



TANZANIA OSAKA ALUMNI

Best Practices

Hand Book 3

**President's Office
Regional Administration and Local Government
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BEST PRACTICES HAND BOOK 3 (2016)

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List of abbreviations

ADF	African Development Fund
ADF	Agency Delegated Functions
AI	Artificial Insemination
ALAT	Association of Local Authorities In Tanzania
AMCOs	Agricultural Marketing Cooperatives
ASDP	Agriculture Sector Development Programme
ATTI	Appropriate Technology Training Institute
CARMATEC	Centre for Agricultural Mechanization and Rural Technology
CBD	Coffee Berry Disease
CBO	Community Based Organization
CDO	Community Development Officer
CG	Central Government
CHMT	Council Health management Team
CLBT	Community Labour Based Technology
CLTS	Community Led Total Sanitation
CMT	Council Management Team
D by D	Decentralization by Devolution
DADPs	District Agricultural Development Plans
DAIO	District Agricultural and Irrigation Officer
DANIDA	Danish International Development Agency
DC	District Council
DED	District Executive Director
ELCT	Evangelical Lutheran Church of Tanzania
FAO	Food and Agriculture Organization
FFS	Farmers Field School
FY	Financial Year
GDP	Gross Domestic Product
GIZ	German International Organization
GPS	Global Positioning System
HLGA	Higher Local Government Authorities
HOD	Head of Department
HQ	Headquarters
JICA	Japan International Cooperation Agency
KCC	Kenya Cold Chain
KPL	Kilombero Plantation Limited
LAT	Local Allocation Tax Grant
LBT	Labour Based Technology
LG	Local Government
LGA	Local Government Authority
LGDG	Local Government Development Grant
LITI	Livestock Training Institute
LLGA	Lower Local Government Authorities

MADAFCO	Maramba Division Dairy Farmers Cooperative Society
MC	Municipal Council
MEDAFSA	Meru Dairy Farmers Associating
MoHSW	Ministry of Health and Social Welfare
MoUs	Memorandum of Understanding
NAIC	National Artificial Insemination Centre
NCAA	Ngorongoro Conservation Area Authority
NGOs	Non - Governmental Organizations
O&OD	Opportunities and Obstacles to Development
ODF	Open Defecation Free
OJT	On the Job Training
OVOP	One Village One Product Movement
PCT	Pyrethrum Company of Tanzania
PO - PSM	President's Office, Public Service Management
PO - RALG	Presidents' Office, Regional Administration and Local Government
POT	Post Osaka Trainings
PPP	Public –Private- Partnership
RAS	Regional Administrative Secretary
RS	Regional Secretariat
SACCOs	Savings and Credit Cooperative Societies
SAP	Structural Adjustment Programme
SDEP	Smallholder Dairy Extension Programme
SIDO	Small Industries Development Organization
SLM	Sustainable Land Management
SUA	Sokoine University of Agriculture
TAWIRI	Tanzania Wildlife Research Institute
TBS	Tanzania Bureau of Standards
TC	Town Council
TDCU	Tanzania Dairy Cooperative Union
TFDA	Tanzania Food and Drugs regulatory Agency
TOA	Tanzania Osaka Local Government Reform Alumni
TSDDP	Tanga Smallholder Dairy Development Project
UNDP	United Nations Development Programme
UNICEF	United Nations Children's' Fund
USAID	Unite States Aid Organization
UWT	Umoja wa Wanawake Tanzania
VEO	Village Executive Officer
VGS	Village Game Scout
VNRC	Village Natural Resource Committee
WAG	Ward Artisan Group
WDC	Ward Development Committee
WEO	Ward Executive Officer

Foreword

Local Government Reforms in Tanzania are primarily focused towards effective Service Delivery by Local Government Authorities within the Central Government's Policy Framework. The reforms have attracted cooperation between the Government of the United Republic of Tanzania, Development Partners and many other stakeholders. Through this cooperation, the Local Government Reforms in Tanzania have successfully generated democratic Local Governments, rationalized local human resourcing, increased fiscal disbursements, improved local governance, increased local participation and increased local government autonomy in Service Delivery.

The Local Government Reforms in Tanzania have been implemented in a comprehensive approach that has involved learning Local Government Reform initiatives and implementation in other countries which led to designing an appropriate implementation modality for Tanzania. Since 2002 the Tanzania Government through the President's Office – Regional Administration and Local Government (PO-RALG) and the Government of Japan through Japan International Cooperation Agency (JICA) have jointly conducted training on Decentralization in Japan namely "Osaka Training". This training has been attended by selected PO-RALG Directors/staff, Regional Administrative Secretaries, Council Directors and other Local Government Reform stakeholders. Following Osaka Training, Regional Post Osaka Training (POT) has been conducted to Assistant Administrative Secretaries (AASs), District Commissioners, District Administrative Secretaries (DASs) and Heads of Departments (HODs) from Local Government Authorities (LGAs) to share lessons learned in Osaka.

Both Osaka Trainings and Regional POTs have provided opportunity for Tanzanian Central and Local Government Staff to learn the Japanese Decentralization Experience, select the best Japanese decentralization lessons and implement the lessons learnt within the Tanzanian context. The implementation of the lessons learnt from Japan has resulted into identifiable "**Best Practices**" by specific Regional Secretariats (RSs) and LGAs. This has created urgency for reporting the best practices in the form of a handbook to make other RSs and LGAs appreciate and learn from the local successful implementation and the secrets for success.

This Third Handbook is a continuation of the joint efforts of the PO-RALG and JICA to strengthen Decentralization by Devolution (D by D) in Tanzania. The handbook provides the History of Osaka Training and the Best Practices in the following order; Chapter One summarizes the lessons learnt from Japan; Chapter Two focuses on Fiscal Decentralization and Revenue Enhancement and has cases from Mufindi DC, Kilombero DC and Korogwe TC. Chapter three presents Participatory Service Delivery best practices from Handeni DC, Lushoto DC, Mufindi DC, Moshi DC, Siha DC, Ngorongoro DC and Kilimanjaro Region while Chapter Four focuses on Local Economic Development with best practices from Iringa DC, Korogwe TC, Tanga Region, Meru DC and Hai DC.

The PO-RALG recommends the RSs staff, LGAs staff and all stakeholders in the Local Government Reforms in Tanzania to read the handbook, appreciate the Specific Local Initiatives, learn the secrets of success and use the available local opportunities to perform better in the D by D context.



ENG. MUSSA IYOMBE
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Preface (TOA)

Cooperation between the two Governments (Tanzania and Japan) through Osaka Training resulted into establishment of Tanzania Osaka Local Government Reform Alumni (TOA) in 2002. This Alumni is formed by all Regional Administrative Secretaries (RASs), Council Directors and all ex-participants of Osaka Training and POT. TOA endeavors to build capacity to her members in order to become champions of Local Government Reforms. Implementation of lessons learnt in Osaka Training has resulted into improved service delivery to the communities within the Framework of “D by D”.

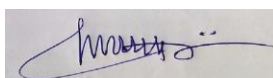
For the purpose of enhancing horizontal learning amongst stakeholders, TOA decided to publish a series of best practices reported by members in a reader friendly Handbook . This is the third handbook. TOA anticipates to issue more Handbooks in the future concurrently with continued implementation of Lessons learnt from Osaka and Regional Post Osaka Training.

The completion of this Best Practices Handbook 3 attracted support from various institutions and individuals. TOA would like to acknowledge and express gratitude to the President’s Office – Regional Administration and Local Government for forging a Memorandum of Understanding with the Government of Japan, financing and allowing Tanzanian senior staff to attend training on Decentralization in Japan since 2002 to present. Secondly, TOA extends sincere appreciation to the Government of Japan through JICA for designing, supporting and funding the Osaka and Regional Post Osaka Trainings and production of this Handbook. TOA also would like to recognize and appreciate initiatives of the Regional Administrative Secretaries and Council Directors in implementing the lessons learnt and their readiness to prepare detailed cases that appear in this third Handbook.

The analysis and synthesis of the Best Practices in this Handbook 3 was done by Mr. Paulo F. Faty (Lecturer at Mzumbe University) and Mr. Judicate Mwangi (Lecturer at the Local Government Training Institute – Hombolo) while the lessons learnt in Japan were explored by Mr. Michiyuki Shimoda (Senior Advisor at the PO-RALG). TOA deeply commends their work and thanks them all.

Lastly TOA would like to extend appreciation to all PO-RALG staff, JICA staff and TOA leaders who participated in various meetings that improved and concretized this Handbook. It is not possible to list down all contributors to this work. However, TOA values all offerings made by various institutions and individuals.

Finally disclaimer; though many individuals and institutions have contribution in this Handbook, TOA and the analysis team remain responsible for errors and omissions that might be perceived by readers of this Handbook.



MR. LIANA A.M. HASSAN
TOA VICE - CHAIRPERSON

Preface (JICA)

Dear Extinguished Readers!

Implementation of Decentralization by Devolution Policy in Tanzania has taken more than 10 years now with the objective to improve service delivery by devolving functions, responsibilities and resources from Central Government to Local Government.

Based on the above, JICA's cooperation has been geared to support implementation of this policy by focusing on strengthening local level service delivery through LGA's capacity development as well as Sector development in the fields of Health, Agriculture, Water & Roads.

Since 2002, JICA in collaboration with PO-RALG has been conducting the training on Local Government Reform Programme which is called "**Osaka Training.**" It targeted top management officials in Local Government Reforms i.e. Regional Administrative Secretaries, Council Directors, PO-RALG Officials and Higher Learning Institutions, with the purpose of learning experiences of Japanese Local Government Reforms. On their return, the knowledge and experiences were shared during Regional Post Osaka Training workshops (2003 – 2007). As a result, an Alumni "Tanzania – Osaka Local Government Reform Alumni" (TOA) was established in a view to establish a platform where members have opportunity to share experiences, good practices and challenges. JICA has been supporting the institutional building of TOA.

