, it is adapted to the new strategy and converts this to normal way of living.

Keywords Alleviation of Conflicts, ASAL Regions, Community Resource Mobilization and Funding Strategy, Common Resource Pooling Strategies, Resource Management Skills and Financial Competence, Resource Mobilization and Funding Strategy, Stakeholder Participation Strategy

1. Introduction

1.1. Background of the Study

The African continent is rich of large tracks of productive underutilized arable land as well as diverse weather conditions despite the unpredictable climate change effects. More so, the continent boasts of diversity of idle natural resources that are convertible to sources of economic development and sustainability. However, communities in most parts of this continent are occasionally fighting over scarcity of visible resources owing to their inability to access valuables hidden wealth of natural resources. In fact, the communities in Africa live in a scenario similar to that of a society deplete of the factors of livelihood and desperate for meager attainable resources leading to several violent conflicts in the region. In Kenya this is prevalent in the Arid and Semi-Arid
Lands (ASAL) regions, where masses on land are left unattended after being condemned as being unproductive; both agriculturally and economically due to lack of adequate rainfall water. On condemnation of these areas as curse, the communities merely struggle to access the scantly visible commodities. Precisely, the communities in the Kenya's ASAL region are interested in gaining access to readily available resources such as water and pasture, and consequently migrate over these areas in search of more resource, which are very scarce.

Owing to scarcity of these resources and the growing population, the demand raise to very high levels as the supply diminishes, lowering the opportunities to access. As a result, the neighboring communities engage in constant conflicts in protection of the access to scanty available resources. This situation renders experience of continuous peace, in ASAL regions of Kenya, a very elusive and rare occurrence among ASAL regions communities. More precisely, most communities in Kenya's ASAL region are in constant conflicts and regular battles orchestrated by struggle for rare and scanty visible resource. Although the ASAL regions possess large deposits of unexploited resources, it experiences vast scarcity of essential resources may be attributed to shortage of strategies for irrigating these communities with adequate ideas for revealing the hidden treasures. Adaptation of relevant mechanism for exploiting these deposits would be a vehicle for elevation to abundance and diversity of essential resource for livelihood among communities in Kenya's ASAL region. Such an elevation significantly reduces chance of conflicts propping up by search for rare commodities greatly improving opportunities for peace to prevail.

Literature and theories have shown that alleviation of conflicts for peace building is through economic and social empowerment of the society. It is in this respect that the common pool resource (CPR) theories come into active play. The suggestion by common pool theory is that; physical attributes of available resources, stakeholders stewardship competencies, strategies, stakeholders’ interaction, and the outcome from the common pool exercises, lead into empowerment of the society. The CPR theory suggests that the CPR provides access to natural resources within the community’s reach where a stable CPR arrangement; defines the boundaries very clearly, allows participation of community decision-making (Collective-choice arrangements), provide for effective monitoring (accountability), makes conflict-resolution mechanisms cheap and easily access and provides the uses of small local CPR for multiple layers of nested enterprises. The theory of common property rights also emerge as useful tool for supporting the community empowerment and hence for peace building initiatives. Based on the suggestions by the CPR theories, the present paper proposed CRP should be used in converting available resources into a rich pool of products as an assurance of sufficiency in resources, thus alleviating the prospects of conflict hence successful peace initiative.

1.2. Problem Statement

Despite the ASAL regions of Kenya having been endowed with rich deposits of resources essential for economic development and sustainable livelihood, the communities living in these regions are in constant conflicts accelerated by search for rare visible resources. Such conflicts are threatening peaceful coexistence among neighborhoods. Although the Kenya government is proudly talking assurances of peace and non-governmental organisations (NGOs) as well are encouraging coexistence through peace forum, actual peace is very elusive due to scarcity of resources and desire for satisfying basic needs. This has significantly hampered any development in this region in form of economic, social and even political. On a lighter note these regions are associated with underdevelopment and therefore examples of societies denied of their basic rights. Empirical studies have revealed that resource pooling strategies aid in converting available resources into a rich pool in wealth to the communities having access to these resources.

However, most studies on conflict resolution are not cognizant of the role played by common resource pooling as a strategy for peace building in ASAL regions of Kenya. These studies mainly emphasis on living together in harmony, respecting each other, love as they advocate for disarmament. Suffice to say there is limited literature on use of community resource pooling for conflict eradication, which motivated the present study. The present study suggested that community resource pooling (CRP) strategies encourages a community to empowering itself and that the resources they need are held within. CRP strategies enlighten the society to locally organized profitable gain through community participation and accordingly alleviation of conflicts.

1.3. Objectives and Statistical Hypotheses

The main objective of the study was to assess the influence of Community Resource Pooling strategies on conflicts alleviation in Kenya’s ASAL regions.

The study specific objectives were:
1. To establish the influence of community resource mobilization and funding strategy on conflicts alleviation in Kenya’s ASAL regions
2. To assess the effects of stakeholder participation strategy on conflicts alleviation in Kenya’s ASAL regions.
3. To determine the influence of governance and management strategy on conflicts alleviation in Kenya’s ASAL regions.
4. To find out the effects of resource management skills and financial competence development on conflicts alleviation in Kenya’s ASAL regions.

