International Network for Digital Innovation, Research & Education
Transformation of Digital Innovation for a Better Quality of Life

INDIRE

Conflict-Resolution Empowerment: A Panacea or Pacifier for Project Sustainability

* Humphrey Mwandawiro Mwambeo – University of Nairobi | email: hmwambeo@gmail.com
Lydiah N. Wambugu – University of Nairobi | email: lydiahnyaguthii@uonbi.ac.ke
Raphael O. Nyonje – University of Nairobi, email: Raphael.nyonje@uonbi.ac.ke
James T. Kariuki – University of Nairobi, Email: thuo.kariuki@uonbi.ac.ke

Aim/Purpose	The purpose of this study was to assess the extent to which conflict-resolution empowerment influences sustainability of forest conservation projects.
Background	The study was undertaken in Taita-Taveta County in Kenya within Mbololo and Mwambirwa forest areas. It targeted 28,984 residents of the county. A sample size of 365 respondents was obtained using Yamane formula.
Methodology	The research used cluster, systematic and purposive sampling techniques. Mixed methods of data collection and analysis were used to conduct this study.
Findings	Results showed that sustainability of forest conservation projects was not fully achieved. There was strong positive linear correlation between conflict resolution empowerment and sustainability of forest conservation projects (r=0.072). However, the regression model showed that the results were not statistically significant ($F_{(1,351)} = 1.812$; $p > 0.05$) which informed rejection of the null hypothesis. The research concluded that empowerment in conflict resolution did not influence sustainability of forest conservation projects.
Impact on Society	The study showed that empowerment in conflict resolution enhanced social fabric but did not result in sustainability of forest conservation projects. It helped society by informing decision makers not to invest in conflict resolution empowerment when the goal is to attain sustainability of projects. The right decisions regarding sustainability of forest projects are therefore possible.
Keywords	Conflict-resolution, Empowerment, Project, Sustainability, Community

* Corresponding Author

Volume 8, 2024

International Network for Digital Innovation, Research & Education
Transformation of Digital Innovation for a Better Quality of Life

AREAS OF CONTRIBUTION

Paper Category					
☒	Original Research	☐	Position Paper	☐	Comparative
☐	Case Study	☐	Technical Briefs	☐	Opinion
☐	Reviews	☐	Student Paper	☐	Innovation Ideas

Type of Digital Innovation		Industry		Discipline	
☐	Radical	☐	Media	☐	Business Technology
☐	Incremental/Enhancing	☐	Telecom	☐	Human Resources
☐	Disruptive	☐	Consumer Financial Services	☒	Management
☐	Breakthrough	☐	Retail	☐	Marketing
☐	Basic Research	☐	Technology	☐	Finance
☐	Sustaining	☐	Policy	☐	Accounting
☐	Architectural	☐	Consumer Products	☐	Computer Science
☐	Component/Modular	☐	Non-Profit	☐	Engineering
☐	Discriminatory Bias	☐	Business/Professional Services	☐	Medicine / Healthcare
		☒	Higher Education	☐	Law and Justice
		☐	Diversity and Inclusion	☐	History
		☐	Training	☐	Philosophy
		☐	Health Care	☐	Religion/Theology
		☐	Manufacturing	☐	Mathematics
		☐	Transportation	☐	Physics
				☐	Digital Media
				☐	Astrology
				☒	Social Sciences
				☐	Art and Culture
				☐	Psychology/Consciousness
				☐	Astronomy
				☐	Economics

Human Elements Addressed					
☐	Personality Traits	☒	Development	☐	Mental Wellbeing
☐	Behavior	☒	Environmental	☐	Consciousness
☐	Equality and Equity	☒	Social	☐	Physical Wellbeing

INTRODUCTION

The study was undertaken in Mbololo and Mwambirwa forests located in Taita-Taveta County. Mbololo forest is natural while Mwambirwa forest is a plantation forest. Approximately 5 kilometres separate the two forests which fall under the same management. The Kenya Forest Service (KFS) is the legal custodian of the forests. Civil Society Organisations (CSOs) and the community adjacent the forests complement conservation efforts. Most conservation initiatives are implemented through time bound projects. The projects target different aspects of conservation as well as the community adjacent the forests whose corporation or lack of it influences the conservation status of the forest resource. There are conservation projects which target enrichment tree planting especially in open patches within the forest, others target firefighting while others target management of pests and diseases within the forest resource. Apart from projects implemented within the forest resource, there are other projects that target the community adjacent the forest aimed at farm forestry and enhancement of livelihoods as an alternative income source instead of harvesting forest products. Initiatives such as energy saving stoves and use of biogas have direct impact on the status of the forest because they reduce the need for firewood. Projects that empower the community to effectively manage the resource are also initiated and implemented with the support of donors. Such projects target empowerment in decision making, conflict resolution, income generation and skills enhancement among others. In a nutshell, the broad objectives of the conservation projects implemented are generally to improve the health and status of forest resources while at the same time ensuring sustainability.

LITERATURE REVIEW

This section has explored literature on conflict resolution followed by sustainability of forest conservation projects.