As a result of implementation of lessons learnt from Osaka training, a number of best practices were presented from RSs and LGAs in five Regional (Iringa, Morogoro, Tanga, Kilimanjaro and Arusha) Workshops conducted in 2015. Through verification and analysis of these best practices, this third "Best Practice Hand Book" is finally produced. The book verifies that ***we have to learn not only from other countries but also from many initiatives inside the country.***

I am happy if you learn some tips from this booklet and take small but concrete steps forward in improving the implementations at ground.

JICA plans to support TOA to conduct Regional training for Regional Secretariat staffs and LGA Heads of Departments by utilizing this booklet. We would like to explore the next Best Practices stimulated by the booklet and the training. We hope to strengthen the horizontal learning platform for field level in future and improved service delivery in Tanzanian communities.

.....
TOSHIO NAGASE
CHIEF REPRESENTATIVE - JICA TANZANIA OFFICE

Chapter One: Introduction; Lessons Learnt from Japanese Experience

1.0 OSAKA TRAINING

This Handbook was elaborated by Tanzania Osaka Local Government Alumni Association (TOA). TOA is an alumni association of a training course offered by Japan International Cooperation Agency (JICA). The training is entitled “Country Focused Training Course - Local Government Reform Programme in Tanzania”, but more popularly known as “Osaka Training”. The Association is composed of all the RASs and the Council Directors of the Country.

“Osaka Training” started in 2002. During the initial five years, all the RASs from 21 Regions of the country (at that time) together with two Council Directors of the respective Regions were invited. Also high officials of PO-RALG (Directors, Asst. Directors)¹ as well as the Secretary General of ALAT and some prominent academicians participated in the Course.

Due to the remarkable impact and outcome, JICA decided to continue with the same programme, widening its scope to three other African Countries that have been promoting or planning decentralization reforms, namely Kenya, Uganda and Zambia, in addition to Tanzania. Towards the end of 2016 more than 100 Tanzanian reform leaders including RASs and Council Directors have directly benefitted from Osaka Training. Furthermore, those participants, after returning to their respective Regions, conducted local seminars called “Post Osaka Training” to share the experience and knowledge acquired in Osaka, inviting all the remaining Council Directors together with Head of Departments. Thus the beneficiaries of the said Training were expanded to more than 1,500, and the membership of TOA came to cover all the RASs and the Council Directors.

Based on various lessons learned in Osaka and Post Osaka Trainings, the participating LGAs elaborated Action Plans to improve their performance. Having more than 12 years of the history, it has been confirmed that there are a number of useful good practices emerging in many LGAs through implementing the above-mentioned Action Plans which could be worth sharing with others. It was therefore decided in TOA to verify and analyze such cases and compile this handbook, so that the LGA leaders can refer to such cases and apply any of them if they consider appropriate and feasible, with a view to improving their works.

Before going into the respective cases of good practice, however, we would like to see in this chapter why JICA decided to offer this training to Tanzanian reform leaders, what was the meaning of Osaka Training to Tanzania, and what kind of issues were discussed there.

¹ Including Hon. A. Mwanri (Deputy Minister) and Ms. M.K.Tarishi and Mr. H.A.Katanga (former Permanent Secretaries)

2.0 BACKGROUND OF OSAKA TRAINING

Why did JICA decide to offer such course, and what was the meaning of it to Tanzania?

2.1 JICA's Views on the Decentralization Support

JICA has some unique views on the governance support which may differ from other development partners. It has been observing that many strong interventions have been made in the developing countries by the development partners such as the Structural Adjustment Programme (SAP) and the governance support including decentralization reforms. However, it can be said that these programmes and reforms applied in the developing countries are almost the same as what are currently tried in the developed countries, irrespective of the great difference in the background and the conditions between the former and the latter. Also it is often observed that these reforms are promoted under a strong pressure from the donors, without ensuring endogenous development process and ownership of the recipient country.

Based on the bitter experience of failures in international cooperation of this kind, JICA has the following principles in carrying out the decentralization support:

- (i) There is no universal model that can be applied to all countries.
- (ii) Decentralization itself is not an objective, but a means to achieve something.
- (iii) Internalization and endogenous development through nationwide discussion is essential.
- (iv) How to ensure National Minimum Standard² is essential in designing decentralization reforms.
- (v) Decentralization Reform is a long process, which should not be treated as a mere "project".
- (vi) Too rushed decentralization reform will rather bring chaos. In any reform efforts for D-by-D, it is essential to secure enough conditions on the side of LGAs and local society to receive such huge responsibilities devolved.

2.0 The Big Challenge of Tanzanian LGRP Observed by the Formulation Mission in 2002

Upon request from the Government of Tanzania for a training programme on local government reforms in 2001, JICA decided to dispatch a mission to analyze the situation and formulate a training course with most adequate contents to address the important issues. When the mission visited Tanzania in November 2002, it observed the following serious challenges that Tanzanian LGRP was facing:

- (i) Huge and detailed Log Frame (more than 80 pages!)
- (ii) LGRP was being implemented with such a beautiful but rigid Log Frame defining all the details of activities. The mission observed that there was very little room left for flexibility to allow "trial and error" that is considered to be essential. The mission felt as if everything was pre-determined and the Tanzanian Government was obliged to follow that rail without "deviation" and "going back".
- (iii) Prepared mostly with strong "assistance" from the Donor Group
- (iv) The common basket funding donors formed the steering committee together with the Government. Programme design was contracted out to external consultants and even implementation itself as well. The mission was worried that the Programme was elaborated without passing sufficient process of awareness building within the nation and consensus based on their own felt needs.

² National Minimum Standard is a concept that a minimum level of services must be secured even in poor remote rural areas just as in big cities.

(v) Danger in too much rushing to D-by-D

The policy of D-by-D promoted by the Government seemed to the mission as if Tanzania was looking for almost the same type of model as the recent trend in the developed countries. A question was raised if the capacity and mind-set of LGAs as well as that of the Central Ministries were ready for such a drastic change. The mission observed the following challenges in this regard:

- Resistance from the Sector Ministries
- Lack of in-depth discussion over D-by-D in the society
- Not yet sufficient capacity development in LGAs to assume the devolved duties

2.3 Possible Utility of Japan's Experience in Nation Building and Decentralization Reforms – Message Given from Japan to Tanzania in Osaka Training

Having observed the above-mentioned situation of Tanzania, JICA considered that Japan's experience of her nation building and long decentralization reform process could be fairly relevant and useful for Tanzanian reform leaders to learn and review their own reforms.

Japan is a small Asian country outside the Western Civilization that started her nation building as a backward country and later achieved remarkable development. She has ample interesting experience of applying external models (Western models), which other donors do not have. (European Countries have been always the frontrunner at the center of the world and no need to learn from outside.) In fact, Japan started her nation building and development, trying to copy Western models, but failed at the initial stages. Since then, it was a long process of "trial and errors" until eventually reached the creation of her own unique model called "Half-Japanese Half-Western Model". Japan believes that this kind of creation process with strong ownership through repeated "trial and error" is very important for the Country's sustainable development.

This process model that Japan took for establishment of her local government system as well as decentralization reforms is quite different from the European model that many of the developing countries are currently trying to introduce. JICA thought that presenting such a "different model" could be useful by itself, since if they have only one model, it becomes the "absolute model", but when they have more than two, they can start comparing and see which part of which model is more suitable to their own situation, which is an important first step towards creation of their own model.

The followings are just a few examples of the interesting learning points from Japanese model, among many:

(1) Very slow but steady reform process

Japan took 110 years since she started development of local government system and decentralization, and 55 years even counting from the start of major decentralization reforms after the World War II, before reaching eventual D-by-D which was realized in 2000.

The government tried to make sure that LGAs have acquired enough capacity before devolving functions, instead of rushing for institutional reforms of D-by-D.

This experience of Japan gives opportunities for Tanzania to think twice whether their speed is not too fast, and if at all they have to keep the current speed, then how to ensure adequate capacity development process of LGAs.

(2) Agency Delegated Functions (ADF)

In fact, during the above-mentioned 55 years, the government chose the modality of "delegation" called ADF as a transition measure, instead of jumping directly to "devolution".

Because of this modality, Japan has been criticized by the Western countries for long that she is not appropriately decentralized, and eventually the government decided to go for real D-by-D in 2000, getting rid of ADF.

However, it is now confirmed that ADF has contributed significantly to healthy development of the LG system and to the successful realization of eventual D-by-D in the case of Japan, especially in the following aspects:

- Thanks to ADF, LGAs worked in close consultation with the Central Ministries concerned, and could develop their capacity through On-the-Job Training (OJT) with close technical backstopping from the Ministries. Whenever LGA officers face difficulties, they could consult with Ministry officials by phone, and the latter kindly helped the former to solve the problem together. All these were possible because the work was supposed to be under the responsibility of the Central Ministries but delegated to LGAs. Thus there was no resistance from the Ministries but cooperation, unlike many developing countries promoting D-by-D.
- The whole idea was to make sure that the limited available resources in the country could be mobilized to the maximum extent towards one direction, i.e. development of the nation, instead of fragmenting them and creating conflict between CG and LGAs.
- It was especially important at the initial stages where LGAs' capacity was weak. Without ADF during that time, LGAs could have neither performed their duties to serve for the people nor develop their capacity.
- Another important factor was "OJT", as mentioned above. Thanks to this process of OJT for 55 years, all the staff of LGAs as well as their organization itself could develop their capacity enough, receiving transfer of know-how and expertise from the Ministries, and were ready when the government decided for eventual D-by-D.

