COMMUNITY PARTICIPATION IN LAND CONSERVATION IN TANZANIA: A CASE OF HIFADHI ARDHI DODOMA (HADO) IN MVUMI MAKULU VILLAGE IN CHAMWINO DISTRICT

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Abstract

This paper is a result of the study which was conducted in Mvumi Makulu village, one of the villages of HADO programme. The main objective of the study was to assess the practice of community participation in land conservation interventions. A sample size of 98 households was used in this study. Descriptive statistical tools were used to analyse data by using SPSS computer software. The study observed that most community members were not involved adequately in land conservation interventions carried out by HADO. Most households indicated to have been informed about the interventions through the village meetings and workshop organized by HADO without being involved in the decision making process. This situation resulted in poor performance of the interventions and therefore the non-attainment of the objectives of the programme. The study concludes that HADO should revisit its approach of introducing interventions by making sure that community participation is ingrained in all stages of the intervention activities for better results.

Key words: *Land degradation, Soil erosion, Land conservation, Community participation*

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1.0 Introduction

Across sub-Saharan Africa, natural resources remain central to rural people's livelihoods (Roe et al, 2009). Land is an important component of natural resources as is the platform of all human activities and indeed of all the other resources including forests, fisheries, wildlife, among others. As such whatever is done in any sector of the economy has an impact on land (URT, 1998).

Tanzania land surface is about 888,200 Km^2 which is categorized under three groups. First category is reserve land, which is land under such uses as wildlife, forests, and national parks. The second one is village land, which include all land inside the boundaries of villages; while the third category is the general land, which is the land under the management of the Commission of Lands (URT, 2008a).

Currently, Tanzania is facing an ever increasing pressure on land resources associated by several land use development factors including first, development and expansion of urban areas which necessitates creation of a framework for access to land and its subsequent use; second, concerns by investors and financial institutions over the need to have land as collateral; third, high demand for grazing land which increases conflicts between crop farmers and livestock keepers; fourth, development of land market which creates fears of land grabbing by rich people at the expense of the poor and the likely subsequent conflicts; and lastly, women concerns about skewed land ownership in favor of men (URT, 2008a).

These developments have resulted in accelerated land degradation due to unsustainable agricultural, uncontrolled felling of trees, frequent and uncontrolled burning of forests, unsustainable mining activities, overstocking, insecure land tenure and limited community participation in environmental conservation activities (URT, 2008a). Other contributing factors include rapid population growth, insufficient alternative sources of energy and construction materials resulting in excessive tree deforestation (URT, 2006).

In recognition of these trends the government has put in place a number of policies, legislations, programmes and strategies aiming at addressing the land degradation problem. According to URT(2008a), most of these policies and instruments emphasize the issue of participation of

stakeholders in their undertakings. Some of the national policies and Acts include the National Land Policy (1995), National Environmental Policy(1997), Land Act(1999) and Environmental Management Act(2004). Others include Forest Policy(1998), Human Settlement Development Policy(2000), Forest Act (2002) and Urban Planning Act (2007).

Some of the programmes initiated in Tanzania to address the problem of land degradation include *Hifadhi Ardhi Dodoma* (HADO) (i.e. Dodoma Soil Conservation Programme) in Dodoma region; *Hifadhi Ardhi Shinyanga* (HASHI) (i.e. Shinyanga Soil Conservation Programme) in Shinyanga region; Land Management Programme (LAMP) in Babati, Simanjiro and Singida Rural districts; Soil Conservation and Agroforestry Programme (SCAPA) in Arusha region; and *Hifadhi Maliasili Iringa* (HIMA) (i.e. Natural Resource Conservation Programme) in Iringa region (Malimbwi et al, 2008; URT, 2008a).

HADO programme was launched in 1973 under the Ministry of Natural Resources and Tourism. The main objective of the programme was to conserve land and water sources, and reclaiming the already degraded areas. The programme's great emphasis was on community participation as an essential strategy towards successful implementation and realization of its objective (Mbegu and Mlenge, 1984).

Despite all these initiatives by the government, the problem of land degradation is persisting even in the programme areas. According to HADO's annual report of 2008, a number of the programme collaborative land conservation projects including biogas technology through '*Miradi ya Gesi ya Samadi Dodoma"* (MIGESADO), meaning "Dodoma Biogas Projects", community based and individual forestry, and indoor livestock keeping (zero grazing) are not performing well. Bush fires are extremely out breaking and soil erosion is still an alarming problem in Dodoma region (URT, 2008b).