CONFLICT RESOLUTION EMPOWERMENT

In the course of project implementation, individuals within the project or community conflict in different ways. Most conflicts affect the pace and achievement of project objectives. A conflict occurs when individuals disagree amongst themselves or with other project stakeholders based on differing viewpoints including real or perceived threat to individual interests, needs and concerns (Braem et al., 2019). Clashing of ideas and thoughts is almost natural in human interactions hence conflicts. The clash of ideas, thoughts and viewpoints can either be violent

or mild (Xiao et al., 2020). To resolve a conflict or manage it, one requires understanding of its genesis, parties involved and their interests as well as context. This is because there are several techniques of conflict resolution including compromising, obliging and avoiding among others (Alabu et al., 2020). Two studies on conflict management by Braem et al., (2019) and Xiao et al., (2020) were similar because they dwelled on the genesis and intensity of conflicts. However, the study by Alabu et al., (2020) was different because it considered conflict resolution mechanisms despite the fact that it was silent on any differences or similarities for conflict resolution mechanisms in different gender or races.

In Mbololo and Mwambirwa forests, conflicts have been witnessed before when community illegally harvest forest products which causes antagonism with law enforcers. In other occasions, community members jostle for training opportunities or exchange visits which causes strife amongst individuals. Such occurrences derail project activities implementation with serious repercussions because projects are time bound. At some point, disgruntled community members deliberately start forest fires because they missed a chance to be among those who participated in exchange visit to projects outside the county. This shows conflicts occurred amongst community members, between community members and the forest management or project team and also between community and other groups not involved in conservation work. Groups of individuals not involved in conservation work include pastoralists whose aim is to graze their livestock in the forest resource which negatively affects project activities such as tree planting. Such occurrences seriously affect the health of the forest and the projects making them unsustainable. When forest projects become unsustainable, the forest shrinks in size and functionality which negatively affects the flow of water from the forest thus compromising power generation, agriculture and wildlife management among others.

Project sustainability is the goal of all stakeholders especially the government, funders and community. Project sustainability is mainly derailed by interpersonal, intra and intergroup conflicts because of diversity of the individuals, groups and differing values, interests, needs and actions generated by such diversity (Xiao et al., 2020). Project stakeholders and team members possess different capabilities and styles of handling conflicts. Disjointed and incomplete information regarding capabilities of different members affect project manager's judgment of conflict situations and requirements for its resolution. Such variations in capacity to handle conflicts yields mixed results on project sustainability (Alabu et al., 2020). The ability of Project Managers to handle team member's conflicts is key for project sustainability. Understanding some leadership approaches employed by

Project Managers including the trait approach, behaviour approach, contingency approach and the charismatic or transformative approach is of great significance to sustainability of projects (Alabu et al., 2020). Charismatic project leadership that entails idealized influence, intellectual stimulation, inspiration and motivation results in reduced conflicts and improved project sustainability (Homan et al., 2020). The study by Homan et al. (2020) adds value to that of Alabu et al. (2020) because it sought to bring in leadership traits as a means to reduce or forestall conflicts. Leadership that entails conflict management is significant in the sustainability of any project taking into consideration the amount of psychological and physical energy drained in conflict situations (Bahadorestani et al., 2019). In times of conflict, community members waste valuable time responding to conflict actions by their peers or antagonists leading to serious distraction from project activities. Irrespective of leadership styles or conflict resolution technique applied, conflicts occasionally spiral out of control and waste a lot of project time sometimes causing stoppage of the projects. The study by Bahadorestani et al. (2019) explored losses occasioned by conflict situations which include time and resources but it failed to bring out any forms of benefits that accrued to any or all parties to a conflict and what such benefits meant for post-conflict period.

The ability of the community to resolve conflicts within the CFA and between CFA and other stakeholders is one aspect of community empowerment. Conflicts arising from different views and cultural practices are resolved faster when the community is empowered (Backmann & Hoegl, 2020). In cases where individuals seek equal opportunity for project benefits, resolution of conflicts influences sustainability of the projects. The Constitution of Kenya empowers the community to actively participate and make decisions on issues that affect management of public affairs including projects in protected forests. Conflicts in project work arising from such provisions require careful interpretation and management for smooth working and sustainability. Empowered community mobilizes resources and successfully manages conflicts arising from resource mobilization and utilization for sustainability of their projects (Manoa et al., 2020).

Conflicts in forest conservation projects are very costly because they disrupt progress towards achievement of project results and negatively affect the social fabric of the community (Manoa et al., 2020). In cases where community members conflict over scarce resources, they occasionally distort facts aimed at gaining privileged positions and become reluctant to accept less favorable outcomes. However, sometimes forest project conflicts serve as a way of gaining information on opposing project stakeholders determination to push on with a given position, reservation points and strengths (Zhong et al., 2020).

It is noted that where forest project conflicts are resolved, there remains chances of recurrence due to information asymmetries and unwillingness to maintain harmony between opposing community members (Bahadorestani et al., 2019). The study by Zhong et al., (2020) is at variance with that of Bahadorestani et al., (2019) because the former found out that conflicts enable gauging of the determination of a party to remain on a given path which would prolong a conflict. However, the latter study explored chances of recurrence of a conflict after settlement. There seems to be a driving force behind an individual's refusal to abandon a given position and such a force remained unexplored by the two studies. This left a gap because understanding the reasons behind a party's pursuance of a given direction would have been useful in resolving future conflicts. Forest conservation project conflicts have many sources key among them being scarcity of project resources (Khosravi et al., 2020). However, some scholars aver that the nexus between resources and conflicts is inadequate to conclude that resource scarcity engenders conflicts given the complexity of predisposing factors such as economic, social structures as well as the local context (Khosravi et al., 2020). Key sources of conflicts in projects include lack of transparency, top-down approach to decision-making and ignoring local opinions during planning and project implementation phase (Curcija et al., 2019). The findings by Khosravi et al. (2020) dispels the fact that resources are the main cause of conflicts because it cites other factors such as unfavourable social structures. However, the study failed to give an indication of which among the factors ranked higher so that project managers understand the major factors to look out for during project cycle management.