This experience of Japan poses a fundamental question to Tanzania on how to ensure reliable and effective capacity development process of LGAs while proceeding with D-by-D, making sure the maximum mobilization of the limited resources of the country and avoiding resistance from the Sector Ministries.

(3) Personnel Exchange System between CG and LGAs

In Japan, during the initial stages of the reform, the modality of personnel exchange between CG and LGAs was used quite often as one of the most effective means to a) fill the gap of qualified staff especially in the poor remote areas, and b) promote transfer of know-how and expertise from CG elite to weak and inexperienced LGAs staff in order to develop capacity of those LGAs.

The Government created a big pool of elite officials in Ministry of Local Government and assigned them to difficult LGAs in the most remote areas in order to help them. This secondment was normally for 4-5 years, after which they returned to their respective mother ministries. The more capable they are, the more remote and difficult LGAs they were sent to. But when they succeeded in performing well in those duty stations, they were promised a good promotion upon their return, which was an important incentive for the elites to go to such unattractive places with high motivation. Also, many LGAs sent their staff to the Central Ministries to work there, with a view to getting OJT on certain subjects that the respective LGAs are interested in.

After repeating several cycles of such personnel exchange, a lot of know-hows and expertise were transferred effectively from CG to LGAs, which tremendously helped the capacity development of LGAs in Japan. Now, LGAs in Japan are self-sufficient in their human resources without any need to depend on CG anymore.

It is obvious that if too rigid human resources decentralization is carried out without careful provision of countermeasures, it will create a serious gap of personnel in the LGAs in poor remote areas. It was for this reason that Tanzania decided to “recentralize” major part of the human resources management. However, it does not make much sense to promote D-by-D without human resources decentralized. Instead of “0 or 100”, it is required to consider certain strategy on how to go about HR decentralization but avoiding at the same time the gap in rural areas, and ensuring a certain process to develop future capacity of such LGAs.

3.0 THE ISSUES RAISED AND DISCUSSED DURING OSAKA TRAINING

Due to space limitations, only a few most fundamental issues could be presented in the section above, among many messages given from Japan to Tanzania based on her own experience. Here, some other points will be itemized below with brief explanations.

3.1 General Issues

The following issues and questions were raised to be discussed during Osaka Training:

(1) Importance of capacity development of LGAs as necessary preconditions for successful decentralization

- Are there no risks of stagnation of the service delivery, decentralizing so much responsibility in such a short period?
- How to cope with the situation where LGAs need to be equipped with enough capacity to assume all the devolved functions?
 - What about recruitment? How to secure qualified personnel in the LGAs of poor and remote areas?
 - How to fill the gap of know-how and experiences in LGAs and develop them? Is it not necessary to ensure some mechanisms of transfer of know-how and expertise, as well as technical backstopping from CG to LGAs? Is it not important to nurture collaborative relationship between CG and LGAs, instead of always looking for external support?

(2) Decentralization and Development

- In order to achieve socio-economic development of the country with very limited resources available, it is essential to seek for the best strategic mobilization of these available resources. (This is what Japan has been doing for her development.)
- How to manage the Country’s development and decentralization together which are sometimes contradictory each other. How to make sure to avoid fragmenting the resources and conflict between CG and LGAs as well as among different LGAs?

(3) Decentralization and National Minimum Standard

- How to manage between decentralization and National Minimum Standard? How to ensure the LGAs in poor remote rural areas to have as good capacity as those in rich cities in terms of service delivery to the people? (human and financial resources)

(4) Reality of the LGAs’ Capacity for Service Delivery

- A question was posed as to how many extension officers are there in one LGA including those who are deployed at Ward and Village levels, in order to let the participants realize what a harsh situation the Tanzanian LGAs are obliged to cope with. Compared to less than

100 in Tanzania, just taking one example, Nagano Prefecture³ in Japan which is rather smaller prefecture in rural area has more than 1,500 agricultural extension officers. Moreover, there are 77 lower LGAs within the said Prefecture, each of which employs 20-30 extension workers. It means the farmers in Nagano Prefecture are enjoying the services provided by more than 3,000 LGA extension workers, compared to Tanzanian farmers who have less than 100⁴. Furthermore in Japan, there are a number of private companies that sell agricultural machineries, fertilizer, agrochemicals, seeds, etc. together with strong agricultural cooperatives, all of which provide a number of extension services and technical supports.

- We should recognize the above-mentioned harsh realities, and start our strategy from there. We should not dream as if it is possible in Tanzania to realize as good service delivery as the industrialized countries with such a small number of staff to cover a huge area, if the Government is to do everything alone.

(5) Importance of people's self-help efforts, and collaboration between LGA and communities

- Because of the above-mentioned harsh reality, it is indispensable to make maximum use of people's potential for self-help efforts in order to implement better service delivery.
- It is JICA's belief that if people are properly guided and facilitated, they will be able to do a lot of things by themselves, including construction of primary schools, dispensaries and community roads, and maintaining them.
- In the case of Japan as well, at the initial stages of her development, the Government was too poor to construct primary schools, for example. It was the community people who contributed from their pocket and worked together to construct, and furthermore, looked for somebody who can teach and paid them their salary. That is why many of the schools at that time in Japan were not "public" but "private", which means "community owned schools". It was only after several decades that the government became well-off and started owning them as public schools.
- It requires a kind of mind-set change of the Government as well as people, from thinking that it is the government to provide all the services for people, into a perception that people can do a lot by their own self-help efforts and the government is to facilitate such process instead of implementing everything alone.

(6) Importance of defining adequate size of LG units, and develop innovative mechanisms to reach out from LGAs to communities

- From the above-mentioned requirement, it is crucial to develop much stronger mechanisms for LGAs to reach out to communities. In Tanzania, area covered by LGA is relatively big compared to that of Japan, so it is important to think how to bridge between LGAs and communities.
- From the viewpoint of nurturing strong sense of local autonomy among people, the LG unit should be small enough so that people can feel that it is their own. On the other hand, the LG unit has to be strong enough to provide enough level of services, which requires certain size of unit in terms of financial and human resources. These are two contradictory requirements.

³ Prefecture in Japan is somehow comparable to Tanzanian Districts in size. (Though in many cases, Tanzanian Districts are far bigger than Japanese Prefectures.)

⁴ Moreover, Japan is not an exceptionally better-off country in this regard. To the contrary, Japan is the country that has the least number of public servants per population among the industrialized countries. It means U.K., France, Germany, Italy, etc. have even more government personnel!

- In order to give a good answer to the above contradictory question, the only solution is a multi-layer system from LGA to communities. In Japan, this multi-layer system is well functioning. But Tanzania also has a very well established system of District-Ward-Village-Kitongoji. This is very advantageous to nurture local autonomy and collaborative development endeavors between LGAs and communities. Furthermore, O&OD could be an excellent platform to consolidate that system and make it function.

3.2 Human Resource Management and Its Decentralization

As seen in the previous sections, Osaka Training had been rather warning the Tanzanian leaders during the initial few years to be careful about too rapid and drastic reform of D-by-D. However, as far as the human resource management aspect is concerned, the message became a bit different since it started observing the recentralization of the appointment authority of Council Directors and Head of Departments of LGAs as well as establishment of the Recruitment Secretariat for all the personnel of LGAs.

Japan did not go for D-by-D so quickly, keeping certain interventions of CG. In this sense, Japanese decentralization was not a perfect one for many years until 2000. However, as far as the human resource management is concerned, Japan made it completely decentralized from the very beginning of the reforms.

It was because human resource decentralization is the most fundamental basis for decentralization. In Japanese local government system, everything is decided and carried out within each LGA without any CG intervention right from recruitment, training, salary scale, transfer, promotion, till retirement. Japanese LGAs recruit new graduates every April according to their needs. After being recruited by one particular LGA, the employees will work for that LGA all through their life until retirement. There is no transfer from one LGA to the other in principle.

Furthermore, the Mayors are politicians elected by popular vote by the residents, and he/she will be the head of administrative branch of his/her LGA facing with the Council as the legislative branch. The technocrats will report to the Mayor and not to the Councilors, being represented and thus protected by the Mayor towards the Council and the Councilors.

In Osaka Training, the following three factors were emphasized as crucial elements to achieve the maximum human resource capacity of LGAs:

- 1) Recruitment
To recruit the best person apt for the organizational mission; and
- 2) Training
To train them towards achievement of the organizational mission (not for individual aims); and
- 3) Mobilization
To ensure maximum mobilization (exploitation) of the full capacity of all the members to achieve organizational goal

For those sakes, Japan considers it indispensable to decentralize the HR management so that each LGA can analyze its own situation, plan, recruit, train, assign, and mobilize its own personnel by itself. LGA staff should be someone who loves the area as well as the people there, works hard for the people, understands well about the situation of the area, knows the people well and thus be able to work closely with the residents. These form the essence of decentralization. It is the

experience of Japan that in those LGAs that are achieving remarkable success, there are officers who really work hard for the people and collaborate with the residents, and most of them were the ones who were born and brought up in the area and love their home town, together with the very strong leadership of the mayor who was also born there.

Another important element that makes Japanese LGAs stronger is their effective training of the staff. Japanese LGAs invest a lot on their staff through trainings as well as OJT which is given very strategically based on their institutional needs (not individual) and with longer perspective. It is possible in Japan because there is no transfer of staff to other LGAs and retention rate is so high, thus LGAs can invest without fear of losing their staff after training them. To the contrary, in Tanzania there are frequent transfer of important officials from one LGA to the other and difficulties in retaining staff. Under such circumstances, the big challenge is how to ensure the training outcome to be maintained and led to improvement of LGA's performance, and how to make the LGAs to be serious about their staff capacity development despite such high possibilities of losing them after training. A question was posed if it is possible for Tanzanian LGAs to prepare and implement an effective staff capacity development strategy (plan) with longer perspective under such circumstances.

