

THE OPEN UNIVERSITY OF TANZANIA
AND
SOUTHERN NEW HAMPSHIRE UNIVERSITY

**MASTER OF SCIENCE IN COMMUNITY
ECONOMIC DEVELOPMENT (2007)**

**AN ASSESSMENT OF THE CONTRIBUTION OF COMMUNITY BASED
ORGANIZATIONS TOWARDS SUSTAINABLE SOLID WASTE
MANAGEMENT : THE CASE OF MAZINGIRA WOMEN GROUP IN
DODOMA MUNICIPALITY**

MADENGE, REHEMA SEIF

**A PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT OF
REQUIREMENT FOR THE MASTER OF SCIENCE IN COMMUNITY
ECONOMIC DEVELOPMENT IN SOUTHERN NEW HAMPSHIRE
UNIVERSITY AT THE OPEN UNIVERSITY OF TANZANIA, 2007**

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SUPERVISOR'S CERTIFICATION

This is to certify that I have gone through this project report titled: **An assessment of the contribution of Community Based Organizations towards sustainable solid waste management : The case of mazingira women group in Dodoma Municipality** and found it to be acceptable in partial fulfillment of the requirements for the Master of Science in Community Economic Development of The Southern New Hampshire University at The Open University of Tanzania (2007).

Name: Dr. James L.A. Kisoza

Signature 

Date 23rd October, 2007

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DECLARATION BY THE CANDIDATE

I **Madenge, Rehema Seif**, hereby declare to the senate of The Open University of Tanzania and Southern New Hampshire University that this report is my original work and has not been submitted for a similar degree award in any other University.

Name: Madenge, Rehema Seif

Signature: 

Date: 22/10/2007

DEDICATION

This work is dedicated to my late husband Ibrahim Joseph Sangalali.

ACKNOWLEDGEMENT

I would like to thank my family especially Mum and Dad who encouraged me throughout the course of study. To them I say thank you so much. My children Salome and Seif who sat with me when writing. To them I say thank you for understanding and accepting my long absence.

I would also like to give special thanks to my supervisor Dr. James L.A. Kisoza for his tireless efforts in guiding me. I say, without you this work would not be possible.

Lastly, I would like to thank my sister and special friend Mrs. Salama M. Mpinzire who has been a solid rock on which I have been leaning on, thank you sweetheart.

ABSTRACT

This project is concerned with capacity building for the *Mazingira* Women Group by conducting sensitization meetings to the Majengo Ward community so that they pay the garbage collection fees as required, but also assist the group in acquiring skills that will enable them make alternative use of the garbage they collect. The participants included 20 members of the *Mazingira* Women group who reside in Majengo Ward, Dodoma Municipal Council. By capacitating this group, the members will be able to raise their income through the fee that they collect and also from the compost manure that they will be producing.

The sensitization was done through organized community meetings in the respective *Mitaa* where community members met with the *Mitaa* and Ward leaders, the later being facilitators. The training was done in late November, 2006 to all the 20 group members to teach them how to make compost manure. This was done under the supervision of the ward community development officer.

EXECUTIVE SUMMARY

One of the major environmental problems in Municipalities is the management of solid waste. The rising urban population following the rapid urbanization and unimpressive performance of the public sector in the provision of infrastructure has led many countries to have complicated problems in solid waste management. Following this, like many other Municipalities, Dodoma Municipal Council has contracted some CBOs to collect and dispose solid waste that is being generated daily in some designated areas. Among these is the *Mazingira* women group which collects solid waste in Majengo Ward. The group is comprised of 20 members of whom 13 are women and 7 are men and is based at Majengo Ward in Dodoma Municipality, it started in 1999, on a self help basis. The Ward has 4 *Mitaa*, a population of 6,901 of which 3,308 are males and 3,598 are females, 660 households and an average household size of 3.9, only 235 households pay for garbage collection, Collection fee is 200/- per house per week. Majengo has a diverse type of population – low income earners (residents), traders who own shops, milling machines, and food vendors in the market.

In Dodoma Municipality, daily generation of solid waste stands at 350 Tons. While Majengo alone generates 180 tons. Only 235 households pay for garbage collection which amounts to 47,000/= per week. Actual expenditure is 16,000/= per day which gives us 112,000/= per week. So the project operates under a deficit budget. Currently, only a quarter of the daily generated garbage is being collected and disposed of appropriately. The desired situation is to have all the daily generated garbage collected and disposed of in the appropriate designated area.

A study was carried to find out the performance of these CBO's. From the study it was found out that: There is some improvement in the situation of solid waste as compared to when there were no private operators

- There is a direct relationship between private sector participation and sustainability that is where people participate, the project becomes more sustainable.
- There are a number of opportunities that exist for further improvement of solid waste management services. These include community meetings where people are sensitized, alternative use of the garbage for example production of compost manure.

The study concludes that, the involvement of private sector (CBO) contributes positively towards sustainable solid waste management in municipalities. However, these CBOs need to be capacitated in order to effectively render their services.

Full community participation in terms of paying collection fee is a crucial factor in bringing about sustainability in terms of enabling the CBO to meet running costs.

Therefore it is concluded that at community level, deliberate actions should be taken to sensitize the community members so that they can pay garbage collection fee but also see the importance of attending community meetings.

At the CBO level, there is a need for the group members to be trained on how to make compost manure as an alternative use of garbage. The money obtained from the sale of the compost manure, would be used for meeting the running costs of the group as well as improving incomes of group members.

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LIST OF ABBREVIATIONS

1. CBO	Community Based Organization
2. CED	Community Economic Development
3. CNA	Community Needs Assessment
4. CPR	Common Pool Resources
5. CSR	Common Sink Resources
6. DCC	Dar Es Salaam City Council
7. DMC	Dodoma Municipal Council
8. EPM	Environmental Planning Management
9. MEO	<i>Mtaa</i> Executive Officer
10. MHO	Municipal Health Officer
11. MWG	Mazingira Women Group
12. NGO	Non Governmental Organization
13. NIMBY	Not In My Back Yard
14. PPP	Public – Private Partnership
15. RCC	Refuse Collection Charge
16. ROW	Right Of Way
17. SOS	Save Our St. Clair
18. SPSS	Statistical Package for Social Sciences
19. SW	Solid Waste
20. SWM	Solid Waste Management

21. SWOT	Strength Weakness Opportunities and Threat
22. WCDO	Ward Community Development Officer
23. WEO	Ward Executive Officer

CHAPTER 1

COMMUNITY NEEDS ASSESSMENT

The community needs assessment was carried out in October 2006 to determine the capacity of the CBO and the general public to ensure improved solid waste management in Dodoma Municipality.

1.1 Community Profile

This study was conducted in Dodoma Municipal Council (Dodoma Urban district) where one ward, Majengo was selected. Dodoma Municipal Council is among the five councils of Dodoma Region, others include Kongwa, Kondoa, Mpwapwa and Dodoma district councils (two other councils will be established following the establishment of two new districts of Bahi and Chamwino).

Dodoma Municipal Council has an area of about 4211 km² of which 346 km² is arable land, 57.1 km² is residential and industrial area (a major source of garbage generation) and 17.9 km² occupied by natural and planted forest, mountains and non arable land.

According to the 2002 Census, the population of Dodoma Municipal Council stands at 324,347 whereby 174,650 live in urban areas and 147,697 live in the peripheral zone consisting of villages.

Majengo ward is situated at the centre of Dodoma Municipal. It has 4 *Mitaa* which are Fatna, Mausi, Kitenge, and Mnyampara. The Ward has 660 households, average

household size of 3.9; and the population is 6901 out of which 3,308 are male and 3,593 are female.

The main economic activities of the people of Dodoma Municipal Council are subsistence agriculture and livestock keeping comprising of 85%, while the remaining 15% depend on business (including shops, market vending, milling machines, carpentry), small scale business like selling fruits on pushcarts and ice cream on tricycles are also dominant. These activities are especially done in urban areas of the municipality.

Most of the residents of Majengo ward live in rented houses which mean that in one house it is possible to have more than one family. Furthermore, most of the people living in Majengo are low income earners.

Given the fact that in the past the government had been rendering waste collection services free of charge, the Majengo Ward community has been reluctant to pay for the services rendered (collection of garbage). The set waste collection fee is 200/- per house per week. Even those who operate shops and therefore have no excuse of having no money, refuse to pay 500/= giving reasons that they have already paid at the Municipal Council, while in actual fact they are supposed to pay for the service to the service providers. This reluctance to pay is because of habits that have been built within the community. This is a major concern for the sustainability of the waste management project; because the project uses the fees to pay for the cart pusher's allowances. If

people do not pay the fees, then it means the project will not be able to sustain itself in terms of operations and management.

Majengo ward just like any other ward has *Mitaa* chairpersons who are the authority at that particular level. In case of any dispute, the members would go to the *Mtaa* chairperson to lodge their complaints in turn the chairperson would convene a meeting (*“Baraza la Mtaa”*) to discuss and resolve the issue. In case there is information to be disseminated, the *Mtaa* chairperson would call a meeting to disseminate the information. Generally speaking, the relationship between the group and the community is good probably because the members of the group are also members of Majengo community as well. There is a system of information collection whereby, community members bring to the group leadership information concerning the performance of the group in a *Mtaa*.