Two key approaches emerge in conflict management namely assertiveness where individual dominancy plays out and cooperation approach where community members work together for mutual benefits (Curcija et al., 2019). When the two approaches are considered jointly they yield different conflict management strategies namely collaborative approach which accommodates different individuals frustrations; second one attempts to compromise the causes of frustrations; third one works towards avoiding the conflict; fourth is a power oriented approach which places premium on ones position at the expense of the other (Alabu et al., 2020). Some actions taken in conflict resolution strategies include seeking third party intervention, undertaking unilateral decisions regarding the conflict and imposing a decision on the other party, yielding to the solution provided by others, remaining dormant or inactive and lastly jointly working towards a compromise, which is best suited to both parties. Politics and other social aspects of forest adjacent community are significant in mediating the human-nature relations (Manoa et al., 2020). Neoclassical scholars observed that conflicts

that arose out of project resource scarcity were handled by overcoming scarcity through different approaches including substitution of products and devising alternatives (Curcija et al., 2019). The aspect of politics in mediating the human interactions brought out by Manoa et al. (2020) is significant because every society gets involved in some form of politics in their normal interactions. The study therefore reinforces the findings by other scholars including Curcija et al. (2019) who found out that conflicts could be handled by overcoming scarcity of resources where it was the root cause. Forest project conflicts involving several stakeholders' progress in stages from the latent stage mainly underpinned by intentions of the community members to conflict. The second stage of a conflict is the escalation stage, which entails verbal altercations, violent behaviour amongst opposing parties and the conflict expands from the nucleus to the peripheries bringing in additional project stakeholders. The third stage of a conflict is the peak in which parties exhaust their energies after great damage is inflicted on one or all parties (Han et al., 2019). After the peak, de-escalation stage begins after parties get exhausted and ready to seek solutions to the causes of the conflict. Solution seeking involves the role of third parties depending on the size and magnitude of the conflict. The final stage is conflict resolution where project stakeholders negotiate and agree on amicable solution (Han et al., 2019). Conflicts result in a negative effect on individual and group performance which affects sustainability of the project and further destroys social fabric and individual wellbeing (Han et al., 2019). The findings by Han et al. (2019) on stages of conflicts and characteristics of different stages are significant because it enables stakeholders understand their different positions and where possible take action to forestall progression of conflicts.

Several factors contribute to successful resolution of community conflicts. The major factors are cooperation among community members which results in strong social bonds eventually yielding cordial relationships (Kabelo & Gakuu, 2019). Trust among project members is an important factor, which entails an understanding or belief by one community member that others always acted in their best interests. Trust aids credible project information exchange amongst community, which minimizes conflicts. Clarity on roles and responsibilities of each member is key in forestalling forest project conflicts as potential ambiguous situations that result in conflicts are avoided (Hariandi et al., 2022). An individual's conflict management style influences the outcome of conflict resolution endeavor. Conflict management styles including avoiding or forcing often have destructive conflict resolution outcomes as they affect the degree of cooperation and trust amongst community members (Nzilani et al., 2019). Accommodating different conflict management styles fosters community interactions. Commu-

nity interactions facilitate building of friendships and social connections as a result of regular contacts and closeness to each other (Han et al., 2019). Scholars including Nzilani et al. (2019) explored results of specific conflict management approaches such as avoidance which are distractive but Hariandi et al. (2022) provided a clear way to forestall emergence of conflicts including ensuring clarity of roles and responsibilities for different parties. This is very important because forestalling conflicts avoids its destructive outcomes. Interpersonal conflicts have negative influence on project sustainability because they elicit negative emotions including anger, stress and frustrations which affect community efforts and activity output (Nzilani et al., 2019). Conflicts have three elements, which are interactions of different individuals, interdependence of work or tasks including one's task completion relying on completion of his workmates tasks and lastly different perceptions and views. Management of conflicts arising from different areas of work elicit different reactions from individuals. Based on this, handling of the conflicts varies from time to time even under similar situations.

Task conflicts negatively affect community commitment to project work. Further, relationship conflicts deteriorate the association between resources available for work execution and team commitment (Morrison & Jaime, 2020). Discussing forest project challenges directly influences the group's cohesiveness hence achievement of project objectives and sustainability. Availability of resources determines level of engagement, which contributes to productivity. In instances where the resources are deficient, stakeholders become less engaged because of gaps in the requirements (Morrison & Jaime, 2020). Engagement at community level holds specific benefits to projects and the individual including a common vision, progressive and fulfilling, motivational, promising form of project work or occupational happiness. Communication is key in conflict resolution as much as it serves as a tool for conflict prevention especially in instances where conflicts are fuelled by misinformation (Hariandi et al., 2022). Peer communication is more trusted because of similar status of the communicating parties and familiarity (Margalida et al., 2021). The form of communication (verbal, visual and non-verbal communication) selected in handling a conflict has a bearing on the settlement of disputes because some forms of communication such as non-verbal were considered to be very powerful in some communities (Nzilani et al., 2019). In handling project conflicts, communication channels and forms of communication are very important for lasting results of settled conflicts. Negotiations and mediation are the two most utilised conflict resolution mechanism in the Mbololo and Mwambirwa forest areas. Conflicting parties get to negotiate and agree on the best solution for both of them thus fizzling out the conflict. However, in cases negotiations fail then mediation is utilised. It involves project

team bring the conflicting parties together and helping them reach amicable solution to their problem/conflict. The two methods are very good as they maintain social fabric and keep the community together which is beneficial to the conservation project work. Whereas Margalida et al. (2021) stress the significance of peer communication in settlement of conflicts, scholars such as Morrison and Jaime, (2020) aver that relationship management is more important. However, as much as different scholars argue in favour of different approaches in management or resolution of conflicts, such approaches are not applicable across board because sources and causes of conflicts are multifaceted. The downside of negotiation as a conflict resolution mechanism is that it is time consuming. Since projects are time bound they may fail to achieve their expected objectives within time especially where negotiations are prolonged. On the other hand, arbitration tends to lack transparency. Sometimes those leading the process may have hidden perspectives or desired outcomes which may derail the entire process. An example was at a time when a prominent local leaders was requested to arbitrate among to factions of the community on allocation of proceeds from the project. The arbitrator favoured one faction which was later discovered by the community resulting in a new conflict that almost stopped the project.

