RESEARCH ARTICLE

ANALYSIS OF MECHANISMS BY VARIOUS PROJECTS TO SUSTAIN AFFORESTATION ACTIVITIES IN RIVER NYANDO BASIN, KENYA

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ARTICLE INFO	ABSTRACT

Mechanisms that afforestation projects in Nyando River Basin had put in place for sustainability of afforestation activities were explored. Data was collected from 150 respondents who were selected from a sample population of 1,928 households using systematic random sampling technique. Data was collected using a standardized questionnaire, Focus Group Discussions (FGDs) and Key Informant Interviews. Mechanisms key to afforestation sustainability including: community contribution, project management committees, capacity-building, monitoring and evaluation and collaboration/partnership were examined. Data was analyzed using quantitative and qualitative techniques. It was concluded that the afforestation projects had failed to put in place essential mechanisms for sustainability of afforestation activities in Nyando River basin.

INTRODUCTION

Although there has been a lot of emphasis in recent times on sustainability of development initiatives, many projects still fail to survive beyond project phase-out, often collapsing as soon as external support is withdrawn (Kerkhof, 1990), Westaneys and Woodley (1998), Mural *et al.* (2003) and Dhubain *et al.* (2008). One of the reasons for this state of affairs is that the projects fail to put in place essential mechanisms for the sustainability of activities during project development. Projects which develop mechanisms for sustainability not only achieve their objectives and goals but also, serve as examples for replication in other areas and/or design of future projects. In an afforestation study in Rwanda for instance, Kerkhof (1990) observes that when afforestation activities in 'model farms project' were found to have little impact at community level, project management changed approach and recommended widespread scaling-up of activities at individual farmers' level so as to enable farmer's ownership of activities. In a related case in Zimbabwe, Kerkhof (1990) also observes that when managers in a rural afforestation project realized that the project was not achieving intended outputs in the first phase because of emphasis on central tree nurseries, they changed approach to individual and communal nurseries and shifted emphasis from

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Eucalyptus spp. tree seedlings production to indigenous and fruit trees production, which people seemed to favour. The author further notes that an erosion control and afforestation project in Gursum, Ethiopia, had failed to take off because of three reasons. Firstly, not only were the tree nurseries categorized into fruit trees, coffee seedlings and forestry seedlings, but were also scattered, making it difficult for people to access seedlings. Secondly, the Ministry of Agriculture staff, rather than encouraging local initiative, provoked resistance by trying to force the villagers to create nurseries. Thirdly, the villagers did not see the reason in setting up their own nurseries when they could get most of the seedlings free of charge from central nurseries. These disappointing results forced project management to explore other options such as providing farmers with the means to grow more valuable seedlings such as coffee and fruit trees and also by letting the nurseries become the responsibility of an interested group in the village rather than the whole community, hence creating a sense of ownership and responsibility. In a study in India, Sikka and Sharda (2002) observe that sustainability of afforestation projects' activities can not be achieved without the formation of local level institutions for the day to day running and management of project affairs. The authors observe that local level institutions could take over activities after withdrawal of the project. Similarly, Mural *et al.* (2003) observe that for a project to be sustainable, there is need to instill a sense of effective leadership in all levels i.e. statutory institutional support and

tenurial rights. On their part, Dhubain *et al.* (2008) underscore the importance of stakeholder participation in afforestation activities. They oberve that when stakeholders are involved in social forestry projects, the activities not only become successful but also become sustainable in the long run because stakeholders are able to share experiences over failures and successes. Sowers *et al.* (1994) also recognize the important role of local institutions in project management and the need for facilitating the formation and institutionalization of these institutions; their argument being that the local institutions play a big role in the post-project period in terms of resource management and leadership.

In a study in India, Waafas and Philleo (1992) observe that training and skill-building aspects are key factors in the sustainability of projects. Thus, well trained beneficiaries are not only able to manage activities well but are also able to quickly to note when they are going off course in project implementation. Waafas and Philleo (1992) observe that projects which incorporate income-generating components enhance chances of sustainability. When people know that they are likely to benefit from a venture, they would ensure that it does not collapse. Kerkhof (1990) observes that lack of consultation and contribution from the local people could lead to failure of afforestation projects. The author observes that an ambitious reforestation project in Northern Senegal had failed in several phases because of lack of consultation and contribution from the local people. This led to change of tact in which project management recommended that tree planting be undertaken after thorough consultattion with the community and when there is significant financial contribution from the local people. Thus, benefiaciary participation in project design and implementation is important if the projects are to make meaningful change to the livelihoods of the people. The objective of this study was to analyze various mechanisms that the projects implementing afforestation activities in River Nyando basin had put in place for the sustainability of afforestation activities. The study was premised on the understanding that most projects, often, fail to survive beyond project phase-out when they do not put in place essential mechanisms for sustainability of project activities.