1.2 Community Needs Assessment

The community needs assessment was carried out in October 2006 to determine the capacity of a CBO and the general public to ensure improved solid waste management in Dodoma Municipality. However, there are a number of issues that have to be taken care of in order for the CBO to effectively render the garbage disposal services. These are:

- Need for back - up from the Municipal leadership to assist them during sensitization meetings,
- Support from the *Mitaa* leadership in convening community meetings,

- Resources for the operation of the project. These could be obtained through selling of recyclable materials like plastics but also by producing and selling of compost manure.

1.2.1 Methodology

Interviews were conducted to members of households to obtain their views on the effectiveness of Mazingira Women Group to collect the solid waste, participation of the community in the solid waste collection and contribution to the cost of solid waste management in terms of payment of prescribed fees, and the role of Municipal Authority in facilitating the Mazingira Women Group. Formal and/or informal discussion was also used to solicit views from Mazingira Women Group leaders, Ward Executive Officer, the Councilor and organized groups on similar topics. During the Community Needs Assessment, an analysis of the strengths, weaknesses, opportunities, and threats was made. The analysis involved the leaders of the MWG, Community members, and leaders (WEO and the Councilor) to determine the potential for improvement in solid waste management under private operators.

1.2.2 Tools used for data collection

Four techniques were used in collecting data during the study. These included interviews, Focus group discussions, questionnaires and observation. The survey was observational in the sense that it intended to gather information on the perceptions of the communities on the effects of having private sector involvement in the management of solid waste.

It also attempted to find out from the communities how solid waste management practices can be improved so as to make it sustainable. This was done through administered questionnaires. The survey involved those who are directly involved in the generation and management of solid waste in the ward; heads of households, commercial traders, leaders and local government officials.

There were three different tools (structured questionnaires, checklist and semi structured questionnaires) that were administered to different groups of respondents. These tools were designed so as to collect information on the level of understanding of the community about solid waste management as well as their relationship with CBOs on one hand and between CBOs and Municipal Council on the other.

1.2.2.1 Structured questionnaire for households

This questionnaire was specifically designed for households both those, which use the services rendered by the CBO and those that do not use the service. The aim was to find out the performance of the CBO basing on the views of the households. The questionnaire also wanted to know household income so as to establish their ability to pay for the service. Prior to administration, the questionnaire was pre – tested to a small sample of 20 respondents from *Kilimani* ward. This was done so as to check the relevance of the questions. This group was not involved in the final data collection.

1.2.2.2 Check list for leaders

This checklist was targeted to government officials (from the Municipal level to *Mtaa* level). The questions were designed to collect information concerning strategies for improving solid waste management practices as well as their views as to the relationship between CBOs and the community in general and also the performance of the CBO.

1.2.2.3 Semi structured questionnaire for the CBO

This questionnaire was designed for the CBO involved in collection of solid waste in the study area. The aim of this questionnaire was to find out about the performance of the group, success and constraints if any; and what assistance do they get from the District Council.

1.2.2.4 Participant observation

Observation was used in collecting data with an objective of supplementing and verifying information gathered by other methods of data collection. Observation was employed while visiting the homes of respondents where the solid waste was collected. The method was useful in observing how the households handled solid waste on one hand, and the difference between households that use this service and those which did not.

1.2.2.5 Internal and External Validity

The survey questionnaires were pre tested in order to establish for their reliability and validity. Given the fact that the aim of this study was to make an assessment of the performance of CBOs in solid waste management on one hand and the effects of

community participation on the other, the results of the survey have to apply to the particular community in terms of proposing ways of improving service provision on the part of the private sector (CBO) and how to make communities participate fully in the management of solid waste. The analysis focused on the CBO (MWG) and the served community since each party had a role to play.

The following results were generated during SWOT analysis

i) Strengths

- The MWG has 20 committed members
- There are 5 push carts, 5 rakes and spades, 20 pairs of gumboots and uniforms available to the CBO members for carrying out solid waste collection work
- The group (CBO) is officially registered
- The CBO can collect 45% of solid waste generated in the study area each day.
- People are contributing towards CBO work

ii) Weaknesses

- Insufficient tools and equipment
- Limited financial resources of the CBO
- Lack of community mobilization skills among MWG leaders.

iii) Opportunities

- Good collaboration with Municipal Council
- Government policy on private sector participation and environmental management

- Willingness of people to contribute to MWG work

iv) Threats

- MWG's dependence on external financial support
- Limited support by government to the group's activities

1.3 Survey

The CNA identified a number of problems which faces the community. A survey was conducted to further establish these problems and find ways of addressing them.

1.3.1 Objective of the survey

The general objective of this study was to assess the contribution made by MWG in solid waste management in a view of recommending some improvements on a CBO service delivery. Specifically the study aimed at:

- i) Establishing the changes that have occurred in the management of solid waste as a result of engaging the private sector as well as factors affecting performance of MWG in delivery of solid waste management services.
- ii) To establish whether there is a relationship between participation and sustainability in the management of solid waste
- iii) To identify existing opportunities that could be used for improving people's participation in the management of solid waste.

- iv) To suggest interventions and implement some measures for improved solid waste management in the area.

1.3.2 Justification of the study

One of the current development agenda in Tanzania is encouragement of private sector to champion development process and the participation of community in all aspects that affect their development. Mazingira Women Group (MWG) has emerged as one of critical initiatives in Dodoma by the community to address one of the environmental problems.

This socio – economic survey aimed at assessment of the effectiveness of Community Based Organizations (CBOs) in solid waste management. That is it aimed at establishing how the involvement of the private sector has contributed to improved management of solid waste. It also aimed at identifying problems and opportunities for community groups to participate in solid waste management.

The group has been working with the community for more than five years now, and there are issues to be learned for future improvement of its own activities as well as other similar organizations. It was envisaged that this study would reveal the successes and failures, and the underlying reasons with the view to come up with better strategies for the future.

1.3.3 Research methodology

1.3.3.1 Survey design and sampling

This section explains the methodology used in the collection of data and information on the situation of solid waste management in the study area. It shows the methods used in data collection and analysis, location of the study area, sample size and sampling methods and the relevant categories of respondents from which such information and data were gathered. Four tools were used in collecting data during the study. They included interviews, focus group discussion, questionnaires and observation.

1.3.3.2 Research design

The research design employed in this study was a cross sectional design in which data were collected at once at a given point in time. This was employed in order to get different views from different people as to how they see and value the contribution of community based organizations that deal with solid waste management. It was believed that this design would assist in collecting enough information from a diverse group of people, for a short period of time and with limited resources. It was envisaged that sufficient data would be obtained to make a reasonable assessment of the contribution of Community Based Organizations towards sustainable solid waste management.

1.3.3.3 Sample size

The target population of this study consisted of respondents from the 4 *Mitaa* of the selected ward of Majengo. Simple random and purposive sampling was used to get 212

respondents from different groups in the study area for the purpose of gathering information related to the objective of the study. Based on the nature of the research problem, the study engaged different respondents from different socio economic activities situated in Majengo ward. These groups in one way or another had contributed to generation of garbage (solid waste) or managing it. These included the community, commercial traders (retail shops, market vendors, restaurants) and at institutional level those concerned with management of solid waste including both the local government and the CBOs.

A sample of 212 respondents was drawn. The distribution was such that, there were 200 heads of households and commercial traders (community members), 4 officials from CBOs, 3 staff of Dodoma Municipal Council, 1 Ward Executive Officer, 4 Mtaa chairpersons. Structured questionnaire were used for household survey, a check list of questions was used for interviews of key informants, and focus group discussions.

Table 1: Sample size and sampling intensity by “*Mitaa*” in the study area

Category of Respondents	Number of respondents					Total
	Majengo	Fatina	Mnyampara	Mausi	Kitenge	
HH heads	-	40	40	40	40	160
Commercial						
Traders	40	-	-	-	-	40
Government Officials:						
MEO	-	1	1	1	1	4
WEO	1	-	-	-	-	1
MHO	2	-	-	-	-	2
WCDO	1	-	-	-	-	1
CBO officials	4	-	-	-	-	4
Total	48	41	41	41	41	212

Source: Own survey data, 2006

Key:

MEO : Mtaa Executive Officers

WCDO: Ward Community Development Officer

MHO : Municipal Health Officer

1.3.3.4 Sampling procedure

Majengo ward was purposively selected for this study due to the fact that it is located in an area where most of the garbage in the Municipality is being generated (the central market, most of the shops, and milling machines). Also the nature of the houses in Majengo Ward are such that one house accommodates more than one family. There are private operators (CBOs) dealing with solid waste management who have varied arrangements with the Municipal Council. The sample households were obtained from this ward. A purposive sampling was also employed to select the following Municipal workers - Ward Community Development Officer, Ward Executive Officer, *Mitaa* Chairpersons, Commercial Traders and members of the CBO (Mazingira Women Group). The Municipal workers including the *Mitaa* chairpersons were selected due to the virtue of their positions in the community.

1.3.3.5 Adequacy of validity for survey's uses

The data collected and analyzed addressed issues that were relevant to the improvement of the Mazingira women group as well as an input to other stakeholders.

To Municipal Council and health staff, the results of the survey provide an input for improving their involvement in solid waste management system in Dodoma Municipality.

To Mazingira Women Group Members, the result of the survey reflects the real situation of solid waste in the area including benefits, successes and weaknesses. Therefore provide an avenue for them to strive for improvement in their service provision.