Community members who work together are likely to develop active and constructive working relationship that foster joint handling of challenges for the betterment of their project and capacity building (Margalida et al., 2021). Such scenarios facilitate cohesive or "brotherhood" atmosphere that enhance sharing of knowledge and ideas optimizing achievements of project objectives. Cohesive teams enjoy working together and consider their work meaningful to their personal and joint development, which positively influences sustainability of projects. Conflict resolution occasionally faces challenges when there is distrust and rivalry amongst influential external forces. Such rivalry by powerful parties seeking to control the community results in sabotage and negative energy derailing project outcomes (Remigius, 2020). The findings by Margalida et al. (2021) that shows working together strengthens community bonds thus influencing conflict management were different from the findings of Remigius, (2020) whose concentration was on the external environment that affects the project especially where other parties sought dominance. The impetus for control or domination of the individual or group being empowered in conflict resolution occasionally stems from the desire to control specific resources or strategic positioning for envisioned future opportunities. Religion aids or acts as a barrier to empowerment especially where individuals hold different religious persuasions. Culture and social life also act as a barrier to conflict resolution as some cultural requirements prevent individuals from following certain empowerment avenues. This is

closely related to issues such as democracy versus socialism where issues of conflict and resolution are approached from different angles (Zuwarimwe & Chipaike, 2020). Occasionally context causes challenges in conflict resolution. This happens when some intervening factors such as emergencies like drought are experienced hindering the community from paying attention to the existing conflict (Zuwarimwe & Chipaike, 2020). The study by Zuwarimwe and Chipaike, (2020) is at variance with most scholars including Margalida et al. (2021) because it explores the role of different community aspects central to any society including religion and social life in conflict resolution.

Sustainability of Projects

The concept of sustainability was introduced in the second half of 20th century and continued to gain prominence in the 21st century (Purvis, 2019). Immediately after World War II, there arose the need to spur economic development, which mainly targeted exploitation of natural resources. The extractive economic model of development proved detrimental to the environment and social well-being of the populations. Critique of the model necessitated development of alternative models that catered for economic development, social well-being and the environment hence sustainability (Purvis, 2019). The need for a development model with little negative impacts led to consideration of new ways that catered for economic development and integrated ecological sustainability. Secondly, there was the need for equity where resources were utilized in the interest of the general community and lastly consideration for future generations which resulted in the concept of sustainability (Klarin, 2018). The concept of sustainability hinged on three pillars of environment, social justice and economic development (Nastis & Evropi-Sofia, 2020). However, the study noted that achievement of sustainability was a challenge because achievement of one pillar created imbalance in the other pillars. In natural settings, it is almost impossible to have regard for social well-being, ecological conservation and economic development without compromising any.

Research Question

How does conflict resolution empowerment influence sustainability of forest conservation projects?

The community who participate in forest conservation projects get involved in conflicts which derail project work. The conflicts emanate from within the group mainly jostling for allocation of scarce resources. The conflicts do take mild or

sometimes violent dimensions. When conflicts occur they derail work by diverting attention from project work to resolution of the conflicts. Such occurrences hamper projects sustainability which in turn compromises forest health that exacerbates effects of climate change.

RESEARCH OBJECTIVE

To assess the extent to which conflict-resolution empowerment influences sustainability of forest conservation projects

HYPOTHESIS

There was no statistically significant relationship between conflict-resolution empowerment and sustainability of forest conservation projects

CONCEPTUAL FRAMEWORK

Figure 1: Conceptual framework

METHODS AND MATERIALS

The study took place in Mbololo and Mwambirwa Community Forest Association's (MWAMBO CFA) operational area within Mbololo ward in Voi Sub-County of Taita-Taveta County. It targeted a population of 28,984 distributed into 4138 households. Cluster and systematic sampling techniques were used to pick respondents. The researcher used personal discretion to move either to the left or right to avoid picking respondents in a straight line which minimised potential algorithmic bias. Mixed research methods were used to collect and analyse data. Yamane formula was used to determine sample size of 365 respondents. Qualitative data was collected from six respondents who were purposively selected. Data was collected using 5 point Likert scale questionnaire in which 05 represented strongly Agree while 01 represented strongly Disagree. Other tools of data collection were the observation guide, interview guide and secondary data analysis guide.

RESULTS AND DISCUSSION

Discussion of results began with analysis of sustainability of forest conservation projects followed by conflict resolution. Simple linear regression analysis was used to analyse the influence of conflict resolution empowerment on sustainability of forest conservation projects.

SUSTAINABILITY OF FOREST CONSERVATION PROJECTS

The mean and standard deviation for each of the twelve research items which measured sustainability of forest conservation projects were analysed and results presented on Table 1.