MATERIAL AND METHODS

Study Area

River Nyando basin is located in Western Kenya. It is situated between Lake Victoria to the West, Tinderet Hills to the East, Nandi escarpment to the North and Mau escarpment to the South. The basin is centered on the equator at 35^010E. Altitude varies from about 1000m above mean sea level (amsl) at Lake Victoria to over 2000m amsl in the uphill regions (Fig.1). The basin extends over an area of $3,600km^2$ and supports an estimated population of 800,000 people (Noordin *et al.,* 2000).

Sample and sampling procedure

The study population consisted of 1,928 households from which the researcher selected a sample of 193 respondents using the 10% procedure (Gay, 1981). However, the researcher interviewed 150 respondents instead of 193 because

some of the respondents resided in the urban areas and were not fully engaged in farming activities and hence would not give valuable data. The researcher used systematic random sampling technique to select the respondents. Thus, one household was randomly selected from among the first five households through the 'lottery technique' (Bless and Higson-Smith, 1995). The next and subsequent households were selected based on the interval established.

Data collection and analysis

Data was collected using a standardized questionnaire, key informant interviews and focus group discussions. The questionnaire contained structured and unstructured questions. Structured questions were accompanied by a list of all possible alternatives from which the respondents were able to select the answer that best described the situation. Where it was impossible to exhaust all categories, the study included a category 'other specify' to take care of those responses. In unstructured questions, the respondents were given the freedom of responses. The researcher used interview guides to collect data from 14, purposively, selected key informants. The researcher also conducted two focus group discussions with 30, purposively, selected community members using the following participatory rural appraisal (PRA) tools: Problem analysis, resource use and control and stakeholder analysis. Data collected through the PRA tools were used for triangulation with data collected using the standardized questionnaire. Data was analyzed using scorecard adopted from (Nampila, 2005) (Table 1). Various mechanisms essential for sustainability of project activities were scored on a scale of 1% - 100%. The mechanisms included; project ownership, community control over project activities, capacity-building of beneficiaries, participation in monitoring and evaluation, convening of stakeholder forums and level of collaboration between the projects. Other variables which are also essential for project sustainability such as presence of project management committees, monitoring and evaluation and level of collaboration between different stakeholders were also considered.

RESULTS

During the study, the respondents were requested to indicate their responses to a number of key questions essential for project sustainability. When the respondents were asked whether the projects supported the community, 87.3% of the respondents answered yes. And when they were asked whether the community also supported the projects, 77.3% of the respondents said yes and even reported that they provided labor for project activities such as tree planting and nursery development. However, when the respondents were asked to indicate what level of control they had over project decisions, 77.3% indicated that they had very little control, with 23.3% indicating that they had virtually no control over project decisions. Regarding capacity building, 95.3% of the respondents indicated that the projects had trained them. However, majority, 64.7%, of the respondents indicated that despite being trained, the projects had put emphasis on tree care and management and nursery development. Training on leadership skills and group dynamics was not well addressed. Thus, only 2.7% of the respondents indicated that the projects had carried out trainings on leadership skills and group

Figure 1: Map of Western Kenya showing location of River Nyando Basin

dynamics. When the respondents were asked to indicate the extent to which the projects had involved members of the local communities in monitoring and evaluation, 52% of the respondents said that they had never been involved in monitoring and evaluation of project activities, nor were they involved in the development of monitoring and evaluation tools. When they were asked to indicate whether the projects held stakeholder forums, 51.3% of the respondents reported that the projects held stakeholder forums. However, despite holding stakeholder forums, a good number of respondents, 40.7%, noted that the level of collaboration and partnership between different afforestation stakeholders was low (Table 1).