On the other hand, Osaka Training presented the issue of "team work" and mobilization of 120% capacity of the existing staff towards the same institutional goal. In Japan, there are several elements of HR management system that are carefully elaborated for that sake, such as:

- 1) deliberately developed salary scale with a view to avoiding corruption and making staff to work hard until retirement;
- 2) Japanese unique "late promotion system" to make everybody work so hard for years (exploit 120% of the capacity of everyone);
- 3) Staff rotation system within the same LGA and accumulated evaluation system in order to make fair and objective evaluation to everyone as well as to identify capable staff who are apt to be promoted as Directors;
- 4) totally concentrated HR management function in Personnel Division to support 3) above;
- 5) Japanese unique working environment to facilitate "team work", supervision by bosses, and OJT by the supervisors, called "Big Roomism" (open office).

All that are explained in this section are provided in Japanese LGAs for the sake of ensuring the three crucial factors of HRM mentioned above, i.e. 1) Recruitment; 2) Training; and 3) Mobilization. Question was posed, under the current circumstances of Tanzanian LGAs, how to ensure the above-mentioned three elements.

3.3 Local Finance and Fiscal Decentralization

a) Financial Basis for LGAs

Figures (1) and (2) provide a symbolic overview of the situation of LGAs in Japan from financial viewpoint.

Figure (1) indicates how big the role played by Japanese LGAs is in terms of each sector service spending. Looking at the health sector, LGAs spend 94% of the total national expenditure while CG spends only 6%.

In education, the proportion between LGAs and CG is 85% and 15%.

Considering the close correlations between amount of expenditure and volume of work, it can be analyzed that the Japanese LGAs are performing highly important part of the Government service delivery.

Oh the other hand, it is very important to note that such big amount of budget is actually allocated to LGAs to enable them to perform the heavy duties assigned (decentralized) to them.

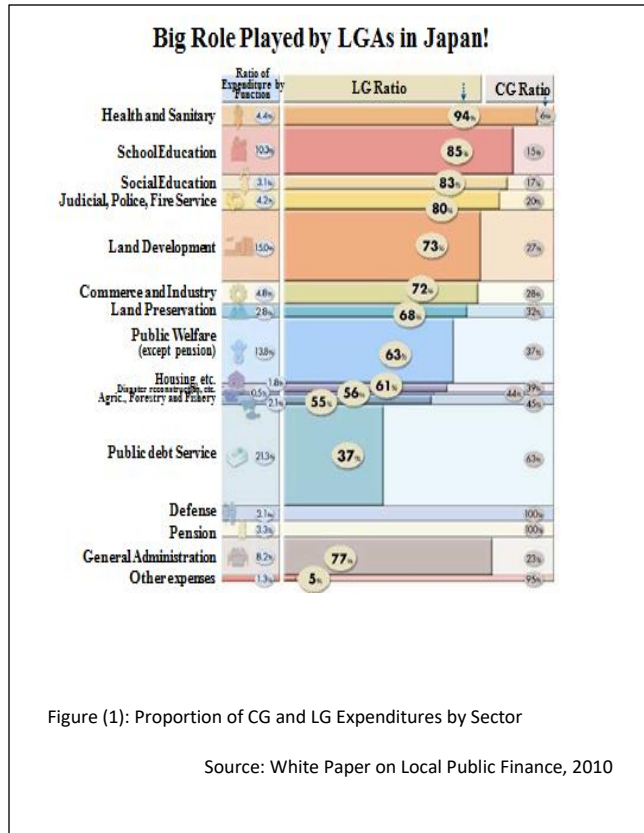


Figure (1): Proportion of CG and LG Expenditures by Sector

Source: White Paper on Local Public Finance, 2010

What about Tanzania? In fact, looking at all the functions devolved to LGAs in Tanzania, the volume of works assigned to them is almost the same as those given to Japanese LGAs. Nevertheless, the budget allocated to LGAs was less than 3 trillion Shillings out of the total national budget of more than 11 trillion in 2011/12.

Another interesting comparison is about discretionary nature of the budget of LGAs. The Figure (2) shows composition of the revenue sources of Japanese LGAs. As can be confirmed there, 53% is from their own sources (local tax and fees/charges). Furthermore there is a totally discretionary unconditional grant called “Local Allocation Tax Grant” (LAT Grant). LAT Grant is one single block grant. It is transferred from the Ministry of Finance into the general account of each LGA on the first day of every quarter. Calculating the amount of revenue from their own sources together with this LAT Grant, Japanese LGAs enjoy 75% of their budget at their discretion. This forms an important basis for Japanese LGAs to make their development plan realizable, counting on the sufficient and

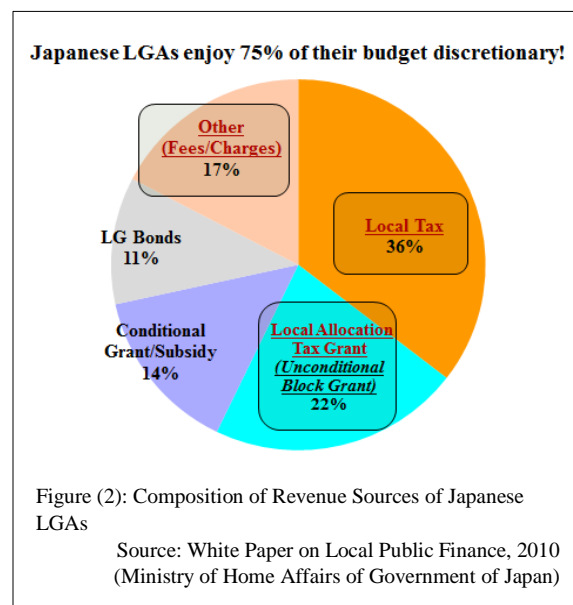


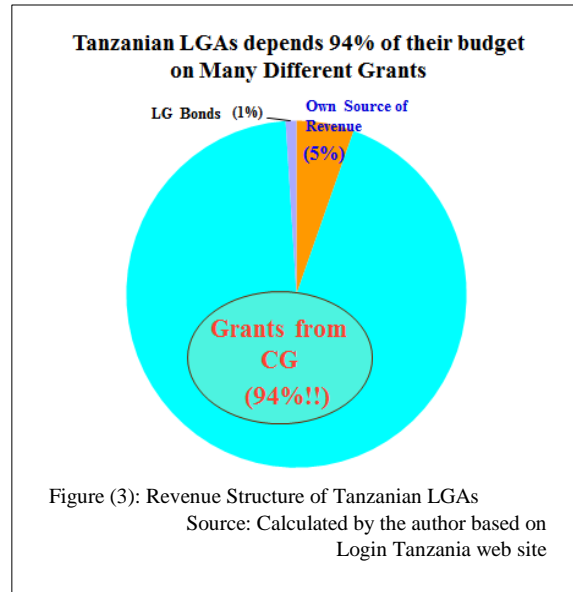
Figure (2): Composition of Revenue Sources of Japanese LGAs

Source: White Paper on Local Public Finance, 2010 (Ministry of Home Affairs of Government of Japan)

predictable budget every year.

Tanzanian participants reviewed the situation of their LGAs, and confirmed an unhealthy picture of the conditions that they were given, as shown in Figure (3).

Indeed it would have been still functional even in this manner if this 94% of grant were unconditional and discretionary. However in reality, it is composed of a number of different grants, many of which are conditional. Thus, even if the LGAs prepare a good development plans, it is so complicated to accommodate their priority projects because of this problem of conditional grants, which makes the development plans not easily realizable.



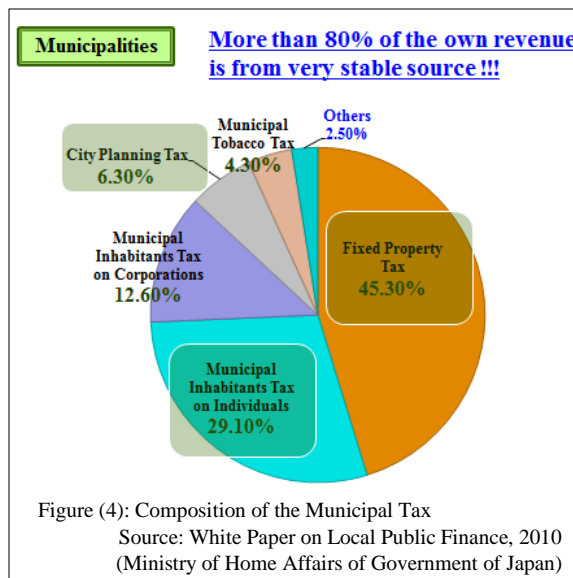
Furthermore, it should be remembered that the total budget allocated for all the LGAs is such a limited amount of 3 trillion Shillings out of 11 trillion. And that even this limited amount of just 3 trillion Shillings accounts for 94% of LGAs' total budget, which shows how limited their own source of revenue is.

Osaka Training urged the Tanzanian leaders that if D-by-D is to be promoted and much of the Government function is to be devolved to LGAs, corresponding amount of budget must be allocated, either in the form of own sources or unconditional discretionary grant⁵. If at all the appropriate budget allocation is not possible, then the functions should not be devolved to LGAs. Otherwise, it will be a logical consequence that the decentralized service delivery will be paralyzed and it is the citizens who will suffer eventually. As having been able to observe, in Japan when 85% of educational service delivery responsibility is decentralized, the corresponding amount of the budget is facilitated to LGAs. Otherwise it is not fair to LGAs and actually to the people.