Table 1: Distribution of responses on sustainability of forest conservation projects

	Research item	Mean	Std deviation
1	Project activities continue being implemented despite the donor(s) stopping to support the project through provision of finances and other inputs including technical support	2.76	1.152
2	Project activities have remained in my daily plan of activities after the donor stopped providing finances	2.82	1.092
3	The community has continued to enjoy benefits from forest conservation projects including exchange visits after donor stopped his involvement with the project	2.80	1.201
4	Community champions trained by past projects remained a source of beneficial information for new forest conservation projects	3.03	1.272
5	There have been new donors supporting forest conservation activities initiated by previous donors	2.99	1.264
6	New forest based activities including butterfly farming and beekeeping had received increased investments owing to improved forest cover supported by former projects	2.69	1.217
7	The membership of MWAMBO CFA responsible for conservation of the forest has continued to increase despite exit of former project donors	2.72	1.292
8	More community members have expressed interest in the forest conservation activities of MWAMBO CFA even after exit of former project donors	2.93	1.288
9	The number of forest conservation partners has increased after exit of previous donors	2.93	1.240

10	Former project partners have remained good ambassadors for the forests influencing new partners to join forest conservation activities	2.92	1.280
11	Peer learning visits from other forest projects have continued after the project donor stopped supporting forest conservation activities	2.76	1.311
12	Peer learning activities continued to build skills base of MWAMBO CFA	2.74	1.345

Source: Field data 2023

The lowest mean value was 2.69 with a standard deviation of 1.277 for research item six (6) "New forest based activities including butterfly farming and beekeeping had received increased investments owing to improved forest cover supported by former projects". The highest mean value was 3.04 with standard deviation of 1.319 for research item four (4) "Community champions trained by past projects remained a source of beneficial information for new forest conservation projects". This meant there was a concentration of responses around the value three (03) of Likert scale, which represented neither agree nor disagree that forest conservation projects were sustainable. The results implied that many respondents were not certain of forest project sustainability despite the fact that some respondents strongly agreed while others strongly disagreed. The findings meant that achievement of sustainability of forest conservation projects was relatively elusive in the research area.

Qualitative data from the six respondents indicated that forest conservation projects were barely sustainable. The forester in charge of Mbololo and Mwambirwa forests as well as the Ecosystem Manager from KFS reported that forest conservation projects had mixed results in sustainability. The forester for instance said *"…many forest conservation projects introduced new aspects of community livelihoods which reduced pressure on protected forests for goods and services. The incomes motivated community to carry-on with project activities. However, a big percentage of the income generating activities stopped operating as soon as the project sponsor exited*". The bamboo ago-forestry project that supported local furniture industry for instance remained operational after donor exit attesting to the fact that some activities were sustainable. Some project activities including tree nurseries occasionally faced challenges ranging from inadequate water and market for seedlings with negative ramifications on sustainability. Dry periods increased cost of tree nursery maintenance because of increased distance to water sources and costs per unit, which increased because of scarcity. The Project Managers from TTWF and MAZIDO as well as the Monitoring and Evaluation Officers from the two organisations reported that the forest conservation projects experienced a range of challenges that worsened

with donor exit. The Monitoring and Evaluation Officer from TTWF for instance averred "…*all forest conservation activities initiated and supported by community continued to perform at impressive levels when the donor's funds were still available but the scenario changed dramatically as the resources dwindled."*

Secondary information obtained from the selected organisations had some level of evidence on sustainability. The documents showed that some activities continued performing well despite lapse of donor funding. However, monitoring and evaluation report from MAZIDO indicated that close to 70% of the activities did not continue past three years after donor funding lapsed. This meant that sustainability of the forest projects was a challenge. Project initiatives including butterfly farming with direct benefits to individual households however defied the trend epitomized by other activities because it continued to prosper after lapse of donor funding. Observations showed evidence of farm forestry and income generating activities including traditional and modern beehives. There were seven beehives and five tree nurseries of different tree species counted in individual farmlands. It was noteworthy that bee keeping had cultural significance because the community used honey for activities such as libation. Cultural practices tended to support some forest conservation project activities although there were other economic interests which played out as community strived to eke a living by all means. This was supported by Nastis (2020) whose research showed that balancing of three pillars of sustainability is a challenging undertaking despite its importance. Scholars including Nishant et al. (2020) concurred that self-interests could easily derail sustainability which negatively affects forest projects. The researcher observed that sustainability of forest conservation projects remained a challenge although some activities including bee keeping showed signs of sustainability possibly because of cultural support. Other activities including agroforestry also thrived possibly because they required little support after a few years of planting. Such developments meant that the trees would rely on seasonal rain seasons and prospered with little input from the farmers. Activities that required continued input and support from the community including maintaining fire lines suffered most because by donor exit as community members abandoned them or scaled down support.

Conflict Resolution Empowerment and Sustainability of Forest Conservation Projects

To understand the spread of data on the influence of conflict resolution on the sustainability of forest conservation projects, the study examined mean and standard deviation indicated on Table 2.