The results of both pilot and real survey revealed that the responses from respondents were useful for improving the management of solid waste in Majengo Ward but also showed that there is improvement in solid waste management as compared to when there was no involvement of the public sector

1.4 Study Results

This part of the report presents findings of a socio - economic study conducted in Majengo Ward covering four *Mitaa* of Fatna, Mausi, Kitenge and Mnyampala located in Dodoma Municipality in June 2006. Data analysis has been done by using a Statistical Package for Social Sciences (SPSS) computer software, Descriptive statistics including frequencies and percentages and the findings have been presented in form of tables, graph and charts.

1.4.1 Demographic characteristic of respondents

Results in Table 2 shows that a total of 212 respondents were interviewed out of the 760 sample which is equivalent to 28%, out of these 107 were females and 105 were males

Table 2: Distribution of respondents by sex.

Category/Mt	Mnyam		Mausi		Fatina		Kitenge		Ward		Total	Percentage
aa	paa											
	M	F	M	F	M	F	M	F	M	F		
Households	15	25	28	12	19	21	17	23	-	-	160	21.1
Traders	7	3	2	8	6	4	8	2	0	0	40	5.3
Chairpersons	0	1	1	0	1	0	0	1	0	0	4	0.5
CBOs	-	-	-	-	-	-	-	-	0	4	4	0.5
Council												
Officials												
- Ward	-	-	-	-	-	-	-	-	0	2	2	0.3
Municipal	-	-	-	-	-	-	-	-	1	1	2	0.3
Total	22	29	31	20	26	25	25	26	1	7	212	

Source: Own survey data 2006

1.4.2 Status of solid waste disposal in the study area

It was assumed that if there are private operators that collect garbage in the area, then the area could be free from piles of garbage. The aim here was to find out whether there was any difference in the situation of solid waste disposal now as compared to when it was the sole responsibility of the Municipal Council.

Results in figure 1 shows that 90% of the respondents said that there is some improvement in the situation of solid waste disposal; while only 5% said that there was no improvement at all and another 5% said the situation had become worse.

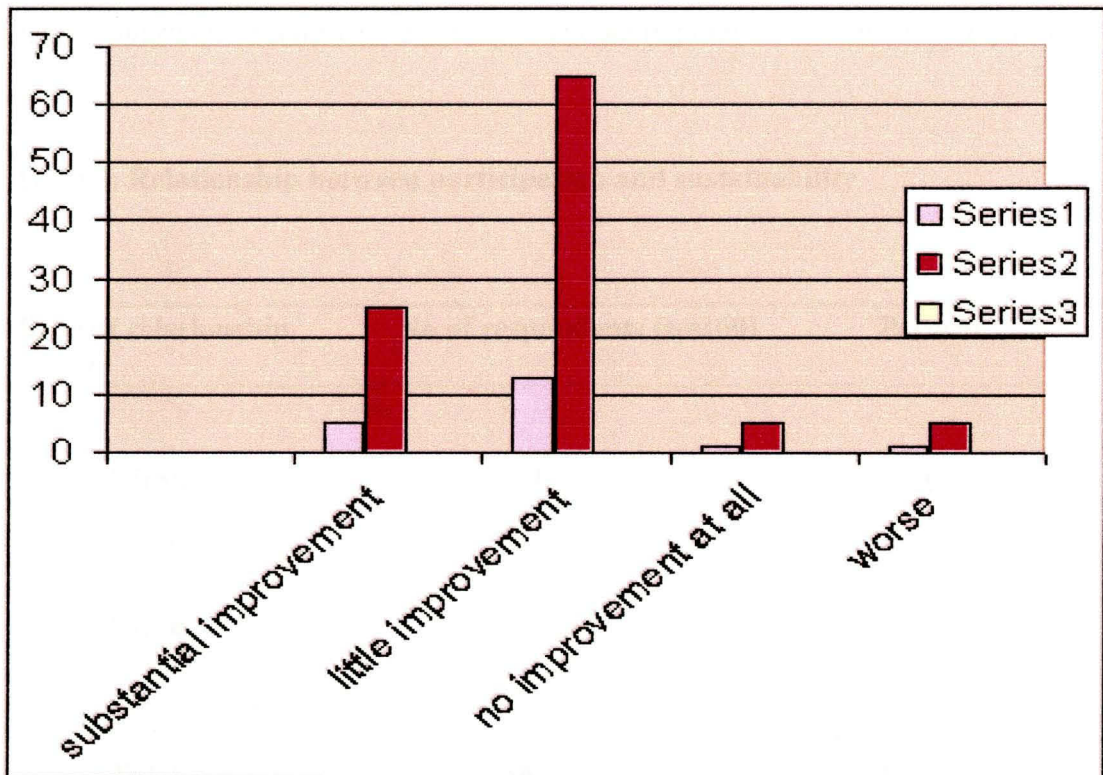


Figure1. Respondent's response on the situation of solid waste in the study area

From the observation point of view this finding is valid because, it was observed that the streets were clean and no piles of garbage were found as compared to the streets which had no garbage collection services; these had piles of garbage and stinking smell.

1.4.3 Participation of private sector in solid waste management

Results in Table 3 shows that 99% of the respondents said that there is a direct relationship between private sector participation and sustainability in the management of solid waste, because mostly the private operators are also residents of that particular area and would strive to remove the garbage surrounding their environment at any cost.

Table 3: Relationship between participation and sustainability

Type of relationship	No of respondents (n=160)	Percent
Direct	159	99.4
Indirect	1	0.6
Total	100	100

Source: Own Survey 2006

This was also observed during discussions that in those areas that had groups managing the solid waste, experience shows that the exercise continues for a long time as compared to those areas that had no groups operating. This is because there is frequent sensitization and people understand the importance of managing solid waste in the

recommended ways. Furthermore, there is a strong feeling among group members that managing of solid waste is their problem.

Table 4: Responses distribution on frequency of collection of Solid Waste

	Number of respondents	
	(n=160)	Percent (%)
None	8	5.0
Once	24	15.0
Twice	80	50.0
Thrice	32	20.0
> Times	16	10.0
Total	160	100.0

Source: Own survey data 2006.

Table 4 shows that 15% of the respondents said that waste was collected once per week, 50% said twice a week, 20% said three times a week, 10% said more than three times a

week and 5% said it was not collected at all. This means on average solid waste is collected twice a week, hence a need to increase the number of days that the garbage is collected so as to reduce the accumulation of garbage in the streets.

Table 5 shows that 56% of the respondents pay for the refuse collection service while 44% do not pay for the service.

Table 5: Responses distribution on payment of refuse collection fee

Payment	Number of respondents (n = 160)	
	Frequency	Percent
Paying	89	56
Not paying	71	44
Total	160	100.0

Source: Own survey data 2006

When compared to the income of the respondents, Table 6 shows that 30% of the respondents earn more than Tsh. 50,000/= per month, 34% earn between 31,000/= and 50,000/=; while 36% earn between 10,000/= and 30,000/= per month.

Table 6: Respondents monthly income categories distribution

Number of respondents		(n = 160)
Category	Frequency	Percent
Tshs 10,000 – 30,000	58	36
Tshs 31,000 – 50,000	54	34
Tshs 51,000 - 70000	43	27
Tshs 71,000 – above	5	3
Total	160	100.0

Source: own survey data 2006

From these findings, it shows that 74% of the respondents can afford the garbage collection fee every month from their monthly earnings, but this is not the case. The

survey has shown that people do not pay not because they do not have the money but rather because they don't want to pay. This shows that people have not been adequately sensitized such that they don't see the reason for paying garbage collection fee on one hand and also they do not see it as their responsibility. Most of them said it was the responsibility of the government to make sure that garbage is collected and disposed appropriately.

1.4.4 Existing opportunities for improvement in management of solid waste

It was assumed that there are opportunities that exist for further improvement of community participation in solid waste management.

The respondents were asked to propose measures to be undertaken on the issue of community participation in solid waste management. This aimed to find out what were the proposed solutions that could be used to improve performance of the CBO. Results in Table 7 shows that only 27% percent of the respondents have attended meetings on solid waste management and remember the number of times that they have attended while, the majority of respondents (65%) have never attended any meeting on solid waste and 8% do not remember.

Table 7: Respondents participation in meetings

Number of attendance	Number of respondents	
	Frequency	Percent
None	137	65
Once	13	6.
Twice	18	9
Thrice	26	12.
Don't remember	18	8.0
Total	212	100.0

Source: Own Survey data 2006

The results imply that the majority of the people have not been sensitized on the issue of solid waste management or they have been sensitized but have not understood the importance. This could be proved from the fact that the majority of the respondents have

never attended any meeting that was convened among other things, to discuss about solid waste management.

Table 8 shows that among those that had attended the meetings, only 34% have benefited from the meeting.

Table8: Responses distribution on benefits

Number of respondents (n=212)		
Benefited	Frequency	Percent
No answer	137	65.0
Yes	72	34.0
No	3	1.0
Total	212	100.0

Source: Own survey data 2006

From these findings, there is a need for more sensitization in the community.

Table 9 shows that 46% of the respondents said that the group needed solid waste collection facilities (working tools), while 50% of the respondents said that there is a need for intensification of awareness raising mainly through mobilization meetings so as to enhance community participation.

Table 9: Responses distribution on assistance needed by the Community in the study area

Assistance	Frequency	Percent
Don't know	3	1.0
Collection facilities	97	46.0
Awareness creation	106	50.0
None	6	3.0
Total	212	100.0

Source: Own Survey data 2006

1.5 Conclusion from the study

The following conclusions were derived from the study

- The involvement of private sector (CBO) contributes positively towards sustainable solid waste management in municipalities. However, these CBOs need to be supported in order to effectively render their services.
- Full community participation in terms of paying collection fee is a crucial factor in bringing about sustainability in terms of enabling the CBO to meet the project running costs.