The study sought to test the following hypotheses:

- **H0:** Community resource mobilization and funding strategy significantly does not influence conflicts alleviation in Kenya’s ASAL regions.
- **H1:** Stakeholder participation strategy significantly influences conflicts alleviation in Kenya’s ASAL regions.
- **H2:** Governance and management strategy significantly influences conflicts alleviation in Kenya’s ASAL regions.
- **H3:** Resource management skills and financial competence development significantly influences conflicts alleviation in Kenya’s ASAL regions.

2. Literature Review

The study reviewed theories found useful in explaining on CRP as a strategy for conflict resolution, analysing these theories critically as well as reviewing the associated empirical studies.

2.2. Theoretical Review

The study reviewed the CPR theories for the purposes of development of a useful conceptual framework; Theories on Common-Pool Resources

2.2.1. Theories on Common-pool Resources

The theories of common-pool resource (CPR), which begun in 1968 is based on argument that cattle owners always try to increase the stock of cattle owing to free access to the grazing land, denoting common resource misuse of common resources thus creating common problems of resources deficiency and pollution to entire society 15. One of the widespread theories, the Hardin’s model, suggests that there is need for managing these common resources before they are completely degraded so as sustain such resources. According to Hardin 15, common resources are open access common-pool resources which are unmanaged therefore ruined by overgrazing; competitive individualism 15,16. The Hardin’s model considers two human factors that derive changes; firstly, increasing demands of the natural resources and dependency of a large population these resources for their livelihood. The second is the techniques employed in managing such resource for possibility of use and reuse 15. Some of these techniques are active involvement of local and community participation for protecting CPRs 18.

2.3. Empirical Literature Review

Numerous studies have explained the CRP as useful tools for community empowerment. Timilsina 6 conducted a study, for Nepal’s Baghmara community forestry in the year (2015) which concludes that Community Forestry Program (CRF) promoted inequitable distribution of resources as well as exclusion of poorer and disadvantaged groups and failures in overall benefit-sharing mechanisms owing to poor monitoring mechanism and weak implementation schemes, triggering tension. Thus, recommending for review of participatory management approach and benefit sharing mechanism to support livelihood of poorer and marginalized households. A local study by Ouko 3 found that powerful networks consisting of organizations like WWF (World Wildlife Fund for Nature) and IUCN (World Conservation Union) influenced forest management who failed to recognize the participation and assimilation of local community, promoting neoliberalism in the projects and individual-propelled mechanisms as major vessels for alleviation of conflicts. They were opposed to employing small community-oriented strategies for conflict alleviation. However, there were linkages in the coastal regions, giving rise to participation of communities with stakeholders claiming stakes in the forest resource. This made the Integrated Conservation and Development Project (ICDPs) evolves into major development mechanisms in Kenya’s gross development process.

Regionally, Ketema 1 conducted a study in 2013 which revealed that CPRs overlooked the local knowledge and informal institutions which hampered the successful and effective implementation of CPRs that were legally binding. This demanded for a fundamental shift in CPR use, management and governance, one facilitating the stakeholders’ participation of in decision-making. The study therefore recommends for establishment a multi-level stakeholder governance system for sustaining stakeholder participation in decision-making in the CPR use, management and governance. Meanwhile the study by Musyoki et al. 19 and that by Leon 20 conclude that community living nearby the community forest consumed more forest products compared to those living in distance away. Thus, residing nearby the community resource has more secure and accessible supply of natural resources and therefore distance has a significant negative association with natural resource consumptions 20.

Yami, Mekuria and Hauser 13 conducted a study in the Northern Ethiopian, which found that the local informal institutions played vital roles in mobilizing the community CPR users for collective action in CPR management and governance. According to the study by Yami et al. 13, the conflicts among CPR in Southern Tigray were resolved using monetary sanctions including penalties. In the study by Beyene 21, factors including; off farm activities, livestock holdings, forest density and access to private sources were found to significantly effects on consumption of forest products and less effect of local level institutions. The results in the paper by Adhikari 22 shows that...
community attributes such as land holdings, livestock holdings, education and community participation were found to significant influence on community’s decision for labor allocation for extraction and gathering of resource from common property forest. The study suggested that effective policy and institutional interventions are essential for ensuring efficient and equitable access of common resources by the community members.