⁵ In fact it is not recommended to promote a radical fiscal decentralization to give too much taxation authority to LGAs at this stage. Because it will make the LGAs in poor rural areas suffer since they don't have tax basis, though those strong LGAs in rich urban areas will enjoy a lot of revenue from their own sources. Therefore it is more realistic to make the grants unified in one single channel and totally unconditional and discretionary for the time being.

b) Local Taxation for Sustainable Vigorousness of LGAs

In Japan, there is a clear philosophy behind the definition of local taxes allocated to each of the two layers of LGAs. (Prefectures as Higher LGAs and Municipalities as Lower LGAs⁶) Although Prefectures being HLGAs, are comparable to Tanzanian Districts in area-wise, as far as functions are concerned, it is the Municipalities that have similar responsibilities to Tanzanian HLGAs. In Japan, most of the basic service delivery is provided by the Municipalities since they are closer to the people, while Prefectures are mainly concerned with economic development since it requires a bit larger area to plan and implement strategically.



Based on the above-mentioned nature of the roles expected to the Municipalities, the following is the clear feature of the taxes allocated to the Municipalities:

As can be seen in Figure (4), Fixed Property Tax accounts for 45.3% of the total tax revenue, which is almost a half. Together with “Municipal Inhabitant Tax on Individuals” and “City Planning Tax”, the share is getting more than 80% of their total tax revenue. Fixed Property Tax and City Planning Tax are imposed on the lands and buildings, which will not escape. As long as the lands and buildings are precisely registered, the tax revenue from those two sources is stably secured.

“Municipal Inhabitant Tax on Individuals” is like the poll tax (Development Levy⁷) abolished in Tanzanian. This tax source is also stable since all the residents are registered and LGAs know where they are. Now looking at the Tanzanian situation, most of the tax revenue sources are economic based ones, such as Produce Cess (23%), Service Levy (18%), Guest House Levy (3%), License (10%) and Fees & Charges (17%), which fluctuates in accordance with the economic situation of the area, while the Property Tax accounts for only 8%.

Osaka Training urged the Tanzanian leaders that if LGAs are expected to provide needed services in a constant and stable manner, it is fundamental to develop a stable taxation system. From her proper experience, Japan believes that without putting emphasis on those stable tax sources like Property Tax and Pole Tax, it is not possible to expect much for LGAs to perform. In this context, it is critical to establish an accurate land register system as well as the resident registration, which will help a lot for the entire Country not only to have more revenue, but also for many other purposes.

In this regard, it is worth mentioning that there are some very interesting and encouraging practices of this kind in Tanzania already as the case of Mtwara Mikindani and Kinondoni Municipals.

⁶ There are 47 Prefectures and about 1,742 Municipalities as of October 2012. Municipalities consist of **Cities, Towns and Villages**, which is a different classification from Tanzanian.

⁷ The only difference is that while the latter is imposed the same amount equally to everyone, the former is imposed according to the income level of the household. If there is no income or not up to a certain level of income, the family members of that household do not have to pay this tax.

3.4 Local Economic Development – Japan’s Interesting Experience of “One Village One Product (OVOP)” Movement

Local economic development has been always major concern of the Council Directors of Tanzania. In this regard, there is a World famous experience in Japan called “One Village One Product (OVOP)” Movement, originated in Oita Prefecture that used to be one of the poorest Prefectures in Japan at that time. This experience could be very relevant and useful to Tanzanian rural development if it is properly interpreted and applied to Tanzanian context.

(a) What is OVOP?

OVOP is a collection of local development initiatives promoted by leaders of the respective communities in Oita Prefecture, who love their community and were worried about the poverty there. Although such individual practices had been existing here and there in the Prefecture since 1960’s, OVOP movement itself was officially initiated in 1979 by Dr. Morihiko HIRAMATSU, the then Governor⁸ of the Prefecture by identifying such cases and promoting them.

Talking about Dr. Hiramatsu, he had been a highly promised elite official of the then Ministry of International Trade and Industry (MITI) which was the strongest Central Government Ministry, but decided to go back to his home prefecture since he was worried about the situation of the prefecture that was remaining one of the poorest in Japan at that time. When he won the election and assumed office of the Governor, the first thing that he did was to visit all the villages in the Prefecture. During these visits, he found various spontaneous but precious endeavors for development in the villages. He was moved at the fact that there were such good practices of local development spontaneously pursued by the villagers with passionate local leaders, and that those cases had been unknown to the government. He appreciated their efforts, and encouraged them. For those villagers many of whom had never even been out of their own village, it was really an encouragement that such a big man visited their village and admired what they had been doing. They had never imagined that what they were doing was something special and valuable. Since his visit, such endeavors of the villagers became more and more enthusiastic being proud of themselves.

In his part, Dr. Hiramatsu thought it an important role of the Prefectural Government to encourage and promote this kind of precious initiatives of the villagers to improve their life by themselves, and widely share such good practices with all the other village leaders in the Prefecture.

The core feature of each case of OVOP is to produce some unique products (including tourism), and achieve local development, using existing available resources in the village. However, even more important element in this movement was that: through the concrete experience of endeavors of their small local economic development activities, the villagers consolidated their self-organizing capability; were empowered; and strengthened the local autonomy in the village. The important fact here is that experiencing success and failure (and overcoming it), the community not only achieved the economic success but also got empowered and became stronger through the process. It is fundamental to note this fact in understanding the OVOP Movement. Because to get one time success in certain business is not all that difficult with strong injection from outside, but when they encounter some problem later, they will not be able to overcome it if they have not been empowered through the past process to solve problems by themselves.

⁸ The post of Governor of the Prefecture is the leading post of Japanese Higher LGAs equivalent to the Municipal Mayors for Lower LGAs (See “3.2. Human Resource Management and Its Decentralization” for the Mayors.)

In this sense, it is very interesting to observe that in most of the cases of OVOP in Oita, they went through the following process:

- Before OVOP, the villagers were poverty stricken, given up hope to change, envious and jealous even among themselves, and thus no collaboration among them to improve their life together. However, with the experience of OVOP, they started recognizing “Yes, we can if we want!” This was a remarkable process of mind-set change.
- Based on the above-mentioned mind-set change, they accumulated experience of collaboration within the community, sharing the common challenges and experience of overcoming them together. This process made them to be organized better and better.
- Through the same process, they also strengthened the relationship with outside supportive organizations including LGA and NGOs.
- Together with all the above-mentioned empowerment, the community achieved a tangible outcome of economic development.

(b) What did Dr. Hiramatsu do as the Prefectural Governor?

First and foremost, it should be clearly noted that OVOP was in no sense a “Top-down” programme that Dr. Hiramatsu created and told people to do something. Unfortunately, most of the developing countries that were interested in OVOP and tried to introduce it in their countries misunderstood this point. They just looked at the economic success of OVOP and promoted as a national policy giving instruction with top-down approach to each village to produce something that can be sold nationally or internationally. To the contrary, what Dr. Hiramatsu did in Oita Prefecture was, first of all, to visit all the villages, identified the already existing precious endeavors, admired and encouraged them.

Secondly, he informed the other villages and their leaders of those good practices so that they get inspired and start thinking of their own development using available resources in their respective areas, instead of complaining that they have nothing in their village and giving up hope. Thirdly, when he identified good products in some villages, he helped them to get market in and outside the Prefecture. Using his know-how, experience and connection developed since he had worked as a high rank official of Ministry of International Trade and Industry, he promoted these products nationwide. Fourthly, he promoted exchange of experience among leaders of respective villages so that they can learn from and get stimulated each other (horizontal learning, not vertical). He established “*Toyonokuni*”⁹ Human Resource Development School¹⁰ for the village young leaders to get together and learn from each other. This stimulated the leaders so much which led to emergence of a lot more of OVOP cases.

As can be seen above, OVOP in its essence was a movement composed of various spontaneous local development attempts which were identified by the LGA, appreciated and encouraged. And the LGA played a role of “facilitator” and not “implementer” or “instructor”. What Dr. Hiramatus did was not to tell the villagers what to do and lead the movement, but respected their initiatives and ownership, and accompanied their efforts. Osaka Training emphasized this aspect of OVOP, and its close relevance to the situation of Tanzania, believing that there must be such spontaneous development endeavors in Tanzanian villages with good leaders who are concerned about their home. It could be highly effective for Tanzania to encourage such efforts and give them

⁹ “*Toyonokuni*” is a traditional name of the area of Oita Prefecture

¹⁰ It is called “school” but there is no physical facility. It is a sort of workshop type training programme for the leaders to get together.

opportunities of horizontal learning. Osaka Training urged the Tanzanian leaders that they should not think there is nothing in their villages. There must be good practices but still unknown to them. They should start trying to identify such cases, encourage, and share with others. It would be much more effective than learning from outside or from textbooks. It is also from this viewpoint that compilation of this Handbook itself was decided.

3.5 Other Issues

Due to space limitation there are more issues that are important and relevant to Tanzania which could not be covered. These are the experience of Minamata (“Minamata Disease” and recovery from that tragedy); participatory local development planning; urban planning; land use and land adjustment, Japan’s experience of economic development and roles played by LGAs, etc. Concerning the experience of Minamata, Osaka Training is putting a lot of emphasis on its importance, and believes that the developing countries have a lot to learn from there.

4.0 FURTHER DEVELOPMENT AFTER OSAKA TRAINING THAT LED TO PUBLICATION OF THIS HANDBOOK

As described in Section 1 above, Osaka Training was conducted exclusively for Tanzania during the first five years (2002 – 2007), and continued for another six years extending its scope to three other countries (2008 – 2012). The most remarkable incident during these eleven years was the establishment of its own alumni; TOA. It is a World exceptional and exemplar case to have special alumni for one particular training course and that covering all such important leading stakeholders of the reform as the RASs and the Council Directors together with high rank officials of PO-RALG. It was also a pleasant surprise even for JICA that is offering thousands of training courses all over the country.