1.6 Recommendations

It is recommended that there is a need for the Municipal council to assist the CBO involved SWM in terms of,

- a) Enhancing the CBOs capacity in solid waste management through training so as to enable them to perform effectively.
- b) Enforcing the by - laws which have been enacted in order to task those who do not pay garbage collection fee as well as those who dump garbage haphazardly.
- c) At community level, deliberate actions should be taken to sensitize the community members so that they can pay for the garbage collection fee but also see the importance of attending community meetings.
- d) At the CBO level, there is a need for the group members to be trained on how to make compost manure as an alternative use of garbage. The money

obtained from the sale of the compost manure, would be used for meeting some of the running costs of the group as well as improving incomes of group members.

Recommendations (c) and (d) have been implemented as a project.

CHAPTER 2

PROBLEM IDENTIFICATION

This chapter identifies the problem by looking at the target community, different stake holders and the role they play in alleviating the problem. It discusses the host CBO, its performance and potentials for improving service delivery in the community. Although there is a growing emphasis on the need to privatize some of the former public services like solid waste management, some of the local private operators need government support to enable them deliver quality services.

2.1 Problem Statement

On the basis of the community needs assessment carried out in the study area, there is a potential for the private operators to contribute significantly on SWM, but only when there is an enabling environment for them to do so. There is a need for capacity building in terms of equipment and tools. The community needs also to be sensitized and mobilized to take up actions geared to not only improve its sanitation conditions, but also improve its well being by getting involved in activities which generate income from garbage processing. Although there is a growing emphasis on the need to privatize some of the former public services like solid waste management, some of the local private operators need government supports to enable them deliver the needed goods.

During the needs assessment on improving solid waste management in Dodoma Municipality, it was found that there was a generally poor collection of solid waste

generated as well as disposal of the same. Shortage of the tools, equipment and machinery, on one hand, and weak coordination mechanism, poor incentive package among private operator's employees, job insecurity, limited community mobilization skills on the other, were identified as the main limiting factors.

The main purpose of the project intervention was to mobilize local communities to address shortage of working tools and limited community organizational skills, and suggesting ways of overcoming them. *Mazingira* Women Group, in *Majengo* Ward Dodoma Municipality was used as a case study.

2.2 Target Community

This project aims to serve the Majengo Ward Community which is within the Dodoma Municipality. Majengo ward is situated at the centre of Dodoma Municipality. It has 4 *Mitaas* which are *Fatna*, *Mausi*, *Kitenge*, and *Mnyampara*. The Ward has 660 households, average household size of 3.9 and the population is 6901; out of which 3,308 are male and 3,593 are female. All the residents in the four *Mitaa* and the surrounding areas will be served by the project. The owners of the project are the members of the group who are also residents in the Ward.

2.3 Stakeholders

2.3.1 Dodoma Municipal Council. The major stakeholder include Dodoma Municipal Council which has the responsibility of ensuring that the garbage generated daily is disposed of in an appropriate manner at designated areas.

2.3.2 Majengo ward community which includes the households and the business community which is engaged with business in that ward. These will benefit from the project because it provides services for collection of solid waste that would have otherwise been left to litter around their houses hence resulting into a breeding place for disease vectors like flies and mosquitoes.

2.3.3 Central Government – the project would be implementing one of the environmental issues stated in the National Strategy for Growth and Reduction of Poverty (NSGRP) which emphasizes that solid waste should be collected, sorted, treated, re – used and recycled in order to reduce the amount of garbage as well as creating an alternative use of solid waste.

2.3.4 Community Based Health Initiatives – An NGO that gives assistance and normally works with CBOs that deals with environmental health and sanitation issues. The NGO could be approached in order to solicit funds for training of group members on alternative treatment of garbage such as producing compost manure.

2.3.5 Dodoma residents – they are also prone to communicable diseases once there is an outbreak

2.3.6 Members of the group – assuming that the Majengo residents pay their collection fee as required, this could assist in the alleviation of poverty to the group members because the project could be a source of income to them.

2.4 Project Goals

The current situation in *Majengo Ward* is that only a quarter of the garbage that is generated daily in the ward is being collected and disposed of appropriately. The rest

remains uncollected and hence continues to accumulate. The desired situation is to have all the daily generated garbage collected and disposed of in the appropriate designated area. To assist the group members in mobilizing the *Majengo* Ward community so as to make them pay the garbage collection fee.

2.5 Project Objectives

- (i) To conduct 4 sensitization meetings from March – June 2006 to the *Majengo* Ward community in order to make them pay the garbage collection fee.
- (ii) To conduct one sensitization meeting to the *Mitaa* leaders in March 2006
- (iii) To train 20 members of the *mazingira* women group on how to produce compost manure from solid waste materials in May 2006 so as to improve their income through selling compost manure.

2.6 Host Organization

This project was hosted by a CBO known as *Mazingira* Women Group (MWG) which operates in *Majengo* Ward Dodoma Municipality

2.6.1 Overview of Mazingira Women Group

2.6.2 Background of the CBO

The *Mazingira* women group comprises of 20 members of which 7 are men. It started its activities in 1999 on a self help basis where its main duty was to collect solid waste and sweep the streets in *Majengo* Ward. In 2003, the group was authorized to charge a fee upon collection of garbage. The fee charged was 200/= per month per household. Following the poor response by the *Majengo* community to pay, the Municipal Authority

convened a meeting in the ward to explain the group activities. It was during this meeting where the decision was reached that each household should pay the 200/=.

A SWOT analysis was conducted in 2005 to identify the CBO capacity to perform its functions. This was supplemented by a needs assessment to determine the perceived community needs with regards to environmental sanitation.

2.6.3 Organizational structure

The group is administered by a secretariat general meeting which convenes once a year. The leadership of the group includes; the chairperson, secretary, deputy chairperson, and treasurer. There is also a disciplinary committee, which has seven members including the chairperson, deputy chairperson, the secretary, and treasurer who are members by virtue of their positions. The other three are elected by their fellow members.

The roles of members of the secretariat are as follows

- Chairperson is the overall in charge of the group, responsible for chairing all meetings convened
- The secretary – overseer of the day to day activities. Ensures that the daily activities are done according to plans. The most active member of the group in terms of communication with potential financiers, municipal Authority and others.
- The treasurer – Keeps records pertaining to all financial matters of the group. Heads the collection of fees activity.

- Discipline committee – This committee sits to sort out issues in case of any complaints from either the members; or from the customers concerning one of the members.

2.6.4 Vision and mission of Mazingira Women Group

Vision

Dodoma Municipality with clean streets free from accumulation of garbage and all solid wastes.

Mission

To promote environmental sanitation through community participation by the year 2015.

2.6.4.1 Organizational goals and objectives

Goals

The main goal of *Mazingira* women group is to ensure that there is a sustainable solid waste management in the town. In line with this goal, the group conducts sensitization meetings to the community in collaboration with the Dodoma Municipal Council so that every town dweller feels a need to contribute for the city's cleanliness.

Objectives

The group has set the following objectives:

- i. To collect garbage around the streets and dispose in strategic centers for shipment to designated disposal areas by Dodoma Municipal Council.

- ii. To mobilize the community to pay for collection of solid waste services rendered by the group.
- iii To ensure that all tools and equipment needed for collection and disposal of solid waste are available.
- iv To sensitize the *Majengo* Ward residents on the importance of environmental sanitation.

CHAPTER 3

LITERATURE REVIEW

This chapter reviews literature which is centered on environment sanitation with particular emphasis on solid waste management. The documents reviewed include books, national and international policies, various texts found on the website, journals and other relevant documents.

3.1 Theoretical Review

3.1.1 Tragedy of the commons

The concept of “tragedy of the commons” was first used by the ecologist Garrett Hardin, (Hardin, 1968) to explain the reason behind human actions that lead to over-exploitation or pollution of collectively owned or managed resources. Hardin likened collectively owned environmental resources (like air, the sea, public space etc) to medieval pastures open to all farmers to graze their cows. According to the theory, the positive utility to a farmer if he adds one more cow to the common pasture land is about 1. Meanwhile, the negative utility of erosion caused by overgrazing is only a fraction of -1, since the effect is shared to all farmers. Hardin points out that given this situation, each individual farmer will act rationally, that is, be driven by self interest to increase his herd without limit, leading to degradation (tragedy) of the common pasture land. Hardin explains that likewise in management of the environment, “freedom in the commons brings ruin to all”.

Collectively owned environmental resources can be divided into two categories namely, common pool resources (CPR) (Ostrom, 1990) and common sink resources (CSR)

(Young, 2000). For CPR whose quantity decreases with exploitation (for example, fish stock in the sea), the theory holds that in the absence of regulation, the ultimate end will be depletion or extinction of species. On the other hand, for CSR whose quality is decreased by human activity, the fate is pollution.