In Tanzania, all relevant policies and legislations advocate for community participation as a viable approach for successful land and environment conservation projects and activities (URT, 2008a). According to Roe et al (2009) and World Bank (2002) communities can become effective institutions for sustainable resource management only if they are granted genuine

proprietorship, that is, the right to use resources, determine the modes of usage, benefit fully from their use, determine the distribution of such benefits and determine rules of access. They emphasize that any policy which excludes these components will frustrate the goal of making communities effective institutions for resource management. From this end, the problem this study was set to investigate was the extent to which HADO activities involved community members and its implications to the performance of the programme activities in the study area.

2.0 Methodology

2.1 Description of the Study Area

The study was carried in Mvumi Makulu village in Chamwino district in Dodoma region(Figure 1). The village is one of the villages in the district in which HADO operates. The district is located between latitude 4^0 and 8^0 South and longitudes 36^0 and 37^0 East. It occupies an area of 7,870 square kilometers.

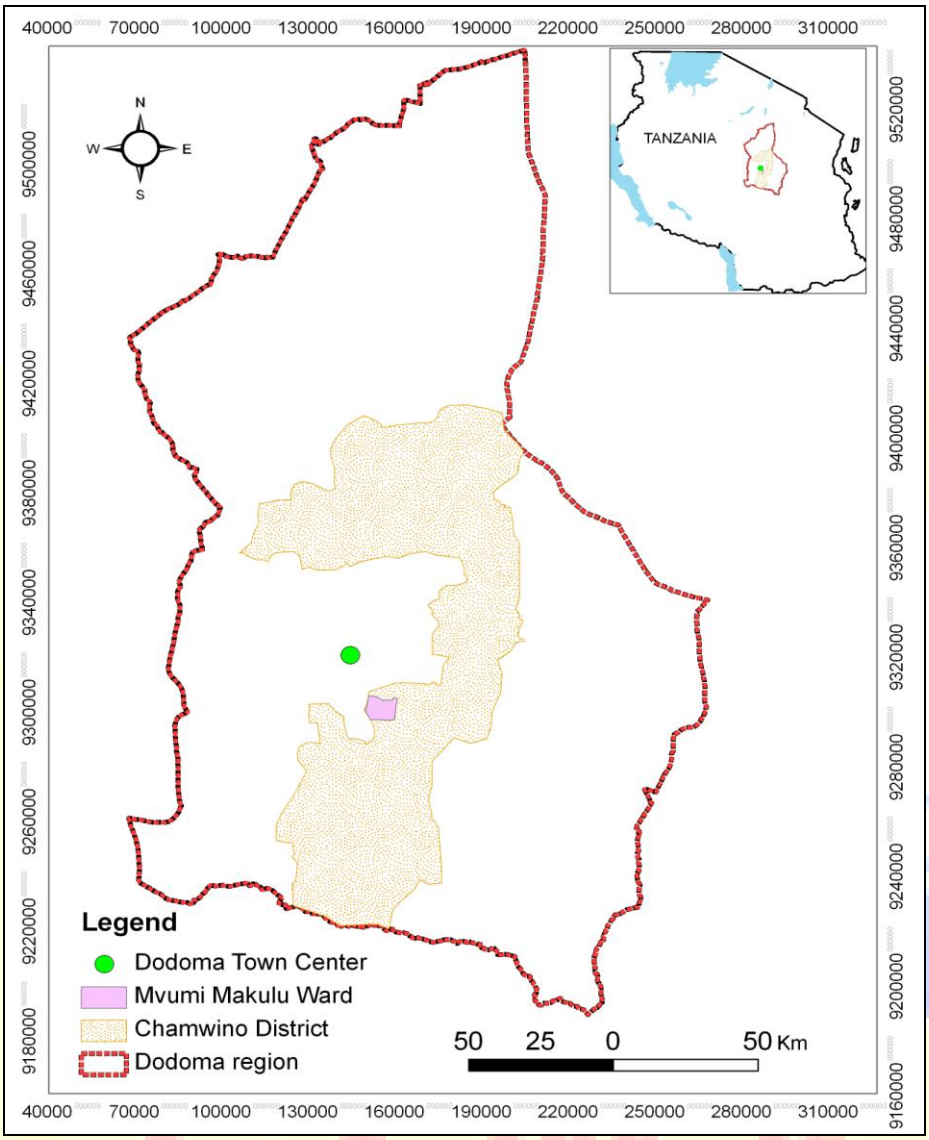

Figure 1:Map to show location of Mvumi Makulu ward in which Mvumi Mkulu village is found.