Moreover, TOA started a series of seminars and workshops such as Post Osaka Trainings and Post Regional Workshops to share experience of the member LGAs. These opportunities, not only serve for experience sharing among the member LGAs, but have become a rare arena to discuss and exchange opinions about the reality of D-by-D in the field and challenges of the reform implementation that they are facing. So far, there is no organization of this kind in Tanzania, composed of the top technocrats of LGAs and RSs. Nonetheless ALAT exists, but the main actors in this association are the Council Chairpersons who are politicians and not bureaucrats. In this sense, TOA has an interesting possibility to serve as a national association of all the top management of LGAs and RSs who are the expert practitioners of D-by-D, struggling in the reform implementation in the frontline every day. Their collective suggestions and recommendations could be very useful elements for more successful reform implementation.

Tanzania has already accumulated more than one decade of experience in practicing D-by-D in each LGA. There must be a number of interesting initiatives and useful experiences in many LGAs all over the Country that are worth sharing with others. Japan believes that this kind of horizontal learning from such cases would be much more effective than vertical learning from outside, based on her own experience such as OVOP Movement described in 3.4 above. This Handbook was compiled with the above-mentioned background and considerations. It is a hope of TOA and Osaka Training that it will contribute to improvement of the performance of many LGAs, stimulating each other, and further good practices coming out, which leads to eventual success of D-by-D in this Country.

Finally, it is worth mentioning that based on all the remarkable outcomes of Osaka Training in Tanzania described in this chapter, JICA has decided to continue Osaka Training for five more years

concentrating again on Tanzania with a special view to supporting TOA activities and its institutional building. Thus, more and more Tanzanian reform leaders will be benefitting from Osaka Training to contribute to better implementation of D-by-D Reform of the Country.

Chapter Two:

Fiscal Decentralization and Revenue Enhancement

Tanzanian fiscal decentralization focus on empowering LGAs have their own sound sources of revenue, creating efficient intergovernmental fiscal transfers, providing efficient level of funding for the delivery of mandated services, improving revenue generation, guaranteeing transparency and fairness in fiscal allocations and ensuring equity in service delivery (Local Government Reform Policy Paper 1998). Fiscal decentralization in Tanzania encompasses in principle the following facts;

- (i) LGAs should not be assigned responsibilities or mandates that are unfunded
- (ii) The grant system should allow national (priority) policies to be executed through LGAs, which could be funded with conditional grants and guided by national minimum standards
- (iii) The grants system should encourage LGAs to set their own priorities through the introduction of significant unconditional grants and development grants
- (iv) The unconditional grants should be provided in an equalizing manner by compensating LGAs which have weak resource base
- (v) Calculation of grants should be done on formula basis based on reliable, fair and objective criteria
- (vi) Grants from particular line Ministries' budgets should be avoided as much as possible

Revenue enhancement refers to the use of autonomy granted by the Central Government to the LGAs to raise revenue and spend depending on their own priorities. Revenue enhancement includes activities such as finding the sources for revenue, widening the tax base, encouraging economic development activities that increase the sources of tax and enacting bylaws that enforce revenue collection and spending.

In this chapter, three best practices are presented. Mufindi DC best practice is about effective collection of Cess in forest products. It highlights how forest products can result into increase in own source revenue through in depth research on Cess collection methods changing the council from charging logs to charging timber. The best practice also shows how awareness programmes on Cess collection and effective use of checkpoints lead into significant increase of own source revenue.

The Kilombero DC best practice on enhancement of own source revenue collection details on how LGAs can raise substantially their own source revenue from agricultural products, paddy in particular. It shows how the council became a giant in own source revenue through promotion of paddy production, review of Cess collection bylaws, effective management of receipt books, establishment of Cess collection team, use of Cess collection performance agreements with WEOs and effective control of checkpoints.

The chapter ends with the Korogwe TC best practice which details about innovation in local revenue for improved service delivery. The best practice dwells on raising revenue through seeking land, surveying the land, selling plots to citizens and using the revenue to conduct valuation of properties in town which in turn raises collection of property tax and result in increased own source revenue.

The best practice also shows how revenue increase improves service delivery in terms of construction of new offices, purchase of vehicles and effective service provision in waste collection, agriculture and education.

As the revenue allocations from Central Government are in decline and heavily regulated LGAs are forced to become active in soliciting revenue from alternative sources such as forests, agricultural products and property tax. Analysis of the best practices in this chapter shows that:

- Local Endowment is supposed to be the main source of own source revenue for most of LGAs but this source is still underutilized. The reason for underutilization of the sources includes un-identification of the natural resources, poor feasibility studies, and ineffective participation of communities. LGAs need to be very innovative in identifying local natural resources that can be used for increase in production and economic activities that result into more revenue base.
- LGAs are legal self-propelling entities. In this regard and considering the meager resources from central government, they must embark on research to identify lucrative sources of revenue and promote agricultural and business activities with potential of high revenue turn over. LGAs must be prudent and innovative to venture on real estates and properties in order to collect more revenue sustainably.
- The revenue collected from all the various sources need to be spent prudently and directed to the same taxpayers to create relevance for paying taxes. LGAs need to extend quality services to the communities that pay taxes to increase willingness on paying taxes and create sustainability in own source revenue.

MUFINDI DISTRICT COUNCIL



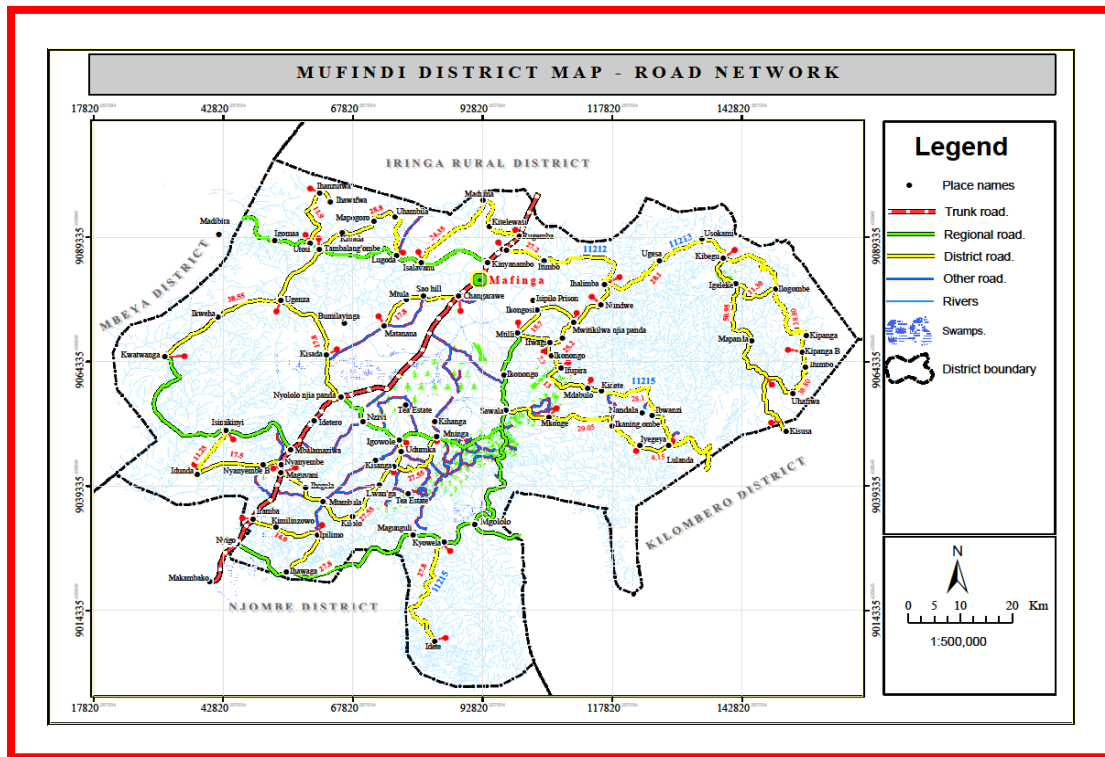
EFFECTIVE COLLECTION OF CESS IN FOREST PRODUCTS



Experience of Mufindi DC

1.0 INTRODUCTION

Mufindi District Council was established in early 1970's. Mufindi DC is among the five Councils of Iringa Region located 80 km South of Iringa Municipality. Other Councils include Iringa MC, Iringa DC, Mafinga TC and Kilolo DC. Mufindi DC is bordered by Njombe Region to the South, Mbeya Region to the West, Iringa DC to the North and Kilolo DC to the North East. The headquarters is located at Mafinga town along Mbeya highway. In terms of international identification, the Council lies between Latitudes 8°.0' and 9°.0' South of Equator and between Longitudes 30°.0' and 36°.0' East of Greenwich. The land is occupied by forests (10,411.3 sq.km) leaving only 2,427.6 sq. km. for human activities.



The major ethnic group is the Wahehe who constitute about 85% of the entire population. Their main activity of the inhabitants is farming followed by small scale livestock keeping. The Wabena, Wakinga and others make up the remaining 15%. These migrated into Mufindi DC from neighboring Njombe and Makete DCs in search of green pastures in tea and timber industries as well as employment in government institutions. Table 1 below shows the Mufindi Divisions and the main ethnic groups.