Therefore considering the case of sanitation of a neighborhood as a CSR, the theory suggests that each individual will act in self-interest, disposing waste in the open rather than spending more for environmentally safe disposal. As such, with problems of irresponsible disposal, unwillingness to pay for services and low public participation, waste schemes in developing countries exhibit properties of mismanagement of the commons. What is important however, is how to change human behavior and avoid tragedy of the commonly managed resources. Hardin recommends privatization of the commons, but for CPR resources like public space and rivers which cannot readily be divided, he emphasizes on the use of coercive regulation. These regulations should be accompanied by sanctions such that it is more expensive for an individual to dispose waste in the commons than it is for him/her to ensure its sanitary disposal. According to Hardin (Hardin, 1968), making an appeal to the conscience or morality of people to secure better management of shared resources is a strategy that is doomed to fail. He describes such a normative approach as propaganda, since it requires that individuals act against their own interests, something which in reality is very difficult to happen.

In recent years however, the Hardin paradigm has been disputed. It is now agreed that where the communities organize themselves to set rules, they have managed the CPR successfully (Ostrom, 1990; Kisoza, 2007)

3.1.2 Solid waste management in urban areas

Solid waste management is a necessary undertaking in modern day urban areas. Municipal solid waste include refuse from household, waste from industrial and commercial establishments, refuse from institutions, market waste, yard waste as well as street sweepings. Solid waste management involves the control of waste generation, and waste storage collection, transportation, processing and final disposal in a manner that is in accordance with the best principles of public health, and economic, engineering and environmental consideration. (Ngware *et al* 2000).

Urban authorities have "traditionally" been the providers of services such as urban roads, housing, public health, and education and recreation facilities. Their ability to meet the demands of the urban population has been hampered by the high rate of population growth owing in part to perceived better employment opportunities and living conditions.

With regard to solid waste management, the local authorities' role and effectiveness has been declining. For instance, in Nairobi, about 1,000 tons of garbage are generated daily. The city environment department of Nairobi is only able to collect and dispose 400 tons per day. The private sector firms operating in the city are able to collect and dispose 500 tons daily, leaving 100 tons to accumulate. In Uganda, collection is limited to high-

income residential neighborhoods in each of the towns. 70, 80, 94 and 50 per cent of the households in Jinja, Kampala, Mbale and Mbarara do not have regular garbage collection extended to them by the councils and have to rely on the private sector, (The Government of Kenya)

Faced with rapid urbanization and limited resources, much of the solid waste generated is not collected by the public authorities. Where the waste is collected, it is in most cases disposed of haphazardly by way of crude dumping. Collection is usually confined to a few areas, mainly city centre and high income areas, and even here, collection is usually irregular. A major initiative being undertaken in Dar es Salaam and in other municipalities is privatization of solid waste management, which indicates that it could be a success with a caution that issues of governance especially community participation, transparency, and accountability have to be addressed.

Generally privatization of municipal solid waste management can be expressed as the private sector involvement in some or all the stages of solid waste management. This means that the principal role of government institutions of service provision is devolved to the private sector. In this case the government institution (municipal or local authority) assumes a monitoring, coordination and regulatory role. In principle the stages of the waste management chain where privatization is most suited are; collection, transfer and disposal.

Due to the degree of mixed industrial/domestic/commercial development in Tanzanian urban centers, solid waste streams are highly mixed causing difficult challenges for the

collection and subsequent disposal thereof. For instance even hazardous and medical/clinical wastes also find their way into the general waste streams.

3.1.3 Rationalization and strategy formulation of municipal service delivery in East Africa

The decline in municipal service delivery is evidenced by inequitable resource allocation, low revenue collection, low service coverage, mismanagement, corruption and lack of transparency and accountability. The main rationale behind the move towards privatization is the failure by national and local governments to adequately provide services to their population. Privatization of municipal services is an option that could address these problems in line with the government privatization policy whose rationale is based on the following criteria:

- concern for better alternative deployment of public funds;
- concern that consumers get value service for their money;
- concern that the private sector type of management responds to consumer and market demands more efficiently; and
- concern that private sector competition guarantees competitive prices for goods and services to the consumer.

In Kenya, the privatization implementation strategy has been formulated by the Government of Kenya to guide economic management and specify the expected outputs

in the implementation process, The criteria for private sector participation and management is guided by the following principles:- (UNHS home page)

- the participating agency will be guided by commercial and profit orientation;
- flexibility in decision-making and policy matters such as hiring, pricing and management approach;
- employment and remuneration policies will be competitive;
- the company will recover full real costs of operation, maintenance and replacement of capital stock;
- profits will be re-invested into the company to improve services and facilities.

In Uganda, one of the key strategies that has been adopted is to ensure that the wage bill of local authorities do not exceed 17% of the total budget. this is in line with the decentralization guidelines. Implementation of this strategy means that direct employees have to be limited in number if the councils are going to remain competitive employers in the market. In order to keep high calibre staff, it means that they must be well remunerated. In all the three countries, it is believed that an increase in taxes to meet the costs of services provides to the population will not be well received by the urban population, at least not until the local authorities can show tangible ways in which the money has been used.

3.1.4 Private sector participation in Tanzania

After Independence in Tanzania, service provision was mainly confined to central government and local authorities through agencies. In a way there was some form of privatization as service users were obliged to pay taxes, licenses and fees which contributed directly or otherwise in financing different services. Utility services such as water supply and electricity were supplied by central government agencies which collected user charges directly.

The practice was changed after the Arusha Declaration in 1967 which among other things pronounced the United Republic of Tanzania as a socialist state and advocated for widening the role of the public sector at the expense of the private sector. Thus after 1967, the role of central and local government institutions in service provision was widened and that of the private sector, if anything, closed (Halfani, 1995).

In 1972, the government abolished urban local councils, and functions entrusted to them were placed under district authorities and regional administration which were basically central government institutions. The 1972 Decentralization Act, which abolished the Local Councils, provided a basis for the central government to take charge of service provision in both urban and rural settlements (URT, 1992). The centralization of service provision was much more pronounced in health and education services, where a number of private schools and hospitals were nationalized. On the basis of socialism these services were declared free to all citizens of the United Republic of Tanzania.

In addition to lack of sufficient public funds to finance the services in urban areas, to make matters worse, the little resources available were directed towards rural development, because that was where the government development was claimed to be. Consequently, the level of service provision in urban settlements deteriorated rapidly during the late 1970s and early 1980s (Halfani, 1995).

In 1978, the government reinstated the urban and district councils. Services like water supply, roads, fire protection and malaria control, deteriorated badly and there was a public outcry over the worsening urban conditions. Four years later, the Local Government (District Authorities) Act, no. 7 and The Local Government (Urban Authorities) Act, no. 8 of 1982 were enacted, to provide the legal basis for facilitating the new local councils in carrying out their duties. These two pieces of legislation outline the main functions of local councils as maintaining peace and good order and promoting welfare and economic well-being of all persons within respective area of jurisdiction. Other functions include; enhancement of health, education, social, cultural and recreational life of the people. (Halfani, 1995)

To execute the above main functions, urban local councils were entrusted to provide among other services; treatment of congested areas, inspection of food stuffs, control, maintenance and supervision of markets, cold storage depots and slaughter houses, keeping and maintenance of public latrines, urinals, cess-pits, removal of refuse and filth from public and private places; street lighting, keeping in good order and cleaning of street sewers and trunk roads.

The 1982 Local Government Act (URT 1982) came into effect at a time when private sector participation in service delivery was at its minimum, as it was only in public transport in form of town buses that the private sector was involved. More attempts to encourage the private sector to participate in the provision of municipal services were made by the central government. For instance the Trade Liberalization Policy of 1984 was formulated. (Halfani, 1995) However, it was not until the late 1980s and early 1990s that the private sector involvement in service delivery became more noticeable. Given the crisis in service provision which developed out of the pre 1980s policies, various areas attracted the private sector and grassroots in service provision: These are:

- i. Public transport; mainly focusing on transportation of goods and passengers within particular urban areas.
- ii. Education services; In terms of establishing and running nursery, primary and secondary schools and after 1995, universities.
- iii. Health services; running dispensaries; clinics and hospitals. Religious organizations also participate in the provision of this service.
- iv. Infrastructure (for instance, roads, drainage channels,) construction and improvement. In all urban areas there are community based attempts to construct and improve roads and drainage in their respective neighborhoods, Infrastructure improvements are supported by Donors, NGOs and respective local communities
- v. Solid and liquid wastes; privatization in solid and liquid waste collection and disposal is slowly taking shape in both small and big towns
- vi. Public toilets; keeping and maintaining public toilets

- vii. Managing parking spaces in towns
- viii. Provision of night security at community level

Of the municipalities where privatization has been tried the mode has been through contractual agreements between the urban local authority and the contractor taking over the new role, leasing of services formally provided by the authority to the private operator and introduction of user charges. However problems are noted for instance in the quality of service offered as well as in low level of service charges declared to have been collected. (Stren, 1994).

3.1.5 Situation of solid waste in Tanzania

Since 1996 Tanzania has made significant progress in implementing the Habitat Agenda through the adoption of the Environmental Planning and Management (EPM) approach. This approach is in direct response to paragraph 137 of the Habitat Agenda which calls Governments at all levels to support mechanisms for consultations and partnerships among interested parties to prepare and implement local environmental plans (URT 2001). Unlike the traditional Master Planning, EPM builds partnerships with key stakeholders and provide a forum for setting common priorities. The process of identifying the problems, negotiating strategies and implementing action plans is pursued through a working group approach, with group members drawn from participating institutions.

Environmental awareness and community participation on the issue of solid waste management by the municipal authorities is still low in Tanzania. For instance, in

Dodoma Municipality, community participation and involvement for achieving community actions related to solid waste management is lowly practiced.