Table 1: Scorecard for mechanisms essential for sustainability of afforestation activities

No	Mechanism for Sustainability	Score
1	Very high mechanisms for sustainability	80% - 100%
2	High mechanisms for sustainability	65% - 79%
3	Average mechanisms for sustainability	50% - 64%
4	Low mechanisms for sustainability	21% - 49%
5	Very low mechanisms for sustainability	10% - 20%
6	Non-existent mechanisms for sustainability	1% - 9%

Adopted from Nampila (2005)

The respondents were also asked to indicate whether the projects had facilitated the formation of project management committees at the local level. Majority, 85.3%, of the respondents reported that the projects had established local level project management committees. However, only a small number of respondents, 27.3%, indicated that the community had been consulted before establishing the committees.

Table 2: Respondents' perception about mechanisms for sustainability of afforestation activities

No	Mechanism for Sustainability Attribute	Community's response	
		Yes	No
1	Project support to the community	98.3	1.7
	Community contribution to project	77.3	22.7
2	Community's level of control over project activities	22.7	77.3
3	Capacity-building on leadership skills	2.7	97.3
4	Community participation in monitoring and evaluation	2	98
5	Holding of stakeholder forums	48.7	51.3
6	Level of collaboration between stakeholders	26	74

Source: Field Data

And when they were asked to indicate how committee elections were held, 41.3% of the respondents reported that the elections were not held regularly, with only 36% of the respondents indicating that the committee elections were held annually. Besides, only 32.7% of the respondents felt that committee elections were fairly conducted. In an overall investigation to find out whether the afforestation projects had put in place essential mechanisms for sustainability of afforestation activities, the researcher asked the respondents what they thought would happen if the projects, suddenly, pulled out of the focal areas. Majority, 54%, of the respondents indicated that if the projects, suddenly, pulled out of the areas of operation, afforestation activities would decline (Fig.2). The major reason given was that the community members had not acquired enough skills to establish tree nurseries on their own, especially, for exotic tree species. The

other reason was that the community members would not access seeds and seedlings for planting from the projects.
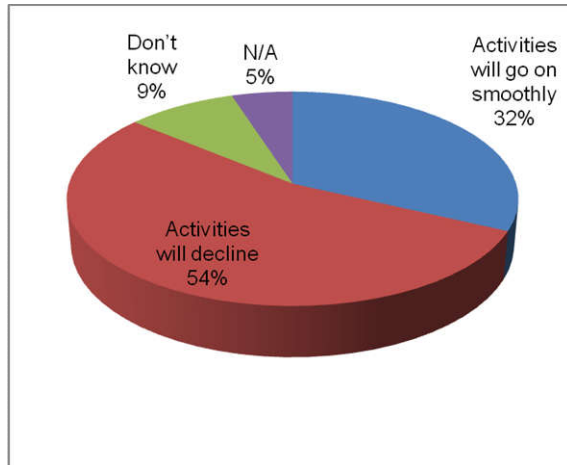

Fig. 2: Respondents' opinion on what would happen if the projects pulled out of their

DISCUSSION

Local Communities' Contribution to Project Implementation

Community contribution is assign of commitment by the beneficiaries that the idea has been accepted and they are ready to own and sustain it. Majority of the respondents indicated that they made contributions to the running of the projects, mainly labor. But it has also been shown that the projects supported the community and that nature of support from the projects to the community was even higher. This, probably, means that the community was exchanging labor for project support; meaning that if the projects stopped giving support, the community was likely to stop participating in project activities, hence putting sustainability of project activities at stake. Dependence of the community on the projects is not conducive to sustainability.

Project Management Committees

Democratically constituted and institutionalized management systems based at the community level are more likely to enhance long-term sustainability of project activities because such institutions are, usually, expected to provide for a for discussion and sharing of views on project implementation and management hence, providing the necessary information for project adjustments. Presence of local level management committees is conducive for sustainability of project activities because it creates a sense of empowerment and ownership on the part of the beneficiaries. Results have indicated that the projects had established project management committees. However, only a small number of respondents indicated that the community had been consulted before establishing the committees with a good number of respondents reporting that committee elections were not held regularly. Besides, only a small number of respondents felt that committee elections were fairly conducted. Thus, the high number of respondents indicating that the elections were not held regularly means that the election process in the projects was inconsistent, irregular and undemocratic. Focus Group Discussions (FGDs) indicated

that there was no clearly defined structure on elections. Some committee officials were elected unopposed with due influence/backing from project management. In such situation, conflicts are bound to arise, implementation of activities slowed down and apathy created. This is a threat to sustainability of project activities because progressive deliberations cannot be reached in an undemocratic electoral environment. Usually, an election process that is irregular is prone to manipulation, thereby, undermining democracy, which is necessary for community confidence and goodwill and for effective systems sustainability.