3. Research Methodology

The study adapted the descriptive research design and its target population of will be the 360 farmers of Kavete village of Nzaui sub county of Makuene County. A sample size of 108 respondents, representing 30% of the target population and well above the threshold of 10% was purposively obtained. Data was collected using a structured questionnaire and from primary sources where the study engaged a research assistant to assist in collecting data. The researcher who was well versed with the local terrain helped the researcher interact with locals in obtain valuable data. Thus, the research assistant acted as an intermediary for language translations and coordination as well as data collection. The tool was supposed to be administered directly to the respondent using drop and pick method, where the respondents would be allowed time provide answers to the questions and thereafter the researcher collect the fill questionnaire. However, since some respondents were illiterate or were not well informed, researcher with assistance of the researcher assistant assisted the respondents to fill the questionnaire through asking them the questions and then filling then answers. The literate respondents were allowed to fill the questionnaire by their own through the guidance of the researcher. Validity and reliability tests were carried out on study instrument before administration of the tool using content validity test and Cronbach Alpha internal consistency test. The tool was tested for reliability on 10 respondents, using the internal consistency technique, based on Cronbach’s Alpha (α) to produce the Cronbach’s Alpha (α) coefficient and hence determine how best they related. The results obtained from the pilot testing of 10 questionnaires showed that a reliability coefficient (Cronbach’s Alpha) of .858 was obtained as captured in Table 3.1.

The results showed that the = 0.858, which was well above the 0.7 threshold as recommended. The index shows high consistency between the items of the research tool. Since the results indicates that the internal consistency of the questionnaire was high, the study retains the entire research toll item and used these for data analysis. Data, which was collected using a structure questionnaire, was analyzed using quantitative to produce descriptive statistics for establishing patterns, trends and relationships. A bivariate analysis to assess the degree/strength of relationship between independent Variables and dependent variable was conducted followed by multiple regressions to estimate a model explaining the dependent variable (DV) in terms of the independent variables [IVs].

4. Results and Findings

Descriptive statistics helped to establish the effects IVs; community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence on the DV; conflict alleviation in Kenya’s ASAL regions.

4.1. Conflict Alleviation in Kenya’s ASAL Regions

The study assessed conflict alleviation in Kenya’s ASAL regions, the dependent variable (DV) through CRP, based on the results obtained from the data collected on the 5 point Likert scale (1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree). A mean for each indicator of DV was obtained and then a mean for all the indicators of the DV calculated, using mean of means. Since the mean obtained might contained fraction, it was moderated for interpretation using the Statistics; 1 to 1.8 to represent “Strongly Disagree”; above 1.8 – 2.6 to represent “Disagree”, above 2.6 to 3.4 to represent “Neutral”; above 3.4 – 4.2 to represent “Agree” and above 4.2 – 5.0 to represent “Strongly Agree”. The indicators of conflict alleviation in Kenya’s ASAL regions were; efficient utilization of resources; equitable resources distribution and benefits sharing; increased legitimacy and co-production; and accountability, integrity and consistency with the prevalent community moral values.

Table 3.1. Results on Reliability Statistics

| Variable                          | Cronbach's Alpha if Item Deleted |
|-----------------------------------|----------------------------------|
| Community resource mobilization and funding strategy | .785 |
| Stakeholder Participation strategy | .901 |
| Governance and Management strategy | .811 |
| Resource management Skills and financial competence | .783 |
| Alleviation of conflicts | .832 |
| Cronbach's Alpha = 0.858, N of Items = 5 |

Table 4.1. Conflict Alleviation in Kenya’s ASAL Regions

| Conflict Alleviation                                      | M   | SD  |
|---------------------------------------------------------|-----|-----|
| Efficient utilization of resources.                     | 3.62| 1.17|
| Equitable resources distribution and benefits sharing    | 3.60| 1.07|
| Increased legitimacy and co-production                   | 3.56| 0.93|
| Accountability, integrity and consistency with prevalent community moral values | 3.34| 0.95|
| Overall Conflict Alleviation                             | 3.53| 1.03|

Source: Research Data (2017)
These results indicate that show on average, that the common resource pooling would highly influence the conflict alleviation in Kenya’s ASAL regions positively (M = 3.53; SD = 1.06). The respondents indicated that each of the indicator of conflict alleviation in Kenya’s ASAL regions would be highly improved by common resource pooling; efficient utilization of resources (M = 3.62; SD = 1.17); equitable resources distribution and benefits sharing (M = 3.60; SD = 1.07); increased legitimacy and co-production (M = 3.56; SD = 0.93) except for accountability, integrity and consistency with prevalent community moral values which was moderately influenced (M = 3.34; SD = 0.95).

4.2. Assessment of Research Objectives

The objective were assessed using results obtained from question measured on a 5 point Likert Scale (1 = Not at All; 2 = Low, 3 = Moderate; 4= High and 5 = Very High). First, a mean for each study variable indicator was obtained and thereafter a mean for all the indicators of that variable was calculated, using Mean of Means. These means were moderated, for interpretation, using the Statistics; 1 to 1.8 to represent “Not at All”; above 1.8 – 2.6 to represent “Low”, above 2.6 to 3.4 to represent “Moderate”; above 3.4 – 4.2 to represent “High” and above 4.2 – 5.0 to represent “Very High”.

4.2.1. Community Resource Mobilization and Funding Strategy on Conflict Alleviation

Objective 1 was to establish the influence of community resource mobilization and funding strategy on conflicts alleviation in Kenya’s ASAL regions, measured using; Community household contributions (equity capital), reinvestment of earned income (pooling back surpluses), debt financing, external support (voluntary contribution and donations from development agencies and funding by Government and NGOs), and stakeholder participation strategy as captured in table 4.2.