The district experiences a warm semi-arid climate characterized by equable temperatures and a marked seasonal distribution of rainfall. High isolation levels and drying winds result in excessive evapo-transpiration and scouring of unconsolidated soils. Potential evaporation exceeds rainfall for most of the year, and the district experiences a net water deficit for at least six months (May-November). In general the rainfall is variable and low (of about 614 mm annual average). The District is dominated by rural economy which is based upon subsistence farming and cattle herding. The district is one of the districts facing the problem of severe land degradation due to excessive tree cutting and over-stoking (URT, 2003).

2.2 Data Types, Collection and Analysis

The study involved collection of both primary and secondary data. Primary data including households' participation in decision making and management of HADO activities, and adoption to new soil conservation interventions were collected from the households and key informants by using interviews and observation methods. Secondary data namely level of participation of villagers in HADO activities, characteristics of people involved at each level and reaction of villagers to HADO interventions were collected from HADO progamme officials. using a checklist. Systematic random sampling method was used to obtain a sample of 98 households for interviews. Descriptive statistics were used to analyse data by using Statistical Package for Social Sciences (SPSS) computer programme.

3.0 Results and Discussion

3.1 Community Participation in HADO Activities

It is stated in section 1 of this paper that HADO as a programme has associated projects dealing with energy, livestock control and forest. Activities to reduce land degradation which were included in these programmes involved interventions such as destocking, tree planting, construction of contour ridges and water diversion ditches, and advocacy for agro-forestry practice and use of alternative energy.

3.3.1 Destocking and introduction of zero grazing in the village

Destocking and introduction of zero grazing are one of the activities of HADO in the study village. Overgrazing practice contributes very much to soil erosion and land degradation by exposing the soil not only to the assault of water and wind but also to the heat of direct sunlight. Reduction (or destocking) of stock numbers improves the land vegetation cover which intercepts the rain drops, dissipates the energy of running water and wind, and by imparting roughness to the flow, it reduces its velocity. Due to its sensitive nature, its success requires a high level of community participation (IFAD, 1999; Reid, 2000).

In this study it was observed that community members participated at different levels in the exercise of destocking and introduction of zero grazing in the village carried out by HADO. However, 60.2 percent of respondents indicated that they were not involved in any stage of the decision to destock and introduction of zero grazing in the village. They indicated that they were only informed on the benefits and what they will be doing at the village meeting. Table 1 shows the responses on the level of participation of households in meetings, workshops, decision making and involvement in management of interventions on zero grazing.

Table 1: Households Participation Levels to Zero Grazing Intervention

Level of Participation	Frequency (n=98)	Percentage (%)
Informed on the benefits and their roles at the village meeting on the intervention	59	60.2
Participated in the workshop organized by HADO on the implementation procedures of the intervention but not involved in decision making	30	30.6
Involved in the lower level management of the intervention and decision making	9	9.2

Table 1 reveals that only 30.6 percent of respondents were involved by attending at the workshop organized by HADO where they were informed on the implementation procedures and asked to raise their comments and suggestions without real being involved in the decision making process. Only 9.2 percent of respondents indicated that they participated in the lower level management and decision making. This shows that most of the community members were not involved in the intervention formulation, management and decision making process. However, at the end all villagers are expected to play active roles in implementing the interventions which are not known to them as they did not formulate them.

Due to low levels of community participation no wonder that the intervention of destocking and introduction of zero grazing received low adoption from community members in the village. In

depth discussion with livestock keepers claimed that they were not involved to air their views before taking such decision of changing from free range to zero grazing practice. They remarked that the stocks were many, but nothing was wrong because they used to shift away during the pasture shortage (in dry season) and come back during the plenty of animal feeds (in rainy season). They were also of the opinion that zero grazing is very expensive and need keen management including collection of animal feeds and building of advanced animal sheds, and above all the animals are prone to diseases. Moreover, they claimed that the areas proposed for shifting their stocks were too far and muddy in such a way that in rainy seasons, animals fail to move in mud and die. Forceful and unacceptable destocking has brought bitterness and life misery to livestock owners. One old man Mr Jeremia Sausi, complained that *"These HADO people are very bad, they have made me poor, I have lost more than 450 herds of my cattle, I don't want even to hear about them".*

Failure of HADO to make all people participate and own the interventions made community members to develop bad attitude towards land degradation interventions, hatred and even revenge and sabotage. A discussion with key informants revealed that as a result of people's negative attitude towards HADO activities almost the whole HADO reserved forest area is grazed and even put on fire at night by aggrieved villagers with no apparent reasons. This situation has led to HADO programme not to achieve its objective in the village.