Table 2: Distribution of responses on conflict resolution empowerment

	Research item	Mean	Std deviation
1	Household members within MWAMBO CFA area have been trained on conflict resolution strategies courtesy of forest conservation project	2.78	1.116
2	My household members have been involved in resolving conflicts amongst MWAMBO CFA members at different times regarding implementation of forest conservation activities	2.58	1.234
3	My household members have at different times proposed methods for conflict resolution amongst MWAMBO CFA members during implementation of forest conservation project activities	2.61	1.122
4	A big percentage of households within MWAMBO CFA area do not know different methods for resolving conflicts amongst different individuals	2.66	1.177
5	My household members have identified parties to a conflict at least once amongst the Membership of MWAMBO CFA during implementation of forest conservation activities	2.76	1.100
6	A big percentage of households within MWAMBO CFA area understand that parties to a conflict can be many with each playing different roles	2.72	1.172
7	My household members have been involved at least once in the implementation of agreed upon conflict resolution strategies involving members of MWAMBO CFA during forest conservation project implementation	2.64	1.330
8	At least every household within MWAMBO CFA area can advise peers from other forest conservation projects on different strategies for conflict resolution	2.78	1.096
9	My household members understand that communication channels used in a conflict situation can escalate of reduce intensity of a conflict situation	2.70	1.207
10	My household members have continued to benefits from utilization of different conflict communication channels learnt in forest conservation projects in their daily lives	2.71	1.110
11	A big percentage of households within MWAMBO CFA area understand that post-conflict peace maintenance strategies vary depending on actors to a conflict	2.71	1.083

12	My household members have been involved in training their peers on different post-conflict peace maintenance strategies during implementation of forest conservation projects	2.67	1.066

Source: Field data 2023

The figures in Table 2 show that data were concentrated around the mean because the standard deviation in all research items is small.
To determine the strength and direction of relationships as well as the contribution of conflict-resolution empowerment to sustainability of forest conservation projects, the researcher relied on simple linear regression analysis. Tables 3 (model summary), Table 4 (Statistical significance) and Table 5 (Estimated regression coefficients) show the findings of linear regression analysis.

Table 3: Model Summary for the influence of conflict-resolution empowerment on sustainability of forest conservation projects

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.072[a]	.005	.002	.71342
a. Predictors: (Constant), Conflict resolution empowerment				

Source: Field data 2023

Table 3 shows R-value of +0.072 that meant there was a strong linear correlation between conflict-resolution empowerment and sustainability of forest conservation projects. The R^2 value of 0.005 meant conflict-resolution empowerment accounted for 0.5% of variations in sustainability of forest conservation projects. Table 4 presents the appropriateness of the regression model in analyzing the research data. The F-ratio values obtained were $F_{(1,351)} = 1.812$; $p > 0.05$). The results meant that the research findings were likely a product of random chance. The results meant there was no adequate evidence to reject the null hypothesis. Conflict-resolution empowerment had no significant influence on sustainability of forest conservation projects. The findings meant that individuals empowered in conflict-resolution do not necessarily take actions that lead to sustainability of forest conservation projects.

Table 4: Statistical Significance for the influence of conflict resolution empowerment on sustainability of forest conservation projects

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	**Regression**	.922	1	.922	1.812	.179[b]
	Residual	178.650	351	.509		
	Total	179.572	352			
a. Dependent Variable: Sustainability of forest conservation projects						
b. Predictors: (Constant), Conflict resolution empowerment						

Source: Field Data 2023

The research findings were at variance with findings of Xiao et al. (2020) who observed that conflicts could involve a group, different groups and at times internal within an individual. However, whatever form conflicts took, successful resolution resulted in positive effect on activities implementation resulting on sustainability. Conflict-resolution is key to conducive working atmosphere that yields collaboration and positive energy among stakeholders drawing on respective strengths with positive results on activities implementation (Alabu et al., 2020). This view was in conflict with research findings that indicated that conflict-resolution empowerment does not necessarily result in sustainability of forest conservation projects.

Table 5: Estimated regression coefficients for the influence of conflict resolution empowerment on sustainability of forest conservation projects

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	**Std. Error**	**Beta**		
1	**(Constant)**	2.646	.150		17.603	.000
	Conflict resolution empowerment	.072	.053	.072	1.346	.179
a. Dependent Variable: Sustainability of forest conservation projects						

Source: Field Data 2023

The KFS forester reported that there were incidents of conflicts that involved individuals and groups in connection with utilization of forest resources in the study area. He said, *"… there were many situations where KFS and community conflicted because of over-abstraction of water from Mwalui and Mole rivers, illegal and unauthorized harvesting of forestry products including wild honey and medicinal herbs and inappropriate tree species planted in water catchments"*. The Project Manager from MAZIDO reported that there were numerous conflicts witnessed amongst the community related to management of CFA operations and sharing of benefits that accrued from forest projects. He said *"…our project activities occasionally get derailed by conflicts when community members fight over limited training opportunities and exchange visit slots*". The Monitoring and Evaluation Officer from TTWF on his part reported that they were involved in resolving inter-community conflicts between farming community and pastoralists whose livestock occasionally strayed into farmlands during periods of drought. He said *"… the situation occasionally worsened because aggrieved individuals disregarded civilized dispute resolution mechanisms taking the law into their own hands with devastating results on either sides and the project*." Information obtained from interviews regarding different types and sources of conflicts was collaborated by scholars including Xiao et al. (2020) who argued that there were many sources of conflicts including people focused, communication gaps, or other barriers that hindered smooth flow of information. Environmental issues including drought as well as roles mismatch amongst community members also served as a sources of conflicts between community groups, which affected forest project sustainability.