Table 4.2. Analysis by Community resource mobilization and funding strategy

| Community resource mobilization and funding strategy | M     | SD   |
|-----------------------------------------------------|-------|------|
| Community household contributions (equity capital)  | 3.68  | 0.75 |
| Reinvestment of earned income (pooling back surpluses)| 3.63  | 0.81 |
| Debt financing                                      | 3.56  | 0.73 |
| Voluntary contribution and donations and Funding by Governments and NGOs| 3.34  | 0.90 |
| Stakeholder participation strategy                  | 3.02  | 1.02 |
| Overall Community resource mobilization and funding strategy | 3.45  | 0.84 |

Source: Research Data (2017)

These results indicate that generally, the community resource mobilization and funding strategy would highly influence the conflicts alleviation in Kenya’s ASAL regions (M = 3.45; SD 0.84). According to the results in table 4.2, the factors; community household contributions (M = 3.68; SD = 0.75), reinvestment of earned income (M = 3.63; SD = 0.81) and debt financing M = 3.56; SD = 0.73) would highly influence the conflicts alleviation in Kenya’s ASAL regions, while external support [voluntary contribution and donations from development agencies and funding by Government and NGOs] (M = 3.34; SD = 0.90) and Stakeholder participation strategy (M = 3.02; SD = 1.02) would moderately highly influence the conflicts alleviation in Kenya’s ASAL regions. Despite most female respondents being members of merry go round and self-help groups, they never pooled other common resources for productivity, economic gain or as conflict alleviating initiative tool. However they were excited on the idea of pooling financial resources, natural as well as seeking external support from Governments, NGOs, and development agencies for their empowerment and as an initiative for conflict reduction and coexistence in a peaceful environment.

4.2.2. Effects of Stakeholder Participation Strategy on Conflict Alleviation

The study measured objective 2, to assess the effects of stakeholder participation strategy on conflicts alleviation in Kenya’s ASAL regions using the indicators; stakeholders’ involvement in decision making processes, classification of stakeholders (stakeholder identification and stakeholder groups), management of natural resources (participation in management and governance), resource allocation, and creating awareness and protection of the resources and the results obtained were captured in table 4.3.

Table 4.3. Analysis by Stakeholder Participation Strategy and Access to Higher Education

| Stakeholder Participation Strategy                        | M     | SD   |
|-----------------------------------------------------------|-------|------|
| Stakeholders’ involvement in decision making processes    | 3.75  | 0.78 |
| Stakeholder identification and stakeholder groups         | 3.46  | 0.88 |
| Management of natural resources (participation in management and governance) | 3.66  | 0.85 |
| Resource allocation                                       | 3.29  | 0.82 |
| creating awareness and protection of the resources        | 3.35  | 0.90 |
| Average Stakeholder Participation Strategy                | 3.50  | 0.85 |

Source: Research Data (2017)

The results indicate that the respondents showed that stakeholders’ involvement in decision making processes (M = 3.75; SD = 0.78), stakeholders’ classification (M = 3.46; SD = 0.88) and Management of natural resources (M = 3.66; SD = 0.85) would highly enhance conflicts alleviation in Kenya’s ASAL regions. Although Resource allocation (M = 3.29; SD = 0.82) and creating awareness and protection of the resources (M = 3.35; SD = 0.90) were shown that they would moderately affect conflicts alleviation in Kenya’s ASAL regions positively, on overall,
it was shown that stakeholder participation strategy would enhance conflicts alleviation in Kenya’s ASAL regions ($M = 3.50; SD = 0.85$).

4.2.3. Governance and Management Strategy and Conflict Alleviation

The study measured the third objective, to determine the influence of governance and management strategy on conflicts alleviation in Kenya’s ASAL regions using: sensitizing communities on resource activity, monitoring the resource condition, monitoring activities carried out by community members, and training community members in resource management as shown in table 4.4.

Table 4.4: Governance and Management strategy and Access to Higher Education

| Governance and Management strategy                              | M  | SD  |
|---------------------------------------------------------------|----|-----|
| Sensitizing communities on resource activity                   | 3.70| 0.74|
| Monitoring the resource condition                              | 3.10| 0.88|
| Monitoring activities carried out by community members         | 3.17| 0.97|
| Training community members in Resource management              | 3.80| 0.74|
| Average Governance and Management strategy                     | 3.44| 0.83|

Source: Research Data (2017)

According to results in table 4.4, it was shown that sensitizing communities on resource activity ($Mean = 3.70; Std. Dev. 0.74$) and training community members in resource management ($Mean = 3.80; Std. Dev. 0.74$) would highly conflicts alleviation in Kenya’s ASAL regions while monitoring the resource condition ($M = 3.10; SD = 0.88$) monitoring activities carried out by community members ($M = 3.17; SD = 0.97$) would moderately conflicts alleviation in Kenya’s ASAL regions. It was established that generally, governance and management strategy would highly conflicts alleviation in Kenya’s ASAL regions while monitoring the resource condition ($M = 3.44; SD = 0.83$). It was established the participation of the community in decision making programs was founded on the cultural background, where women were considered as of lower capacity and therefore excluded from the governance council to the point of only being led. They were only seen but not heard as their decisions were made by their men counterparts. Further, a certain clique had individuals had appointed themselves as representatives of the rest further complicating the community resources management and governance. However, the respondents felt that the suggested strategy would provide a platform for all society members to be partakers of common resource governance.²⁸