The findings concur with the observation by (Zadehe et al, 2010) that normally, people are reluctant to participate in community activity when they do not have enough information to act responsibly. Issues such as community forestry management or the establishment of indoor animal farming require knowledge that many people do not have. They simply do not know how to act. Thus, they will avoid participation until they have sufficient information, and if forced, they will usually act negatively. Community members will voluntarily participate in a community activity when they have better knowledge of an issue or situation.

3.3.2 Tree seedlings raising and planting

Forest resources are of paramount importance in Dodoma region as about 98.6 percent of households use wood fuel as a major source of energy for cooking (NBS, 2006). However, a demand for biomass energy including fuel wood and charcoal is the main factor leading to

excessive deforestation in the country (World Bank, 2009; URT, 2008a). Based on this situation, one of the activities of HADO in the study village is to promote forestry for community development, basically for land conservation and making residents self-sufficient in wood requirements, especially fuel wood.

Households' responses by frequency and percentage regarding their level of participation in tree planting intervention are shown in figure 2.

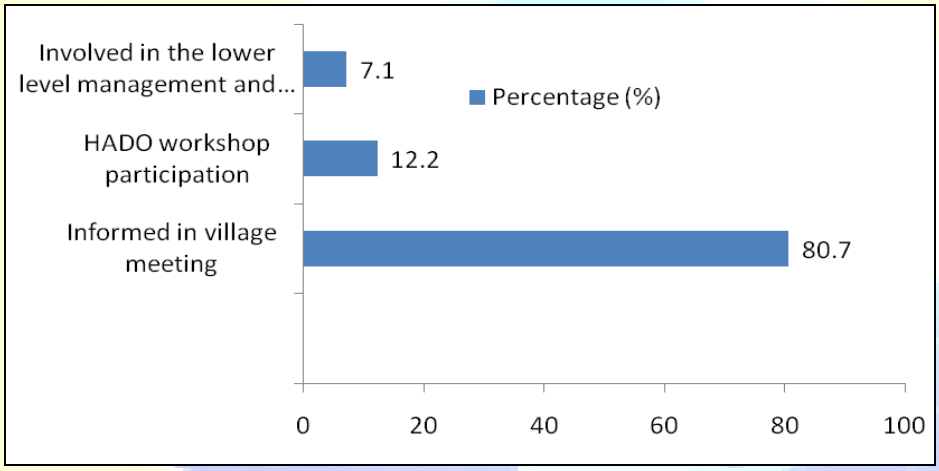

Figure 1: Community Participation Levels in Tree Planting Intervention

Study results shown in figure 2 indicate that about 80.7 percent of respondents participated in the tree planting activity as recipients. They pointed out that they did not participate in any kind of decision to introduce the intervention in their village. They only received information about the project at the village meeting where they were asked by village leaders to comply as the intervention was of great importance in environmental conservation and development of the village. About 12.2 percent of respondents reported to have participated in the workshop organized by HADO on the intervention where they were informed on the intervention implementation procedures where they raised their concerns. Only 7.1 percent which were mainly households of village leaders showed that they were involved in HADO meetings and deciding on the location of HADO conservation area where no any resident is allowed to graze or cut fire wood. They were also engaged in lower level management of the intervention and decision making.

In depth discussion with key informants and respondents revealed that the activity of tree planting had a notable success in early years of HADO operations when it was being fully funded by external donor, that is, Swedish International Development Agency (SIDA). They remarked that although they were not involved in planning and decision making, during those days HADO used to provide tree seedlings free of charge to households for transplanting in their farms. However, after the donor pulled out, residents are required to raise seedlings on their own and transport them in their individual farm land. Lack of requisite knowledge on tree nursery and care under persistent shortage of water in the typical semi-arid climate among residents has resulted in reduced success of the exercise of tree planting.