Also by respondents indicating that there was no clear information on who calls elections means that there were no properly constituted institutions in the projects for overseeing the electoral process. In such situation, influential persons in the community are bound to impose themselves as leaders and deny the voiceless a chance to express their concerns and aspirations, which is a further threat to project sustainability. It also means that the whole process of conducting committee elections was poor and uncoordinated or that there were so many committees with different agenda that the people were confused to differentiate between them and/or clearly demarcate their roles. This is a threat to project sustainability because an unfair method of conducting elections is likely to loose peoples' confidence in project affairs and is also likely to lead to non-achievement of project goals hence, the ultimate blow to sustainable afforestation development. When popularly elected and, fairly, constituted committees are involved in every stage of project management, the project is likely to encounter few activity implementation challenges during its lifespan. But where community has no confidence in the potential of such committees, implementation of project activities is slowed down, posing a threat to project sustainability. Committees with clearly defined roles and with systematic structures of operation have higher chances of promoting project sustainability than committees that are induced into action by emergency, coercion and/or favoritism.

Capacity-Building of Community Members

Concerning capacity building, the basic interest of the study was to evaluate the role of the projects in enhancing capacity amongst the local communities to take charge of afforestation development beyond project phase-out. There was need to investigate the extent to which the projects had contributed to local communities' acquisition of knowledge and, therefore, empowerment of the beneficiaries. Capacity building is also one of the building blocks of sustainable development. When people are equipped with skills they, are not only better informed about their environment but are also, empowered to contribute positively to development initiatives. The assumption here is that learning creates room for inquisitiveness, tolerance and creativity. Local capacity building is supposed to promote self-reliance, empowerment and ownership of development initiatives. Ultimately, it was the view of this study that capacity building of local communities by the afforestation projects' ought to lead to sustainable afforestation development as a symbol of genuine empowerment. But to what extent had the afforestation projects build the capacity of the local community members to realize this goal? The results indicated that majority of the respondents had been trained by the projects. However, the

training was skewed to two aspects (tree planting and management and tree nurseries establishment). Training on leadership skills and group dynamics scored quite dismally across all the projects yet this is the core of any community based sustainable development initiative.

Participatory Monitoring and Evaluation

Participatory monitoring and evaluation is one of the indicators of project sustainability because both project management and beneficiaries are assumed to be transparent and accountable. Close, regular and participatory monitoring, not only allows project teams to adapt to project strategies but also, provides directions for project management to make decisions regarding human, financial and material resources hence, building project sustainability. However, the results have indicated that majority of the respondents were not involved in monitoring and evaluation; meaning that there were no clear feedback mechanisms between the projects and the beneficiaries.

Collaboration and Partnership

Collaboration between agencies, normally, helps stakeholders to spell out clearly the role of each partner so as to avoid duplication of effort and misallocation of resources. This also ensures continuity of planned activities because if one partner pulls out, the others are able to continue. However, by majority of respondents indicating that the projects had poor collaboration and that they never held stakeholder meetings means that the projects, despite working in the same river basin were, probably, duplicating efforts and resources. Failure to hold forum meetings implies that the projects were not able to share skills and new technologies and/or exchange views and experiences between them regarding project implementation through consultations. Overall, by majority of the respondents indicating that if the projects, suddenly, pulled out of the areas of operation, afforestation activities would decline implies that the projects had not, adequately, prepared the community members for sustainability of project activities and/or that the community members were still, largely, dependent on the projects for inputs such as seeds and seedlings and even farm tools. The results show that the respondents depended on the projects for materials (including seeds and small farm implements). Such dependency is not good for sustainability because it means that once the project phases out, the community would not sustain project activities. What is needed are long-lasting mechanisms that would ensure sustainability of activities e.g. cost-sharing ventures on tree nursery establishment as one way of generating income to the households.

CONCLUSION

It was also observed that the projects had not put in place essential mechanisms for the sustainability of afforestation activities. Issue like capacity building and group dynamics which are essential mechanisms for sustainability were poorly addressed.

It was therefore concluded that the afforestation projects had failed to put in place essential mechanisms for sustainability of afforestation activities in Nyando River basin.

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