4.2.4. Resource Management Skills and Financial Competence on Conflict Alleviation

The study measured objective 4, find out the effects of resource management skills and financial competence development on conflicts alleviation in Kenya’s ASAL regions, using: capability of keeping and maintaining records, skills development and training in financial matters, and formal education as captured in table 4.5.

Table 4.5: Resource management Skills and financial competence and Conflict Alleviation

| Resource management Skills and financial competence | M  | SD  |
|-----------------------------------------------------|----|-----|
| Capability of keeping and maintaining records       | 3.52| 0.82|
| Skills development and training in financial matters| 3.47| 0.77|
| Formal education                                    | 3.43| 0.79|
| Average Resource management Skills and financial    | 3.47| 0.79|

Source: Research Data (2017)

The resulted showed that overall, resource management skills and financial competence development would highly affect the conflicts alleviation in Kenya’s ASAL regions positively ($M = 3.52; SD = 0.82$). It was shown that each indicators of resource management skills and financial competence development; capability of keeping and maintaining records ($M = 3.52; SD = 0.82$), Skills development and training in financial matters ($M = 3.47; SD = 0.77$), and formal education ($M = 3.43; SD = 0.79$) would highly affect the conflicts alleviation in Kenya’s ASAL regions positively.

4.3. Inferential Analysis

The study sought to establish whether IV; community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence were predictors (estimators) of DV, conflict alleviation in Kenya’s ASAL regions by carrying out a correlation analysis and multiple regressions.

4.3.1. Correlation Analysis

The correlation analysis was carried out to establish the existence of a relationship between the IVs and the DV using Pearson’s Product Moment, at 0.05 level of significance. The results produced showed evidence of existence of high significant relationship between each IV and DV since the correlation coefficient ($r$) for each was greater than 0.5 and the probability (p-value) for each was less than 0.05. The result show that community resource mobilization and funding strategy ($r = .612$) had the highest relationship, followed by governance and management strategy ($r = .591$), then stakeholder participation strategy ($r = .589$), and lastly resource management skills and financial competence ($r = .559$). According to the correlation analysis results all the IV; community resource mobilization and funding strategy ($r = .612$, p-value = 0.000), stakeholder participation strategy ($r = .589$, p = 0.000), governance and management strategy ($r = .591$, p = 0.000), and resource management skills and financial competence ($r = .559$, p-value = 0.000) were significantly related to conflict alleviation in Kenya’s ASAL regions, since the p-value for each was less than 0.05.
4.3.2. Regression Analysis

After establishing that there was significant relationship between each IV and the DV, the study then was regressed the IVs against the DV to estimate the study model using Analysis of Variance (ANOVA) for goodness of fit as shown in table 4.6.

|        | Sum of Squares | df | Mean Square | F     | Sig. |
|--------|----------------|----|-------------|-------|------|
| Regression | 25.744         | 4  | 6.436       | 24.560| .000b|
| Residual  | 25.157         | 96 | .262        |       |      |
| Total    | 50.901         | 100|             |       |      |

a. Dependent Variable: conflict alleviation in Kenya’s ASAL regions
b. Predictors: (Constant), resource management skills and financial competence, stakeholder participation strategy, governance and management strategy, community resource mobilization and funding strategy

Source: Research Data (2017)

They hypothesized that the coefficient of IVs; community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence respectively are all zero (that is $H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$ and $H_b: \text{At least one } \beta_i \neq 0$) where when $p$-value $\leq 0.05$, at 5% level of significance, then $H_0$ is rejected and $H_b$ accepted otherwise it is accepted otherwise is rejected and $H_b$ accepted. According to these results, $p$-value $= .000$, which is less that $< 0.05$ ($F=24.560$, $P$-value $=.000$). So $H_0$, is rejected and $H_b$ accepted, implying that at 0.05 level of significance, at least one of; community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence is useful in predicting conflict alleviation in Kenya’s ASAL regions.

The study then obtained model for the DV in terms of IVs as captured in table 4.7.

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|----------|-------------------|---------------------------|
| 711a| .506     | .485              | .51191                    |

a. Predictors: (Constant), resource management skills and financial competence, stakeholder participation strategy, governance and management strategy, community resource mobilization and funding strategy

Source: Research data (2017)

The results show that the coefficient of determination was .485 implying that 48.50% of variation in conflict alleviation in Kenya’s ASAL regions is explained by community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence.