The KFS forester in Voi area explained that "*conflicts did not only emanate from within the group but also from other sources for example development partners (civil societies) competing for credit and attention from the community and local leadership. Such conflicts resulted in duplication of efforts and waste of resources compromising forest project sustainability*". However, according to the TTWF Project Manager, internal conflicts experienced in the study area were not very serious despite the fact that they antagonized social fabric. There were conflicts within the forest projects when individuals attempted to influence the sequence and pace of project activities in their favour. The Project Manager from TTWF reported *"…there was a time when some community members attempted to change sequence of project activities in favour of their interests which was not acceptable to their peers. The group opposed to the idea rejected the variations necessitating intervention by project team to resolve the conflict."* During times of conflict, many forest project activities slowed as community members diverted attention to conflict resolution mechanisms. Project Managers interviewed reported that amicable conflict resolution enhanced cohesion amongst community members. The findings were corroborated by Bahadorestani et al. (2019) who noted that amicable

resolution of conflicts minimized chances of recurrence while cooperation among individuals improved. Despite such benefits of conflict resolution as noted by different scholars, this research found out that empowerment in conflict resolution does not necessarily result in sustainability of forest projects. The forester reported that there were conflicts that arose from unpopular decisions to plant unsuitable tree species within water catchment areas against prudent management practices. The forester noted that many conflicts were resolved through a series of consensus building meetings. The methodology for conflict-resolution used in the research site was in line with findings of some studies that noted conflict-resolution could be achieved through consensus building and negotiations (Curcija et al., 2019). Adequate and timely communication can minimize chances of conflicts because it forestalls speculation and reduces doubt and suspicion.

TTWF Project Manager reported that they trained CFA members on importance of timely and targeted communication. He said "…*we conduct trainings on communication as a key component in many projects because of its role in enhancing community cohesiveness*". Prudent forest conservation stakeholders who understood each other's strengths and weaknesses allocated project tasks based on individual strengths for better results and conflict reduction. Conflict-resolution empowerment in local community may hold the promise of confidentiality amongst community members based on the non-formal processes that engenders "justice from below" as opposed to "justice from above" that relies on formal systems including arbitration and legal courts for conflict-resolution. Instances where conflicting parties got assurance of genuine outcomes built relationships and trust as witnessed in MWAMBO CFA. Justice from above is prone to infiltration by politics with potential to sway decision-making, which is less likely to happen with justice from below. Scholars including Manoa et al. (2020) concurred that politics and other social aspects had a bearing on social interactions with ramifications on group stability. Document analysis showed that key streams including Mwalui, Mole, Mngalenyi and Mwakajo within the research site were sources of conflict because some community members abstracted water for agricultural purposes while those downstream complained of inadequate water for domestic purposes. Pastoralists further downstream at the rangelands also faced challenges accessing adequate water for their livestock. Records showed instances where the local administration participated in resolving conflicts amongst community members regarding utilization of water resources within the project site. Further, there were records of accidental forest fires especially in Mwambirwa forest resulting in conflict between Kenya Forest Service and the community.

Records showed that individuals who believed in retrogressive anecdotes that during periods of extreme drought smoke from burning vegetation attracted rain were likely to started forest fires intentionally. Such occurrences resulted in serious conflicts between and amongst community members as some were opposed to such acts while others were in support. The KFS abhors forest fires forcing it to apply relevant provisions of the law to stem the practice, which strains cordial relations with the community. The researcher observed a number of activities implemented around the research site aimed at managing conflicts that arose from utilization of natural resources. Catchment protection using vetiva grass was among the innovative methods utilized to stem conflicts between water users within the research area. Further, local initiatives including implementation of the Mbololo and Mwambirwa sub-catchment management plan resulted in tree planting and water catchment protection activities that increased water flow and greatly reduced conflicts. Along the edges of the forest, there were well-maintained fire lines to safeguard the forest from accidental fires from community farmlands. Further, there were tracks in the forest that served as access routes for management of the forest through support of rapid deployment of forest team to trouble spots. The forest tracks were wide enough to serve as firebreaks within the forest to reduce losses that would accrue from forest fires. Accidental and deliberate forest fires engendered conflicts between the law enforcers and perpetrators that affected relationships.

Despite the fact that conflict resolution has benefits of cohesiveness and maintaining of social fabric as observed by scholars including (Xiao et al., 2020) , this research established that it has no bearing on sustainability of forest projects. This means that projects that engage in conflict resolution may be beneficial towards building a cohesive community with strong social fabric but do not enhance project sustainability. This means that sustainability of forest projects could possibly hinge on many other aspects apart from conflict-resolution empowerment. The other factors could be decision making empowerment, income generating empowerment or even advocacy empowerment. However, these other factors may require further analysis to ascertain their contribution to sustainability.

LIMITATIONS OF THE STUDY

The economic activities undertaken by the target population varied and different households had different work schedules, which made it difficult to meet all targeted respondents at the convenience of the study. The study overcome the limitation by analysing the general community calendar and planning data collection

accordingly. Data collection schedule excluded busy days such as market days and days of worship (church for Christians and mosque for Muslims).

REFERENCES

Alabu, P. F., Kembo, P. J., & Otara, A. (2020). Influence of Principals ' Conflict Management Techniques on Teacher Job Satisfaction in Selected Secondary Schools in Uriri and Nyatike Sub-County. *East African Journal of Education Studies*, *2*(1). https://doi.org/10.37284/eajes.2.1.123.IEEE

Backmann, J., & Hoegl, M. (2020). From Empowerment Dynamics to Team Adaptability: Exploring and Conceptualizing the Continuous Agile Team Innovation Process. *Journal of Product Innovation Management*, *37*(4), 324–351. https://doi.org/10.1111/jpim.12525

Bahadorestani, A., Naderpajouh, N., & Sadiq, R. (2019). Planning for Sustainable Stakeholder Engagement Based on the Assessment of Conflicting Interests in Projects. *Journal of Cleaner Production*, *1*(3), 118402. https://doi.org/10.1016/j.jclepro.2019.118402