3.3.3 Construction of Contour Ridges on Sloping Land Terrain

Land degradation in Tanzania is mostly the result of unsustainable farming practices including cultivation on steep slopes which increases soil rainwater run-off and soil erosion (URT, 2008a, URT, 2005). Construction of contour bunds (ridges) with cross walls (ties) across the sloping land terrains is one of the activities of HADO in the study village. The bunds lie on the sloping terrain with the intention of holding water so that the water can have enough time to infiltrate (URT, 2008b; Mbegu and Mlenge, 1984). Crop farmers in the village were also required to use contour farming as a soil conserving method which enhances land productivity (URT, 2008b).

Table 2 has detailed information about responses of households about community participation level in land conservation through contour farming. The study observed that most of the community members (about 78.5 percent of respondents) were not involved in the decision of introducing the activity of constructing contour ridges and water diversion ditches. The rest were involved in HADO workshops(15.3 percent) to discuss and decide on where ridges and ditches should be located and few households (6.2 percent) were involved in lower level management and decision making on the implementation of the intervention.

Table 2: Community Participation Levels in Land Conservation Through Contour Farming Intervention

Level of Participation	Frequency (n=98)	Percentage (%)
Informed on the benefits and their roles at the village meeting on the intervention	77	**78.5**
Participated in the workshop organized by HADO on the implementation procedures of the intervention but not involved in decision making	15	**15.3**
Involved in the lower level management of the intervention and decision making	6	**6.2**

The study found that there were low adoption levels of this intervention among the community members. It was observed that in the 2008/09 farming season out of 98 sampled households, contour farming was practiced by about 38.3 percent. The remaining respondents (61.7 percent) were using plain land crop farming method even on the sloping terrain thereby allowing soil erosion to take place.

3.3.4 Promotion of Energy Saving and Efficiency Technologies

In Tanzania rural areas it is most likely that wood-fuel will continue to be the major source of energy at least in the foreseeable future. In this case, the viable measure towards addressing the acute energy problem and arrest the land degradation problem is introduction of more efficient cooking stoves and affordable alternative energy for better utilization of the available resources URT (2008a). Improved cooking stoves are basically traditional stoves upon which modifications have been made to give higher thermal efficiency. The improved stoves have lower emission of greenhouse gases in the atmosphere and help conserve the forest resources (Islam et al, 2011).

In Mvumi Makulu village, HADO is collaborating with other environmental-based institutions to promote the use of improved cooking stoves and biogas in the village. These NGOs include *Miradi ya Gesi ya Samadi Dodoma* (MIGESADO) which deals with promotion of use of biogas in Dodoma region, Environmental Network (DONET) and Livestock Training Institute (LITI).

The details of levels of participation in energy saving and efficient technologies are shown in figure 3. The study found that participation of community members in the interventions was minimal as about 59.2 percent of respondents indicated to have participated as mere recipients without prior involvement in formulating, planning and deciding on the modality of implementing the interventions. It also observed that about 24.5 percent of respondents were involved only by attending in at the workshop organized by HADO officials where they were informed about the interventions and asked to raise comments on the intervention. About 16.3 percent indicated to have been involved in lower management of the intervention and decision making on the intervention.