The results regressions results of IVs and DV were captured in Table 4.8.

| Coefficients | Unstandardized Coefficients | Standardized Coefficients | t    | p-value |
|--------------|------------------------------|--------------------------|------|---------|
| (Constant)   | -.017                        | .367                     | -.046| .963    |
| Community resource mobilization and funding strategy | .245                        | .120                     | .226 | 2.053   | .043 |
| Stakeholder participation strategy             | .256                        | .128                     | .211 | 2.008   | .047 |
| Governance and management strategy              | .252                        | .125                     | .204 | 2.021   | .046 |
| Resource management skills and financial competence | .258                        | .110                     | .219 | 2.351   | .021 |

a. Predictors: (Constant), resource management skills and financial competence, stakeholder participation strategy, governance and management strategy, community resource mobilization and funding strategy

Source: Research data (2017)
From table 4.8, the estimated equation is;

\[ Y = -0.017 + 0.254X_1 + 0.256X_2 + 0.252X_3 + 0.258X_4 \]

Where

- \( Y \) = Conflict alleviation in Kenya’s ASAL regions
- \( X_1 \) = Community resource mobilization and funding strategy
- \( X_2 \) = Stakeholder Participation strategy
- \( X_3 \) = Governance and Management strategy
- \( X_4 \) = Resource management Skills and financial competence

It was shown that all the IVs, community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence had positive coefficient, indicating that they were directly proportional to conflict alleviation in Kenya’s ASAL regions. So, an increase in any of; community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and/or resource management skills and financial competence leads to increase in conflict alleviation in Kenya’s ASAL regions and vice versa.

The study test for community resource mobilization and funding strategy using following hypothesis;

- \( H_0: \) Community resource mobilization and funding strategy does not significantly influence conflicts alleviation in Kenya’s ASAL regions.

The results show that \( T= 2.053, p-value= .043 \). Since \( p-value < 0.05 \) then \( H_0 \) is rejected and ascertained that at 0.05 level of significance, there exists enough evidence to conclude that the community resource mobilization and funding strategy is useful as an estimator of conflict alleviation in Kenya’s ASAL regions.

The stakeholder participation strategy was tested using the hypothesis;

- \( H_0: \) Stakeholder participation strategy does not significantly influence conflict alleviation in Kenya’s ASAL regions.

Where the results indicate that \( T= 2.008, p-value= .047 \). Since \( p-value < 0.05 \) then \( H_0 \) is rejected and concluded that at 0.05 level of significance, stakeholder participation strategy is not zero and, hence, that stakeholder participation strategy is useful as a predictor of conflict alleviation in Kenya’s ASAL regions.

The study test for governance and management strategy using following hypothesis;

- \( H_0: \) Governance and management strategy does not significantly influence conflict alleviation in Kenya’s ASAL regions.

The results indicate that \( T= 2.021, p-value= .046 \), where \( p-value < 0.05 \). So, \( H_0 \) is rejected and concluded that at 0.05 level of significance, there exists enough evidence to conclude that the governance and management strategy is not zero and, hence, that governance and management strategy is useful as a predictor of conflict alleviation in Kenya’s ASAL regions.

Lastly, resource management skills and financial competence was tested using the hypothesis;

- \( H_0: \) Resource management skills and financial competence does not significantly influence conflict alleviation in Kenya’s ASAL regions.

The results show that \( T= 2.351, p-value= .021 \) where \( p-value < 0.05 \). Therefore, \( H_0 \) is rejected and at 0.05 level of significance, there exists enough evidence to conclude that the resource management skills and financial competence is not zero and, hence, that resource management skills and financial competence is useful as a predictor of conflict alleviation in Kenya’s ASAL regions.

The study therefore concludes that all the three IVs community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence would significantly predict the DV; conflict alleviation in Kenya’s ASAL regions.

Thus, the study concludes based on;

i. Objective 1: community resource mobilization and funding strategy significantly influence conflict alleviation in Kenya’s ASAL regions.

ii. Objective 2: stakeholder participation strategy significantly influences conflict alleviation in Kenya’s ASAL regions.

iii. Objective 3: governance and management strategy significantly influences conflict alleviation in Kenya’s ASAL regions.

iv. Objective 4: resource management skills and financial competence on enhancing conflict alleviation in Kenya’s ASAL regions.

5. Conclusions and Recommendations

5.1. Conclusions

Based on the results obtained, the study concludes that utilization community resource mobilization and funding strategy significantly in common resource pooling would positively influences attainment of conflict alleviation in Kenya’s ASAL regions. The factors attributing to the positive influence of conflict alleviation attainment would be use of; community household contributions (equity capital), reinvestment of earned income (pooling back surpluses), debt financing, external support (through voluntary contribution and donations from development agencies and funding by government and NGOs), and a resource investment strategy

The study concludes that stakeholders’ (community) participation in the CRP would significantly influence conflict alleviation in Kenya’s ASAL regions positively. The community participation, leading to positive effect on conflict alleviation in Kenya’s ASAL regions, would be through; stakeholders’ involvement in decision making
processes, classification of stakeholders (stakeholder identification and stakeholder groups), management of natural resources (participation in management and governance), resource allocation, and creating awareness and protection of the resources.