This can also be seen in Mbeya Municipality, where there is inadequate public awareness and concern on the risk of indiscriminate disposal of solid waste and also community participation in municipal solid waste is minimal, Lema *et al* (2001).

Chagu (2000) also explains about the importance of environmental awareness and community participation. He argues that, public awareness is an important aspect, but the level of education of people facilitates the understanding in solving the environmental concerns. He adds that if people are illiterate, it is difficult for them to digest some problems, which are necessary for waste management.

In Tanzania the collection and especially disposal of solid waste is of poor standards. Systems for collecting domestic, institutional and industrial solid wastes exist in most of the towns but these systems are operating at low capacities. The result is the unregulated piling of the waste. Uncollected waste is either disposed of by burning or burying or is left uncontrolled finding its way into drains and waterways. The result is environmental and health problems from pollution of surface water, spread of diseases by vectors and access by children at dumpsites. Most of the surface water in dams, streams, rivers and lakes is thus contaminated with human excrement. Water borne diseases such as; cholera, dysentery and diarrhea often become unavoidable under such circumstances. (Hill 1958).

McGraw – Hill, 1958 suggest that, collection and disposal of domestic waste could be easily reached if the following measures are taken.

- The collection and disposal of domestic waste should require careful handling with frequent removal and adequate disposal because it attracts and breed flies and other insects, supplies food for rats and rapidly ferment, resulting in the production of unpleasant odors.
- Domestic waste should be placed by the householders or other producers in a closed steel container.
- Transfer stations must be close to populated areas and must be so designated and operated that odor, dust, fly and rodent troubles will not occur.
- There should be frequently collections and disposal of domestic waste.

Privatization of municipal services is noted in almost all urban settlements, large as well as small towns. For various reasons including high population concentration as well as high rates of growth and city expansion, the city of Dar es Salaam has been on the forefront in both grassroots and private company's participation in municipal service provision. This phenomenon is mainly noticed in public transport, roads improvement, solid and liquid waste management, health and education services and more recently, parking and construction and management of public toilets, (Bhatia, 1998).

3.1.6 Not In My Back Yard

More often than not, initiatives from the government or a group of people may meet with opposition from the community concern the activity that is to be carried out, Not in my backyard is a type of these oppositions.

Sitting any solid waste facility has become very controversial. People are afraid of negative effects to themselves and the environment. At the same time that we do not want facilities near us, we are still generating tons and tons of waste that must be disposed of. Reduction, reuse, and recycling are important strategies, but no matter how good and efficient we become, there will still be residual waste that must go somewhere. Our options include reducing, recycling, composting, land filling, incinerating and others. (<http://cwmi.css.cornell.edu/TrashGoesToSchool/trashIntro.html>)

Not In My Back Yard (NIMBY) describes the phenomenon in which residents oppose a development as inappropriate for their local area, but by implication do not oppose such development in another's. This phrase is commonly used to refer to the stiff opposition which local citizens mount to prevent individuals or institutions that they consider undesirable from moving into their communities.

Since the term first arose sometime in the 1980s, NIMBY—"Not In My Backyard"—has taken on pejorative connotation, becoming a word that symbolizes selfish, irrational or arbitrary opposition to any development—even the sort that could benefit the community or city at large. Before NIMBYism, however, there was only activism—earnest, well-meaning community activism, (De Wolf, 2007)

The battles of the past have helped to change many people's attitudes towards development. People are less likely than ever to accept "progress" at face value. At the same time, citizens' voices are heard by government more than ever before. One might ask oneself, is opposition to new urban development increasingly waged by people whose interests are purely selfish? Or has legitimate grassroots activism been unfairly tarnished by the NIMBY label, (De Wolf, 2007)

In most cities, it's not hard to find cases of pure, NIMBYism. For example: In Montreal Canada, Concordia University long planned to build a new high-rise business school on a vacant lot at one of downtown's busiest intersections. Nearby townhouse owners complained that the building would be ugly, block their sunlight and be out of scale with the area. One owner even added that the lot should remain vacant because it was a nice place to walk his dog. But the townhouses are only three stories tall—any new building would block their sunlight—and the new Concordia building would have been shorter than many of the high-rises already surrounding the area. The project's opponents did not enjoy broad support in the neighborhood, many of whose residents are Concordia students and immigrants who live in high rise apartment blocks, (De Wolf, 2007)

Most of the time, however, the line between honest community activism and self-interested NIMBYism is less clear-cut. This is certainly true in Toronto, where a debate raged for years over the future of St. Clair Avenue. Running east-west like a belt across the waistline of the city, Saint Clair is at once the shopping main street of several neighborhoods and a major transportation artery. The streetcar line that runs down the

middle of the six-lane avenue carries more than 30,000 riders per day. In 2002, with the streetcar tracks in dire condition and needing to be replaced, the City of Toronto decided it should go one step further and install a streetcar-only right-of-way lane down the middle of the street. Different ROW visions were presented and debated during a lengthy environmental assessment, but the final version called for a two-lane right-of-way raised six inches above the rest of the street, with a lane of parking and a lane of moving traffic on each side. Left turns would be allowed only at marked intersections, (De Wolf, 2007).

Almost from the beginning however, the plan met with strong opposition from some residents and business owners along the avenue. Margaret Smith led that opposition. In 2002, she founded Save Our St. Clair (SOS), to fight the plan for a right-of-way (ROW), and in 2005, her group managed to temporarily block the ROW's construction. Reached over the phone, Smith pleaded her case in a friendly but firm manner. "Many of us weren't opposed at the beginning, but as we got into it and many of us raised our concerns and realized we weren't being listened to, we got pretty upset," she said. "It was clear that the [environmental assessment] was a 'decide and defend' process. The proposal [the city] had in 2002 was not substantially different from the proposal they had at the end of the environmental assessment," (De Wolf, 2007)

Oppositions of this type are common in many areas but also in other areas people might not be as bold and instead might opt to protest in a different way like being passive or not participating in the implementation of the activities as is the case with some people

in *Majengo* area. People do not pay for the garbage collection services, neither do they attend meetings.

3.2 Policy Review

Waste management policy originates at national, international and European level. Many of the impacts of waste management extend beyond National and European boundaries. Therefore international events such as the Earth Summit in Rio (1992) and the Kyoto protocol of 1997, which concentrates on the reduction of greenhouse gases often, give rise to conventions and agreements that influence forthcoming legislations and policies at national level.

3.2.1 National policies on privatization of Municipal services in Tanzania

The United Republic of Tanzania government is yet to formulate an overall policy on privatization of municipal services provision. Thus, the privatization initiatives outlined in this report are mainly based on several factors, including pressure from users and the private sector response to exploit the gap between what the public sector offers and residents demands. In the absence of such a policy, local councils wishing to privatize the provision of services use the existing legislation particularly the Local Government Acts, no. 7 and no. 8 of 1982. (URT, 1982).

In addition to the legislation the Local Government Reform Agenda which is part of the current civil service reforms also provide some policy guidelines with respect to municipal services provision. In 1993, the government started reforms in the central

government through the Civil Service Reforms Programme under the President's office. (<http://cwmi.css.cornell.edu/TrashGoesToSchool/trashIntro.html>) Under these reforms the agenda for local government reforms has been instituted. The need to make reforms arose from the desire of solving the prevalent inefficiencies in the civil service. Poor service delivery, bureaucratic red tapes and corruption have been cited as the causes of carrying out these reforms.

A fundamental goal for the agenda is improvement of services delivery. Specifically the reforms call for a need to eventually chart out ways in which service provision functions shall be shared among central government agencies, local authorities and the private sector. The agenda envisages a local council which will perform the following functions with respect to privatization of municipal services. (<http://www.unchs.org/unchs/planning/privat/contents.htm>).

Among the civil service reform measures which have been implemented is restructuring of the regional administration following the enactment of the Regional Administration Act, no. 2 of 1997 (URT, 1997). The Act provides for the decentralization of municipal services from local authorities to the private as well as the popular sector including individuals, private companies and local communities.

In the National Strategy for Growth and Reduction of Poverty (NSGRP) (URT 2005), under water and environmental health, it is stated that poor sanitation is evident in urban areas, where around 90% of the households have to resort to on-site solutions. Flooding

due to inadequate drainage further intensify the problem. Sanitation facilities at public institutions are often inadequate and do not meet standards set by government. Coverage of sewerage services increased from 10% in 2000 to 17% in 2003 in urban areas but pollution control and solid waste management systems are not adequately developed to protect public health, well-being and the environment.

Under the water and environmental health, more emphasis has been put in;

- Increased access to improved sewerage facilities from 17% in 2003 to 30% in 2010 in respective urban areas.
- Reduce households living in slums without adequate basic essential utilities.
- 100% of schools to have adequate sanitary facilities by 2010
- 95% of people with access to basic sanitation. By 2010.
- Cholera out-breaks cut by half by 2010.

3.3 Empirical Literature

This part examines studies that have been done on solid waste management. Specifically the impact of CBOs involvement in solid waste management.

3.3.1 Partnership in solid waste management

A study on environmental planning and management in Dar es Salaam revealed that, privatization of solid waste collection in Dar es Salaam started in 1994 following a successful completion of the “emergency clean up” campaign which lasted from 1992 to

1994. However, until 1996 only one private company had been contracted to collect and dispose solid waste, covering a mere ten out of a total of 72 wards in the city. Although the performance of this company in the contracted areas was exemplary, the overall cleanliness of the city was still low. While in 1992 the amount of waste collected was only 3 to 5% of the total amount of 1400 tons generated per day. The overall haulage in 1996 still stood at just about 12 to 15% of the total generated amount of 1800 tons per day. The successful attempts in the ten wards had shown that over 50% of the waste was being collected in these contracted wards. This represented a major improvement from the 1992 situation and paved the way for contracting additional companies. In 1996 there were a total of five private companies while in 1998 the figure rose to 68 companies, a number which remains more or less the same to today.