Braem, S., Bugg, J. M., Schmidt, J. R., Crump, M. J. C., Weissman, D. H., Notebaert, W., & Egner, T. (2019). Measuring Adaptive Control in Con fl ict Tasks. *Trends in Cognitive Sciences*, *23*(9), 769–783. https://doi.org/10.1016/j.tics.2019.07.002

Curcija, M., Breakey, N., & Driml, S. (2019). Development of a conflict management model as a tool for improved project outcomes in community based tourism. *Tourism Management*, *70*(August 2017), 341–354. https://doi.org/10.1016/j.tourman.2018.08.016

Han, Q., Zhu, Y., & Ke, G. Y. (2019). A Two-Stage Decision Framework for Resolving Brownfield Conflicts. *International Journal of Environmental Research and Public Health*, *16*(6). https://doi.org/10.3390/ijerph16061039

Hariandi, F., Ferine, K. F., & Anwar, Y. (2022). Leadership Style and Communication in Conflict a Settlement at PLN Branch Gebang. *Konfrontasi Journal: Culture, Economy and Social Changes*, *9*(3), 512–521. https://doi.org/10.33258/konfrontasi2.v9i3.246

Homan, A. C., Gündemir, S., & Buengeler, C. (2020). Leading Diversity : Towards a Theory of Functional Leadership in Diverse Teams. *Journal of Applied Psychology*, *105*(10), 1101–1128. https://doi.org/10.1037/apl0000482

Kabelo, I. H., & Gakuu, C. (2019). Factors Influencing Success of Collaborative Resource-based Resolution Projects in Isiolo County , Kenya. *International Academic Journal of Information Sciences and Project Management*, *3*(4), 55–81.

Khosravi, P., Rezvani, A., & Ashkanasy, N. M. (2020). Emotional intelligence : A preventive strategy to manage destructive influence of conflict in large scale projects. *International Journal of Project Management*, *38*(1), 36–46. https://doi.org/10.1016/j.ijproman.2019.11.001

Klarin, T. (2018). The Concept of Sustainable Development : From its Beginning to the Contemporary Issues. *Zagreb International Review of Economics & Business*, *21*(1), 67–94. https://doi.org/10.2478/zireb-2018-0005

Manoa, D. O., Mwaura, F., Thenya, T., & Mukhovi, S. M. (2020). Journal of Biodiversity A Review of the Visible and Hidden Opportunity Costs of Human-Wildlife Conflict in Kenya. *Journal of Biodiversity Management & Forestry*, *9*(2). https://doi.org/10.37532/jbmf.2020.9(2).228

Margalida, A., Speziale, K. L., Amar, A., Ballejo, F., Bildstein, K. L., & Blanco, G. (2021). Presumed killers ? Vultures , stakeholders , misperceptions , and fake news. *Conservation Science and Practice*, *3*(6), 1–10. https://doi.org/10.1111/csp2.415

Morrison, S., & Jaime, S. (2020). Challenges and barriers in virtual teams : a literature review. In *Journal of Applied Sciences* (Vol. 2, Issue 6). Springer International Publishing. https://doi.org/10.1007/s42452-020-2801-5

Nastis, S. A., & Evropi-Sofia, D. (2020). Back to the future : simplifying Sustainable Development Goals based on three pillars of sustainability. *Int. J. Sustainable Agricultural Management and Informatics, 6*(3).

https://doi.org/10.1504/IJSAMI.2020.10034327

Nishant, R., Kennedy, M., Corbett, J., Laval, U., & Prince, P. P. (2020). Artificial intelligence for sustainability : Challenges , opportunities , and a research agenda. *International Journal of Information Management*, *53*(January), 102104. https://doi.org/10.1016/j.ijinfomgt.2020.102104

Nzilani, P. E., Kiilu, W., & Wachira, E. (2019). Examining Adopted Conflict Management Approaches On Organizational Development In Machakos Co-Operative Union. *Journal of Economics and Development Studies*, *1*, 4–16.

Purvis, B. (2019). Three pillars of sustainability : in search of conceptual origins. *Sustainability Science*, *14*(3), 681–695. https://doi.org/10.1007/s11625-018-0627-5

Remigius, A. C. (2020). Superpower Rivalry and the Challenge of Conflict Resolution in Syria. *Journal of School of Arts and Social Sciences JOSASS*, *8*(1).

Xiao, F., Cao, Z., Jolfaei, A., & Member, S. (2020). *A Novel Conflict Measurement in Decision Making and Its Application in Fault Diagnosis*. *29*(1), 1–13. https://doi.org/10.1109/TFUZZ.2020.3002431

Zhong, X., Xu, X., Chen, X., & Goh, M. (2020). Large group decision-making incorporating decision risk and risk attitude: A statistical approach. *Information Sciences*, *2*(13). https://doi.org/10.1016/j.ins.2020.04.003

Zuwarimwe, J., & Chipaike, R. (2020). Planning in Fragile and Conflict Situations : The Case of Somalia Wonder Mafuta. *Journal of Asian and African Studies*, *00*(0). https://doi.org/10.1177/0021909620928104

AUTHOR'S BIOGRAPHY

Humphrey Mwandawiro Mwambeo is a practitioner in conservation management as well as scholar in Project Management at the University of Nairobi. **Lydiah Nyaguthii Wambugu** is an expert in Monitoring and Evaluation and Senior Lecturer in the Department of Education Administration, Policy and Curriculum Studies at the University of Nairobi while **Rapahel O. Nyonje** is a Professor in the Department of Education Administration, Policy and Curriculum Studies at the University of Nairobi. **James T. Kariuki** is a Senior Lecturer in the Department of Management Science and Project Planning at the University of Nairobi.