According to the study findings, the study concludes that establishment of governance and management strategy in the common resource pooling would significantly influence the enhancement conflict alleviation in Kenya’s ASAL regions. In this case, the enhancement conflict alleviation would be through; sensitizing communities on resource activity, monitoring the resource condition, monitoring activities carried out by community members, and training community members in resource management.

The study concludes that resource management skills and financial competence would positively enhance conflict alleviation in Kenya’s ASAL regions and is characterized by; capability of keeping and maintaining records, skills development and training in financial matters, and attainment of formal education.

The study reveals that there is a significant positive relationship between; The paper reveals that there is a significant positive relationship between community resource mobilization and funding strategy (p-value = .043), stakeholder participation strategy (p =.047), governance and management strategy (p =.046), and resource management skills and financial competence (p-value = .021) and conflict alleviation in Kenya’s ASAL regions, since the p-value for each predictor variable was less than 0.05. It was established that 48.50% of variation in conflict alleviation in Kenya’s ASAL regions is explained by community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence. So the community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence are predictors of in conflict alleviation in Kenya’s ASAL regions which are directly proportional to it.

5.2. Policy Recommendations

The study recommend that Kenya’s ASAL regions communities should be encouraged to be participating communally on utilizing the resources available (pain sharing-gain sharing) and hence a peaceful living owing to abundance of resources. Once a community is enlighten, it adapts to the new strategy and converts this to normal way of living just as McGregor mentioned that there are people who regard job as good as rest. So be it that motivating a society into adapting CRP motivates it into considering it as a way of life.

Firstly, the study recommends that these communities should be encouraged to pool resources together through mobilizing their natural resource mobilization and adapting an effective funding strategy. This should be through; making household contributions (equity capital) to the common pool, reinvestment of earned income (pooling back surpluses), accessing debt financing to support the investment to the pool, seeking for external support (voluntary contribution and donations from development agencies and funding by Government and NGOs), and establishing a stakeholder participation strategy. The study recommends that the communities should form groups (teams) within the same area (village) for managing the common resource pool. This should be managed by official from the community and should reflect diversity. The initiative should be guided by supportive legal and institutional frameworks, where the county should enact laws governing the same and the group designs its own institutional guidelines.

Secondly, the communities should establish a vibrant stakeholder participation strategy which allows for; active stakeholders’ involvement in decision making processes, classification of stakeholders (stakeholder identification and stakeholder groups), active management of natural resources by the community (participation in management and governance), resource allocation, and creating awareness and protection of the resources. Legislation should be enacted by the county governments to guide the participation of member into the group. It should spell out the terms and clearly highlight the pools goals, objective and mission. There should clear term on occupancy of the management class.

Thirdly, the study recommend that the ASAL region communities in Kenya should also establish a viable governance and management strategy that actively ensures effective; sensitizing communities on resource activity, monitoring the resource condition, monitoring activities carried out by community members, and training community members in resource management. The country governments should provide a legal framework to protect the community's participation so as to cap invasion and control from external forces, such as the political class, who may intend to hijack the initiative for their selfish gain.

Lastly, the study recommends that communities should have a provision for resource management skills and financial competence for ensuring; attainment of capability of keeping and maintaining records by community members, skills development and training in financial matters, and access to higher levels of formal education for community members. Externally the county governments should provide forum for for resource management skills skills building and as well as reenergizing their Technical and Vocational Education Training (TVET) programs. The VET programs should include units in resource management skills and financial management as well as courses in peace enhancements.
5.3. Limitations of the Study

The study embarked on collecting data from Kavete village, Nzau Sub County, which limited the applicability of the results to the sub County. So, other studies should be conducted to assess the effect of common resource pooling on conflict alleviation in Kenya’s ASAL regions in other areas regarded as facing similar challenges to Kavete village, Nzau Sub County.

The study found that 48.50% of variation in conflict alleviation in Kenya’s ASAL regions is explained by community resource mobilization and funding strategy, stakeholder participation strategy, governance and management strategy, and resource management skills and financial competence. This means that there are other factors that account for the remaining 51.50%. So the study recommends that other studies should be conducted to establish the factors influencing the 51.50% change conflict alleviation in Kenya’s ASAL regions through adaptation common resource pooling approach.

5.4. Policy Implication

The study findings and recommendations have important policy implications to the policy makers in the Kenyan governments (national and county) for formulation of policies on conflict resolution and community resource pooling. Importantly, ASAL region communities will acquire essential information for the sustainability of livelihoods and enhancement of peace in these regions. These ASAL communities benefits by having sufficient agricultural produce, even at times of drought, assuring food security as well as enhancing peace in these regions. Thus, it will ensure empowering the local communities to come out of the cycle of poverty, improving economic growth and increasing their productivity in the long run as it enhances peace in these volatile regions. This will through; efficient utilization of community resources, equitable of distributional outcomes and processes, legitimacy in decision making processes, increased legitimacy and co-production, accountability to direct users of resources, consistency with community prevalent moral values prevalent, and adaptability, Resilience, Robustness, and ability to be sustainable even during turbulent times (disturbance).