- The study concluded that the inability of poor residents to pay for the solid waste collection service is poverty, because up to 51% of the residents in Dar es Salaam live on less than one US dollar per day. A deliberate policy consideration in regard to the poverty situation is to assess the extent to which public interest has to be protected. This is because the engagement of the private sector to perform public service delivery entails profit-making for the contractors, is negated by the structure, for which is supposed to protect both the poor and the contractors' interests.
- Secondly is public sector poverty, where the city government is unable to raise adequate resources to provide an efficient and effective service to the residents.

A crucial public policy consideration here is the need to embark, more vigorously, on a partnership protocol with the private sector but mindful of the fact that proper mechanisms should be put in place to guarantee decision-making autonomy. Other consideration should be financial autonomy and managerial flexibility between the private and public sector partners in order to ensure accountability. This, therefore, entails the proper definition of roles and responsibilities among these partners.

3.3.2 Public-private partnerships (PPP) in waste management

The PPP waste management schemes in low income areas have benefited from the by-laws which were set up in 2000 to increase public participation. The financial penalties of 25% of waste fees that follow litigation of individuals who fail to pay refuse collection charge (RCC), have especially been helpful in stimulation cooperation among traders. However, these by-laws have limitations in some situations in the squatter areas where poverty makes affordability of refuse collection fees difficult.

The acting Dar es salaam City Council (DCC) Director explains that:

“There have been difficulties in extending waste services to squatter areas because the people cannot afford to pay. A family in an unplanned neighborhood would prioritize to spend 1000/= on food for the children rather than on something like waste which they can just throw out there. People in unplanned areas have a problem of poverty, but also lack education on how poor waste management impacts their livelihood”. In such a

situation where the people lack the resources to allow them comply; the regulatory structure tends to have no effect. Contractors have been observed to withdraw from many unplanned areas because of difficulties of getting returns to pay their employees and maintain their equipment (DCC, 2005). The question of affordability and willingness to pay is an issue that regulation has not succeeded in addressing and which continues to threaten the survival of CBO waste schemes in unplanned areas.

Nevertheless noticeable improvements have been observed in unplanned areas of Dar es Salaam where community-based organizations operate as waste collectors, following the formation of PPP for waste management in 1998. The establishment of partnerships with CBOs has profited the sustainability of house-to-house collection of waste in unplanned settlements because it has allowed these community groups to use technology that they can afford and manage; the technology for which they have skills and which fit in the local context. However, as these organizations have also been given the responsibility of transporting waste to the disposal site, they are faced with problems of limited transportation and financial resources (Lambi, 2006)

From this review, it can be seen that most of the studies done have focused on looking at sustainability of community based schemes involved in solid waste management. This study aims at assessing the contribution of these communities based organizations in solid waste management in Dodoma Municipality, specifically if there are any changes

that have been brought about as a result of engagement of CBO's in solid waste management.

CHAPTER 4

IMPLEMENTATION

This chapter reports on the implementation of a project which begun in November 2006, in *Majengo* Ward, Dodoma Municipality. The implementation is a follow up of results obtained from the Community Needs Assessment and a socio – economic survey which were carried out in the study area.

Title of project: Enhancing CBOs capacity in solid waste management in Dodoma Municipality

4.1 Background of the project

The Mazingira Women Group is a group comprising of 20 members out of whom 13 are women and 7 are men. This group is based at Majengo Ward in Dodoma Municipality.

The group started in 1999, on a self help basis. Their main duty is to sweep the streets and collect garbage (solid waste) in their area of operation that is Majengo Ward. Majengo ward has four *Mitaa* which are Fatna, Mausi, Kitenge and Mnyampara. The group started with 45 members, 15 from each *Mtaa*. The group is now left with 20 members because others have dropped on the way. This is because they found it difficult to work on a self help basis.

The group's area of operation is the whole of Majengo Ward – the four *mitaa* and the area with high concentration of bars and clubs.

According to the group, there are a number of issues that have to be taken care of in order for the group to effectively render the garbage disposal services. These are:

- Need for back up from the Municipal leadership to assist them during sensitization meetings
- Support from the *Mitaa* leadership in community mobilization including convening meetings
- Resources for the operation of the project. These can be obtained through selling of recyclable materials like plastics but also by producing and selling of compost manure.

4.2 Products and Output

By the end of the second year, this project will have achieved the following in terms of outputs and products:

a) Output :-

- 20 members trained and able to produce compost manure by July, 2006
- Majengo community sensitized and are paying the garbage collection fee by May, 2006
- *Mitaa* leaders sensitized and are participating fully in ensuring that the community members pay the fee as required.

b) Products:-

- Compost manure produced

- Enhanced collections of SW
- Cleaner streets and surroundings.

4.3 Project Planning

The project will be implemented by using the group members and Ward extension workers. The whole project is estimated to cost a total of Tshs 1, 410,000/= this mostly covers allowances for the members during training as well as allowances for extension workers when conducting sensitization meetings. Different persons have been assigned different responsibilities as shown in the table 10.

The project was to be implemented in stages, but overall implementation was to take 18 months. The project was to start by sensitizing the *Mitaa* and Wards leaders. This was expected to have started in March 2006. After the sensitization of the leaders, they were expected to sensitize communities in their areas of jurisdiction. The community meetings were expected to start on the second half of March soon after the sensitization of the leaders. This activity was to be followed by the training of the group members on the alternative use of garbage. This activity was expected to start in July.

Table 10 shows the plan that was developed for the implementation of the project.

Table 10: Project planning matrix

ACTIVITY	DURATION	RESPONSIBLE PERSON	PLANNED DELIVERY TIME	RESOUCES REQUIRED/ BUDGET
Awareness meeting of the <i>Mitaa</i> and Ward leaders	3 days	Ward Executive Officer (WEO) CED adviser	March, 2006	Tsh. 590,000/=
To conduct community Meetings	3 months	CDO CED adviser	June, 2006	-
Training of the group members on alternative use of garbage	5 days	CDO CED adviser	July, 2006	820,000/=

4.4 Implementation Plan

The project goal 1:

- 4.4.1 To assist the group members in mobilizing the Majengo Ward community so as to make them pay the garbage collection fees.

Activities

Under this goal, the following activities were implemented.

- To conduct 4 sensitization meetings from March – June, 2006 to the Majengo Ward community in order to make them pay the garbage collection fee.
- To conduct one sensitization meeting to the *Mitaa* leaders in March, 2006

- 4.4.2 To enhance group members knowledge on alternative use of garbage, in particular making compost manure

Activity

- To train 20 members of the *mazingira* women group on how to produce compost manure from solid waste materials by May 2006 so as to improve their income through selling compost manure.

Table11: Project implementation plan

	M	O	N	T	H	S	(2)	0	0	6)
ACTIVITY DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12
1.Awareness meeting of <i>Mitaa/ Ward leaders</i> WEO												
2.To conduct Community meetings CDO												
3.Training of the group members on alternative use of solid waste CDO												

The activities costed 1,410,000/= distributed as follows:

Objective one: Tshs. 590,000/=

Lunch allowance	31 participants x 3000 x 4 days =	372,000
Stationery	lumpsum =	150,000
Venue and refreshments		68,000

Total	<u>590,000</u>
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Objective two: Tshs 820,000/=

Par diem for the trainers from Iringa	2 x 30,000 x 7 days =	420,000
Transport and lunch allowance	20 x 2000 x 5 days =	200,000
Stationery (lump sum)	=	100,000
Training materials	=	<u>100,000</u>
Total	=	<u>820,000</u>

4.5 Inputs

In order to accomplish the set objectives, the following inputs were needed

- Human resource: group members who are instrument in the running of the day to day activities, extension workers such as the Ward Community Development Officer; community leaders like the *Mtaa* Chairpersons, Ward Executive Officer
- Financial resources were also a requisite towards implementation of the project – the project needed Tshs. 1,410,000/=
- Stationery which was used during the training of the group members.
- Transport to ferry group members and extension workers during the period of implementation.

4.5.1 Staffing pattern

This project has been operating on a self help basis. Table 11 shows how responsibilities are distributed among members.

Table 12: Staffing pattern

POSITION	JOB DESCRIPTION
Chairperson	Overall overseer of the day to day activities Head of the group
Secretary	Executive of the group Assigns responsibilities to the members
Ward Executive Officer	Overall overseer of all developmental activities in the Ward.
Ward Community Development Officer	To sensitize the community on all matters pertaining to development. Technical adviser to groups operating in the Ward
Treasurer	Handles the finances of the group. Cashier, does all the payments after consultation with the Chairperson/Secretary.
Other group members	Implement actual day to day collection of garbage in the <i>Mitaa</i>

4.5.2 Budget

Basing on the nature of the project, there are no staff employed in the project. Extension workers and the Ward executive officer have been used for the purpose of facilitating the process. There is no salary structure because those who work for this project are the group members and they are not paid except for some small allowances to make them buy soap.