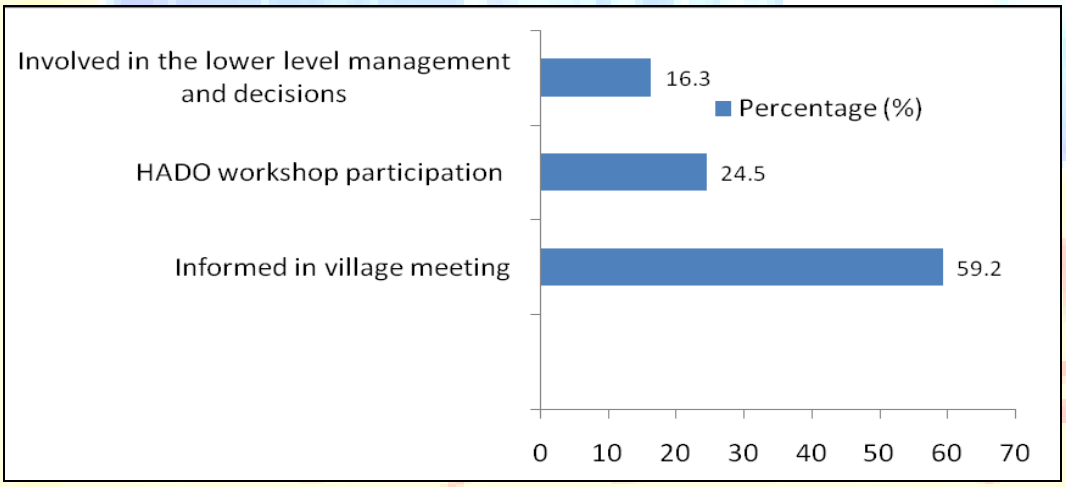

Figure 3: Community Participation Levels in Energy Efficiency Technologies Intervention

The study observed that due to low levels of involvement of community members in all stages of the interventions very few households indicated to have adopted the use of energy saving stoves as well biogas as shown in figure 4.

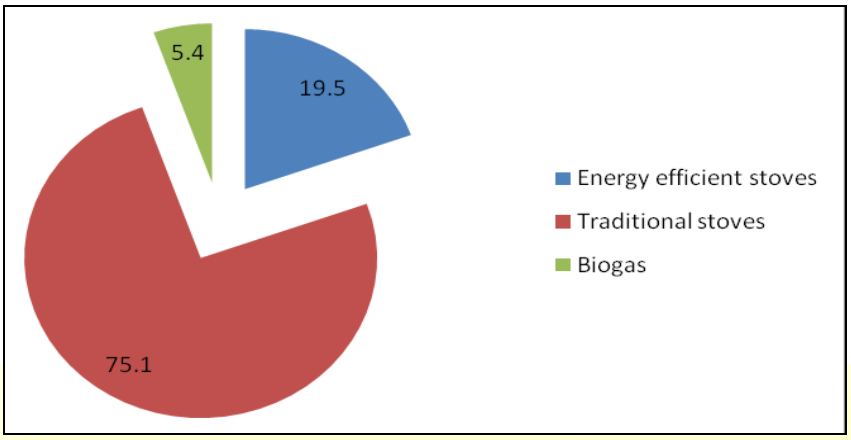

Figure 4: Percentage of households adopted the use of energy saving stoves and biogas

It is shown in figure 4 that 19.5 percent of respondents indicated that they have turned into using energy efficient stoves while respondents using biogas for cooking are only 5.4 percent. The majority of respondents (75.1 percent) indicated that they are still using traditional cooking stoves. (Traditional stoves use three stones called *mafiga* to hold a pot while cooking). Traditional cooking stove is very inefficient in using firewood and charcoal.

The above observation more or less concurs with that of UNECA (2006) that in the southern Africa region experience has shown that lack of community participation derails the good intentions of development projects. The promotion of biogas digesters and to some extent the improved cooking stove has not been as successful as expected due to the lack of the involvement of women (the major users) in design and implementation.

General observation on table 1 and 2 and figure 2,3,4 is that the level of participation of Mahoma Makulu villagers was high at village meetings where villagers were only informed on the benefits and their roles on the intervention and least in lower management level of interventions decision making. Normally at village level every villager can attend the meeting where no technical issues are discussed, but workshops and decision making meeting in Tanzania villages involves few people and has lots of costs implications and that is why few were involved in workshops. Involving few villagers in HADO workshops and decision making forum is not right for the matters/interventions which at last are to be implemented by all villagers.

4.0 Conclusion and Recommendations

HADO land conservation interventions towards reducing the problem of land degradation are very important in the study area. The interventions include destocking, tree planting, construction of contour bands and introduction of efficient energy technologies including improved cooking stoves and biogas. Despite their importance and relevance, the study observed that inadequate community participation in all stages of the interventions, that is, formulation, planning and implementation, has crippled the success of HADO programme. A larger part of community members indicated not to adopt the interventions as expected by the programme. The study recommends that HADO should revisit its approach of introducing interventions in the study area. It should make sure that community participation is ingrained in all stages of the intervention activities. During the intervention formulation, knowledge, experience and practices of local people should be examined in order to build effective models for the subsequent activities. HADO should develop and conduct training to prospective beneficiaries which takes into account customary practices of communities that need to be changed throughout the intervention process in order to enhance their participation and therefore attaining the objectives of the programme.

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