5.5. Contribution to Knowledge

The study will add knowledge to conflict alleviation and community resource pooling, making it useful to academicians and scholars. The study will be a windows opener on the areas of conflict alleviation and community resource pooling for peace enhancement, where it will be used for further research on the area of peace enhancing through community resource pooling.

REFERENCES

[1] Ketema DM. Analysis of institutional arrangements and common pool resources governance: the case of Lake Tana sub-basin, Ethiopia [Unpublished PhD thesis on the Internet], Ireland: University College Cork; 2013 [cited 2017 December 24]. Available from: http://hdl.handle.net/10468/1429.

[2] McCandless E, Karbo T. Peace, conflict, and development in Africa: A reader. Switzerland: University for Peace (UPEACE); 2011.

[3] Ouko EM. (2014). A comparative policy framework analysis of the impact of international environmental agreements and processes on local community development in Kenya [Unpublished PhD thesis]. Calgary, Alberta: University of Calgary; 2014.

[4] Garcia S, del Tanago JG. Drivers in adopting adaptation strategies to face increased water scarcity in agriculture. A case study in Doñana (Spain) and Makueni (Kenya) [Unpublished PhD thesis]. Madrid, Spain: Universidad Politécnica; 2014.

[5] Andrew M, Ainslie A, Shackleton CM. Land use and livelihoods. Programme for Land and Agrarian Studies. Cape Town: University of the Western Cape; 2003.

[6] Timilsina D. Household determinants and the resource consumption: A case study of Baghmara community forestry in Nepal [Unpublished Master Thesis]. Oregon State University; 2015.

[7] Mahanta R, Das D. Common property resources degradation and migration: A Case Study of Assam. J Human Eco. 2012; 38: 223.

[8] Kemkes RJ. Livelihood dependence on common pool resources under overlapping and insecure property rights in Upper Svaneti, Republic of Georgia. Job Market Paper; 2012.

[9] Francis DJ. Uniting Africa: Building regional peace and security systems. Aldershot: Ashgate Publishing; 2006.

[10] Osman-Elasha B. Managing Africa’s water in a changing climate in adapting to climate change in Africa. Joto Afrika. 2(2009): 1-7.

[11] Oakerson R. Analyzing the commons: A framework. Workshop in political theory and policy analysis. Bloomington, Indiana: Indiana University; 1990.

[12] Ostrom E. Governing the Commons: The Evolution of institutions for collective action. Cambridge, UK: Cambridge University Press; 1990.

[13] Yami M, Mekuria W, Hauser M. The effectiveness of village bylaws in sustainable management of community-managed enclosures in Northern Ethiopia. Sustain Sci. 2013; 8: 73-86.

[14] Doloi H. (2009). Relational partnerships: The importance of communication, trust and confidence and joint risk management in achieving project success. Constr Mgt & Econ [serial online]. 2009; 27(11): 1099-1109. doi:10.1080/01446190903286564

[15] Hardin G. The Tragedy of the Commons. Science. 1998; 162(3859): 1243-1248.
[16] IFAD. Common Property Resources and the Rural Poor in Sub-Saharan Africa. International Fund for Agricultural Development (IFAD), Special Programme for Sub-Saharan African Countries Affected by Drought and Desertification; 1995.

[17] Dietz T, Ostrom E, Stern PC. The Struggle to govern the commons. A literature review. Science. 2003; 302(December): 1907-1912.

[18] Leach M, Mearns R, Scoones I. Environmental entitlements: Dynamics and institutions in community-based natural resource management. World Development. 1999; 27(2): 225-247.

[19] Musyoki JK, Mugwe J, Mutundu K, Muchiri M. Determinants of Household Decision to Join Community Forest Associations: A Case Study of Kenya. ISRN Forestry; 2013.

[20] Leone M. Women as Decision Makers in Community Forest Management: Evidence from Nepal; 2013.

[21] Beyene AD. Forest dependency, property rights and local level institutions: empirical evidence from Ethiopia, 2011.

[22] Adhikari B. Household characteristics and common property forest use: complementarities and contradictions. A literature review. J Forestry and Livelihoods. 2002; 2(1): 3-14.

[23] Creswell J, Plano CV. Designing and Conducting Mixed Methods Research. 2nd ed. Thousand Oaks, CA: Sage Publications; 2011.

[24] Kothari CR. Research methodology: methods and techniques. New Delhi: New Age International; 2012.

[25] Cooper, Schindler. Business research methods. 10th Ed. New York: McGraw Hill Irwin, 2009

[26] Mugenda OM, Mugenda AG. Research methods: Quantitative and qualitative approaches. Nairobi Kenya: ACTS; 2008

[27] Ho GTS, Lau HCW, Lee CKM, Ip AWH. An intelligent forward quality enhancement system to achieve product customization. Industrial Mgt & Data Sys. 2005; 105(3): 384-406.

[28] Wamae T. (2013). Impact of community forest associations on forest resources management in Kenya [Unpublished Master Thesis]. Nairobi, Kenya: University of Nairobi; 2013.