Table 1: The distribution of Five Major Ethnic Groups by Division

S/No.	Division	Area km ²	Wards	No. of Ethnic Groups	List of Five Major Ethnic Groups
1	Ifwagi	2,100	9	3	Wahehe, Wakinga and Wabena
2	Kasanga	1,500	8	3	Wahehe, Wakinga and Wabena
3	Kibengu	820	3	2	Wahehe and Wabena
4	Malangali	1,500	6	3	Wahehe, Wakinga and Wabena
5	Sadani	1,203	4	2	Wahehe and Wabena

	Total	7,123	30		
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Benchmarking on 2002 population and housing census, population of Mufindi DC increased from 272,071 people in 2002 to 317,731 in 2012, contributing about 34 % of Iringa Region total population with an annual average growth rate of 1.5 %. Mufindi DC is estimated to have minimum population growth rate compared to other Districts in the region. This growth rate is below the regional average of 1.6 % as well as the national average growth rate of 2.4%. According to 2008 projected population, Mufindi DC is the most densely populated Council in the region while its per capita GDP is TZS 1,206,917 per annual.

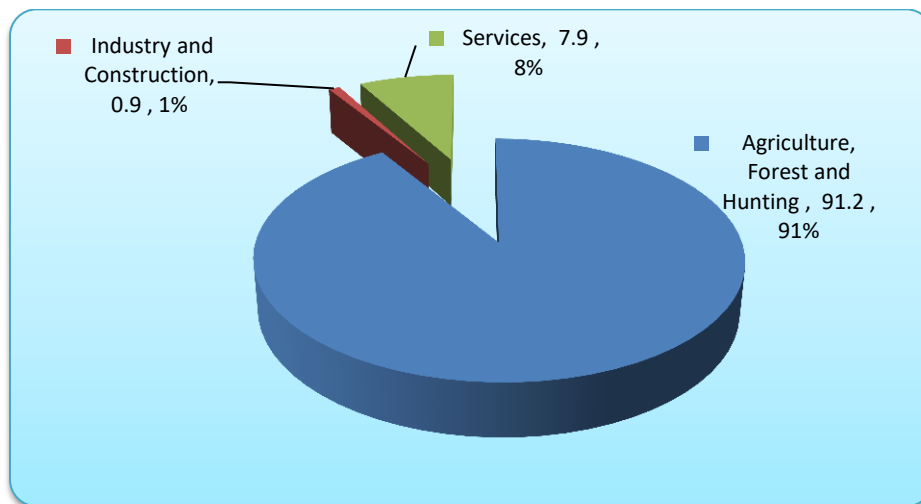
The District is divided into 5 divisions of Ifwagi, Sadani, Kibengu, Kasanga and Malangali; 30 wards; 125 villages and 608 Vitongoji distributed unevenly as shown in Table 2 below.

Table 2: Land Area and Administrative Units by Division

S/No.	Division	Area Km ²	Wards	Villages	Hamlets	% Area
1	Ifwagi	2,100	9	32	150	29.5
2	Kasanga	1,500	8	32	158	21.1
3	Kibengu	820	3	16	81	11.5
4	Malangali	1,500	6	27	133	21.1
5	Sadani	1,203	4	18	86	16.9
	Total	7,123	30	125	608	100.0

The economy of Mufindi DC is dominated by agriculture which employs more than 85 % of its population. Both cash and food crops are produced, with the latter dominating. According to the results of 2008 Regional Gross Domestic Product Survey, agriculture contributes close to 91% of the Councils' GDP of which crop production contributes about 90.2% followed by livestock (0.7%) while hunting and forestry account for 0.2%. Relatively good performance of manufacturing sector has been influenced by the availability of large scale multinational companies which engage in pyrethrum and tea production and processing. These are Pyrethrum Company of Tanzania (PCT) and Tea processing and packaging industries (Uniliver Tea Tanzania Ltd, Mufindi Tea Company and Chai Bora). Chai Bora basically is for tea packaging while the other two are for processing. The manufacturing sector is also influenced by a number of wood related processing industries including the Mufindi Paper Mill (MPM) at Mgololo and Sao Hill industries and many other small industries.

Figure 2: Contribution of GDP by broad sector



2.0. PROBLEM

Mufindi DC benefits from ample opportunities provided by nature in terms of favorable climate for agriculture, adequate rainfall, abundant land and a hard working population. It well situated in Tanzania as lies between the highway to Sothern Africa countries and a railway line to Zambia and Dar es Salaam. However the council in its endeavor to collect revenue, motivate its staff, improve internal processes and deliver quality services to the citizens experienced multifaceted challenges in revenue collection.

The first major challenge was Fraud and Dishonesty involving private farmers, log and timber transporters, government officers and council staff. In this situation timber producers colluded with transporters and revenue collectors to hide the actual number of timber produced and transported leading to decrease in collections of revenue year after year and making the council experience hardships in meeting the projected revenue. While the revenue from timber and its products was decreasing, the actual transportation of timber from the Council kept on increasing as evidenced by the swift disappearance of forests along the Mbeya highway and in villages.

The second major challenge that prompted the council to design an effective and accruing revenue collection system was the dwindling funding from the central government and other development partners. Since FY 2008/2009 towards 2010/2011 the Central Government Grants started to decrease in terms of amount and value leading to further strain in service delivery and staff motivation. This situation worsened when the General Purpose Grant was scraped and councils forced to fund the activities that were funded through this fund. Also the funding of the development projects through the Local Government Development Grant (LGDG) arrangements declined significantly making the council completely dependent on its own revenue for discretionary service delivery and staff motivation.

Thirdly, the revenue collection system itself posed a major challenge. The system had several gaps and loopholes that exposed themselves in the form of poor accountability of revenue collectors, improper and irregular bookkeeping, increasing number of defaulters and direct theft of revenue by most of the personnel involved in the system. The system as well did not allow immediate reporting

of the transactions taking place in various collection points while the receipt books lacked uniformity and consistency allowing possession of private receipt books by revenue collectors.

Lastly, the Council Cess bylaw was poorly implemented due to subjective and varied interpretations. Revenue collectors had own interpretations while big timber companies and transporters had different interpretations. This situation led to several conflicts in revenue collection and multiplication of court cases between the Council and tax payers. Also it provided a window for revenue collectors to treat timber producers, processors and transporters differently leading fluctuations of Cess charged per the same unit.

All these revenue collection system inadequacies amounted to insufficient revenue to deliver better social and economic services, increasing council debts, de-motivated staff, and unhappy councilors, complaining timber producers and transporters and indifferent citizens not willing to pay other taxes. Table 3 below shows poor revenue collections from Cess due to systems inadequacies.

Table 3. Forest Products Cess Collection Trends before Intervention

Financial year	Own source budget	Forest product Cess estimate	Actual forest product Cess collection
2008/2009	796,862,295/=	420,000,000/=	419,850,030/=
2009/2010	855,859,040/=	400,000,000/=	659,515,975/=
2010/2011	1,929,444,740/=	400,000,000/=	577,362,964.90

3.0 OBJECTIVES

Realizing the natural endowments provided by council land, climate and people; the CMT and the Councilors decided to engage human and technological potentials on improving revenue collection. The general objective of this initiative was to improve Council revenue collection on forest produce Cess for provision of better services and staff motivation. Specifically, this would improve the discretion of the council in engaging in various development projects, motivating staff and councilors and stimulating community engagement in economic activities as a result of a big push from improved services. All these categories of social and economic improvements would ultimately lead to increasing generation of local revenue and more autonomy from the Central Government; a move towards actual D by D.

4.0 IMPLEMENTATION STRATEGIES

Mufindi DC had to design and implement several strategies to be able to attain the objectives. The first critical approach was to conduct an in-depth research (inquiry) to compare actual and proposed Cess interventions. The study also involved determination of the mode of charging Cess when logs and timber are concerned, the actual counting of logs and timber and the actual Cess accruing from either logs or timber. The results indicated that collection of Cess from timber leads to more revenue and it is a fair mode than using logs to collect timber. This study was conducted by a team involving District Treasurer, Revenue Accountant, Council Solicitor, Internal Auditor and Natural Resources officer.

Secondly, the team had to develop a proposal to convince the Council to revamp the collection of Cess from logs and adopt the proposed collection of timber Cess. The proposal detailed on all the strengths of the new system showing its effectiveness, efficiency, reliability and transparency. This new collection system was adopted by the CMT and the Council resulting into demolition of Log Cess to initiation of timber (per piece) Cess. This led to changing business agreements effective July

1st 2011 with timber companies (Sao hill industries, Mufindi wood polls and plantation and Fiber board 2000). The new system of Cess collection does not exclude any source of timber hence Cess is collected from all producers including big companies, community farms, villagers, religious organizations etc. Before the new system, timber Cess was only collected at SAO HILL Forest. The change also involved substituting the Cess rate of Tshs 100 per unit of timber with 5% of the unit value of timber. This was necessary as the value of timber is market oriented while a unit of timber is very subjective in terms of source, size and quality. Determination of Cess by value of timber created more reliability and stability in revenue generation.

Thirdly, to make this new system effective, operational and significant, the involvement of the Central Government and state organs was inevitable. The council involved the District Commissioner and the Police Force particularly in convincing the citizens on this change and enforcing collection at the check points. The police participated daily in assisting staff at check points to ensure compliance to timber Cess collection procedures that involve counting of timbers, crosschecking of receipts, issuing of receipt in case the timber transporter did not pay in advance and charging fines in cases of any irregularities.

Fourthly, this being a major change in revenue collection in the eyes of timber producers, transporters and the community, an awareness creation programme was necessary. The council prepared a comprehensive awareness creation and community sensitization program to cover all tax payers about the new modality of revenue collection including its qualities of fairness, transparency and value to the council and the community at large. In this campaign the District Commissioner, Councilors and council staff were involved.