4.6 Implementation status

A total of 20 group members were trained on how to produce compost manure. The training was facilitated by the Ward Community Development Officer for Majengo ward with the assistance of the CED adviser. The training was undertaken in November, 2006. The activities did not go as planned due to lack of resources but fortunately in November the training was carried out. The sensitization meetings are ongoing because people have a tendency to forget once they were sensitized and left alone without close follow up. So in order to keep them up to date on this question of solid waste management, the agenda of solid waste management has been put as a permanent agenda in all the community meetings.

a) Specific objective one

- ❖ To conduct 4 sensitization meetings from March – June 2006 to the Majengo Ward community in order to make them pay the garbage collection fee.

The sensitization meetings were carried out in November and ended in December 2006. There was a delay in commencement of this activity due to lack of funds. The

turn out was encouraging because community members were eager to hear the message that was being conveyed.

- ❖ To conduct one sensitization meeting to the *Mitaa* leaders in March, 2006. Sensitization meetings to the community leaders have been carried out once every week since December 2006. The issue of solid waste management has been deliberated upon as being a permanent agenda in the study area.

b) Specific Objective two

- ❖ To train 20 members of the mazingira women group on how to produce compost manure from solid waste materials in May 2006 so as to improve their income through selling compost manure.

20 members of the group were trained on how to produce compost manure. The training took place in November 2006 for a week. The members were trained on how to make compost manure and other alternative use of solid waste. This activity costed Tshs. 820,000/=

The project would have been more successful if the group had access to a lorry which would have been used for garbage collection, but unfortunately this was not the case. The group still uses push carts to collect garbage.

CHAPTER 5

5.0 MONITORING, EVALUATION AND SUSTAINABILITY

5.1 Monitoring

Participatory Monitoring is the systematic recording and periodic analysis of information that has been chosen and recorded by insiders with the help of outsiders.

The main purpose of Participatory Monitoring is that it provides information during the life of the project, so that adjustments and /or modifications can be made if and when necessary.

It enables to:

- Get a clear picture of the project activities
- Identify problems and seek solutions much earlier
- Ensure effective use of resources
- Maintain good standards
- Get information for future evaluations and planning

Originally monitoring was expected to be done on a continuous basis, basing on the developed work plans as shown in the table below.

5.1.1 Methodology

During implementation monitoring was done on a daily basis. The Community Development Officer, two group members and the Ward Executive Officer collected data. The data was collected using the attendance register that was kept during the meetings and also the training. Other tools used include observation and focus group

discussions. The monitoring team was appointed by a community meeting which was convened earlier to decide who will be monitoring the implemented activities.

Table 13: Summary of participatory monitoring plan

Specific Objective	Activity	Monitoring questions	Indicator	When
-Sensitization meetings conducted to Majego ward community	To conduct 4 sensitization meetings	-Who attended the meeting -Was the main theme addressed	- No. of people attended - No. of sensitization meetings convened	-March – June 2006
-Sensitization meeting conducted to the <i>Mitaa</i> leaders	To conduct one sensitization meeting to <i>Mitaa</i> leaders	-Who attended the meeting -Was the main theme addressed	-No. of people attended - No of sensitization meetings convened	March, 2006
- Members of the Mazingira Women Group trained on alternative use of solid waste	To train 20 members of the mazingira women group on how to produce compost manure from solid waste materials in May 2006	-Is the training conducted as planned	-Number of training sessions -Number of trained people	May, 2006

5.1.2 Focus group discussion

Focus group discussion was conducted with members of the group and *Mitaa* leaders so as to track the progress of the planned activities, but also to how much the group had understood the process of making compost manure

5.1.3 Review of attendance registers

This was useful in determining first the level of participation of members in the planned activities but also to see the level of commitment of the members and the community and hence sustainability of the project and the process.

5.1.4 Observation

Observation was done by attending the activities and watching. This enabled the researcher to get first hand information by observing the members while the activities were in progress especially during the practice of making compost manure.

5.1.5 Monitoring results

Monitoring results show that most of the planned activities were implemented for example 20 members of the mazingira women group were trained on the making of compost manure, sensitization meetings were also carried out. The monitoring revealed that these activities started late due to lack of funds

5.2 Evaluation

Participatory Evaluation is an opportunity for both outsiders and insiders to stop and reflect on the past in order to make decision about the future.

In Dodoma Municipality, daily generation of solid waste stands at 350 tons, while Majengo alone generates 180 tons. Only 235 households pay for garbage collection which total up to 47,000/= per week while actual expenditure is 16,000/= per day amounts to 112,000/= per week, so the project operate under deficit budget.

5.2.1 Methodology

The project advisor discussed through a focus group discussion the benefits of participatory evaluation with group leaders to elaborate and give thorough explanations of benefits which include how participatory evaluation helps in making better decisions, to develop evaluation skills for group members, to develop mutual understanding among the group members and advisor, and to provide useful information for ongoing management of the project if needed.

The first participatory evaluation was planned to take place in May 2007, the purpose is to examine the performance of the project since its inception. The second and third evaluation will take place in January 2008 and 2009 respectively. The process will use tools such as review of documents including monitoring reports, group discussion with group members and selected members of the community.

The general meeting of the group members and key stakeholders will appoint the evaluation team. The composition of the evaluation team will include group members and outsiders. The members will not be paid because it is part of their duty.

The results of the evaluation team will be presented to a meeting within a week after evaluation to allow timely decision.

5.2.2 Evaluation questions

- (i) What changes are observed in the community as a result of the sensitization meetings?
- (ii) What changes are observed in the community as a result of training?
- (iii) Effectiveness of composting as an alternative use of solid waste
- (iv) How does the community benefits from the project

5.2.3 Direct and indirect indicators

The indirect indicators for this project were

- (i) Participation of stakeholders in solid waste management
- (ii) Volume of solid waste collected compared to that generated
- (iii) Volume of solid waste used in compost production
- (v) Income of the group members

Table 14: Summary evaluation matrix

Goal	Performance indicator	Expected outcome
<p>1. To have all the garbage generated daily collected and disposed of in the appropriate designated area.</p> <p>Objective:</p> <p>Members of the Mazingira Women Group trained on alternative use of solid waste</p>	<p>-Volume of solid waste used in compost production</p> <p>-Income of the group members</p>	<p>- Reduction of heaps of garbage in the streets</p> <p>- The residents of Dodoma will get compost manure</p> <p>- Other Wards will come to learn from Majengo Ward on how to make alternative use of garbage</p>

<p>2. To assist the group members in mobilizing the Majengo Ward community so as to make them pay the garbage collection fee.</p> <p>Objectives:</p> <ul style="list-style-type: none"> - Sensitization meetings conducted to Majego ward community - Sensitization meeting conducted to the <i>Mitaa</i> leaders 	<ul style="list-style-type: none"> - Participation of stakeholders in solid waste management - Volume of solid waste collected v/s Generated 	<ul style="list-style-type: none"> - Communities will be paying their garbage collection fees - Improved income for the group and group members hence reduction of poverty of the group members.
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An internal evaluation will be done towards the end of 2007

- It is expected that the communities will be paying garbage collection fees and this in turn is expected to improve the income for the group and group members hence reduction of poverty of the group members.

- Assuming that the communities are paying the fees as required, and that the members have been trained on alternative use of garbage, then more garbage will be handled hence reduction of heaps of garbage in the streets
- The residents of Dodoma will get compost manure
- Other Wards will come to learn from Majengo Ward on how to make alternative use of garbage

5.3 Sustainability

Sustainability is increasingly viewed as a desired goal of development and environmental management. This term has been used in numerous disciplines and in a variety of contexts, ranging from the concept of maximum sustainable yield in forestry and fisheries management to the vision of a sustainable society with a steady-state economy. The meaning of the term is strongly dependent on the context in which it is applied and on whether its use is based on a social, economic, or ecological perspective. Sustainability may be defined broadly or narrowly, but a useful definition must specify explicitly the context as well as the temporal and spatial scales being considered. Although societies differ in their conceptualizations of sustainability, indefinite human survival on a global scale requires certain basic support systems, which can be maintained only with a healthy environment and a stable human population. Brown et al (1978)

From the experience of implementing the project which is a self initiated project in the sense that some of the residents of Majengo had decided on their own initiatives to start this project, it means they own the entire process and therefore, it is sustainable for it was not imposed. Secondly, from its nature, this project will be sustainable because garbage is being generated daily and the need to dispose is also on a daily basis. Lastly, by introducing alternative use of garbage which is a source of income to the community, has potential to render the project sustainable because the members are sure of an income from the sell of the compost manure.

Nonetheless assuming there are people who might practice “Not In My Backyard” philosophy, this might affect the project in the sense that they might oppose the project.

Financially the project will be sustainable because through the sensitization meetings, the community has agreed to pay garbage collection service fee. This fee is used to cover operation costs for the project.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 Results

All the objectives that were set for this project were achieved. There were no changes made to the goal and objectives that were initially formulated. The achievement to a great extent was made possible due to the commitment by the community especially the group members' efforts towards realizing the goals.

6.2 Recommendations

There are some objectives which even though have been achieved; they are bound to be re implemented. Experience has shown that sensitization meetings can not be done once; people need to be reminded from time to time because this has to do with behavior and attitude change, which cannot change overnight. Therefore, sensitization meetings should be a continuous exercise.

During the implementation of this project, there were some activities which called for sensitization meetings to the community leaders and the community in general. These meetings were helpful because they were reminders to the community and their leaders about their responsibility of participating in development activities in their areas but also to build upon the spirit of self reliance.

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