Fifthly, the Council had to establishment 5 check points; major ones at Rungemba (boarder to Iringa DC), Nyigo (boarder to Makambako TC) and Kibengu (boarder to Kilolo DC). On strategic areas, the Council bought pieces of land for construction of check points which included police posts and staff offices. On major roads, the Council negotiated with TANROADS to construct parking lanes close to check points to allow other vehicles to move smoothly while the Lorries are being checked. Pictures below show a police officer stopping Lorries transporting timber to allow council staff to check the timber, permits for transportation and the receipts for Cess at Rungemba check point.



Police at Rungemba Checkpoint



Cess collection officers reconciling receipts with registers

Another strategy was to focus on the Cess bylaw and ensure effective enforcement of the Council Cess bylaw. The bylaw was improved to accommodate all issues of change from fixed timber Cess amounts to percentages of value of timber, involvement of multi-checkups of timber being transported, locations of charging timber and mechanisms of receipting, registering and reporting to the center. The bylaw also stipulated clearly the penalties to all attempts and actions that may lead to defaulting paying actual rates and amounts.

Lastly, the Council ensured that the system functions perfectly by prioritizing revenue collection through providing enough financial and human resources and allowing staff to work at checkpoints for 24hrs and providing strong incentives to Cess collection staff i.e. 10,000Tshs per staff during the day and 25,000Tshs per staff during the night paid cumulatively at the end of the month. The council also preferred the use of its own staff to collect revenue instead of outsourcing.

5.0 RESOURCES

Revenue collection is not a cheap activity. It involves commitment of resources towards gaining more revenue. Mufindi DC used the following resources to make its initiative a success.

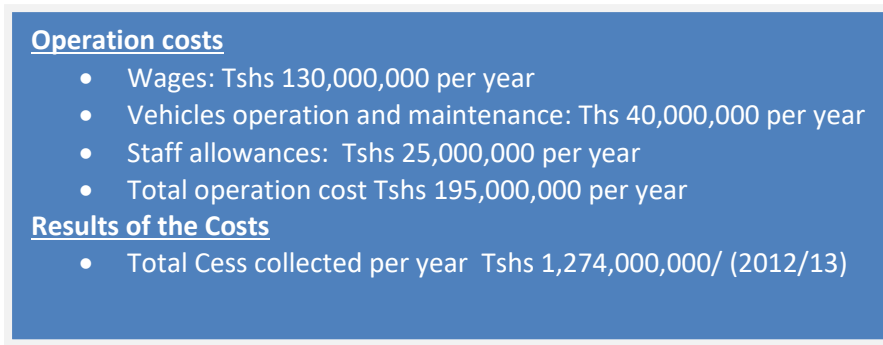


Figure 2: Resources Used

6.0 RESULTS OF THE INITIATIVE

Mufindi DC has experienced enormous rewards from the Cess collection improvement basing on only one product; timber. The notable results are summarized below.

- (i) Increase of revenue collection from Tshs 659,000,000 in 2009 /2010 to Tshs 1,695,170,955 in 2013/2014 as shown in table 4 and corresponding figures below. This increase in revenue is rewarding result as the Council can improve several services using its own collected revenue under principles of discretion and devolution.

Table 4: Forest Products Cess Collection Trends after Intervention

Financial year	Own source budget	Forest product Cess estimate	Actual forest product Cess collection
2011/2012	2,666,768,682/=	947,106,973/=	763,671,145.17
2012/2013	2,943,545,748/=	979,676,500/=	1,274,052,036/=
2013/2014	4,246,937,000/=	1,394,368,000/=	1,695,170,955/=
2014/2015	4,883,997,550/=	2,080,413,800/=	1,407,128,396/= only until Jan 2015

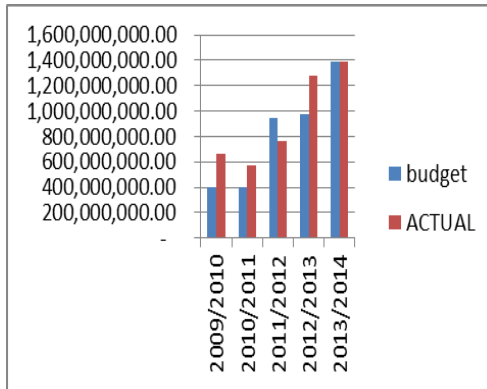


Figure 3: Trend of Log Cess increase

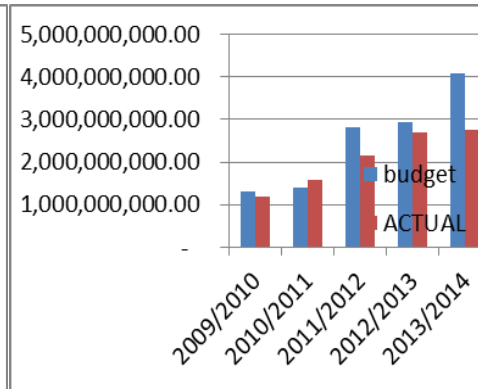


Figure 4: Council own source increase

- (ii) Improved provision of social and economic services using own source funds e.g. construction of tarmac road of 2.6 Km within Mafinga Town and contribution of Tshs 256 million to support communities in construction of dispensaries, classrooms and laboratories in schools.



Constructed classrooms



Tarmac road in Mafinga Town



Constructed laboratories

- (iii) Timber Cess monitoring system in place i.e. use of monitoring, coded receipt books, specialized staff for reconciliation and management by walking around. This system ensures that the Cess collected by WEOs and other revenue collectors is properly recorded and coded. In this system, the headquarters and the checkpoints can easily make reconciliation with receipts possessed by transporters.

HAJI MASHAURI YA WILAYA YA MUFINDI MAKUYAWA CHECK POINT							
NO. MASHAURI	MAJUMBA YA MASHAURI	MAJUMBA YA MASHAURI	TAREHE YA MASHAURI	MAJUMBA YA MASHAURI	MAJUMBA YA MASHAURI	TAREHE YA MASHAURI	MUDA WA MASHAURI
4123	4123	96,500/-	18/02/15	14160CF + 122CAF		19/02/15	09:35
4102	4102	85,000/-	18/02/15	1703AZH + 338ANX		19/02/15	08:30
4122	4122	24,900/-	18/02/15	490ATF + 150WTF		19/02/15	08:37
4108	4108	300,000/-	18/02/15	574AGE + 698CCL		19/02/15	08:45
4110	4110	105,000/-	18/02/15	15762AN + 143B2X		19/02/15	06:50
4109	4109	50,000/-	18/02/15	533BAN + 191DBH		19/02/15	09:01
4129	4129	26,500/-	18/02/15	" "		19/02/15	09:13
4136	4136	74,000/-	18/02/15	967AVC + 921ABX		19/02/15	09:13
4139	4139	300,000/-	18/02/15	857AXM + 490B6U		19/02/15	09:31
4121	4121	70,000/-	18/02/15	682CVF + 752BCU		19/02/15	09:38
4126	4126	300,000/-	18/02/15	854CKG + 654CAD		19/02/15	09:42
4124	4124	325,000/-	18/02/15	169AMB + 858AVY		19/02/15	10:55
4106	4106	300,000/-	18/02/15	389CHR + 277CLR		19/02/15	13:51
4114	4114	8,000/-	18/02/15	838CQW + 673CPL		19/02/15	13:58
4107	4107	279,000/-	18/02/15	706CRY +		19/02/15	13:59
4123	4123	500,000/-	18/02/15	579BYF + 477BYA		19/02/15	14:58
4113	4113	292,500/-	19/02/15	1926CAF + 1916BUR		19/02/15	14:50
4114	4114	150,000/-	19/02/15	829ASB + 919AVN		19/02/15	14:50

A sample of a Register indicating the details of each single receipt and transporter

- (iv) The initiative has created improved functional relations with tax payers (the timber processing companies and transporters) and in particular with farmers, villagers and the whole community due to the council enhanced ability to provide services resulting from increasing financial resources. The initiative has also improved collaboration between the Council and the Police Force in revenue collection.
- (v) Another important result is staff motivation and commitment. Due to incentives emanating from improved revenue collection the council is at ease to pay various allowances to staff and councilors, ultimately motivating them and making them more committed to council tasks including revenue generation initiatives.
- (vi) Lastly, the enforcement of Cess bylaw and its institutionalization has created adequate compliance by all Cess stakeholders. Both timber processors and transporters submit their timber to council staff, cooperate in value determination, request their receipts and stop at check points for reconciliation.

7.0 SUSTAINABILITY STRATEGIES

In implementing the new Cess collection system the Council has been experiencing several drawbacks that compromise with sustainability. These drawbacks include, reluctance of Cess payers, unprecedented political interferences, court stop orders (injunctions) initiated by timber producers and transporters, direct life threats to Council staff by producers, transporters and their agents, conflict of interests among staff and Councilors and rampant fraud and dishonesty among various stakeholders. To guarantee sustainability of the system, the Council set the following strategies:

- (i) Capacity building of both Council staff and councilors on operationalization of the new system. This programme is intended to provide updates on the system and create common understanding among the staff and politicians on long-term benefits of timber Cess.
- (ii) Continuous sensitization and dialogue with timber producers and transporters in which the surrounding communities are involved. Sensitization and dialogue is intended to permanently change the behavior and attitudes of these stakeholders and make them appreciate their role as tax payers and the council as the service provider. The sensitization programme declares it openly that the council depends on local resources for its revenue generation while the local resources such as land are developed and used by the communities and companies for production.

- (iii) Continued collaboration with the Central Government organs such as the District Commissioner's Office, the Police Force and the Court. This is obligatory for eliminating all types of Cess system disruption such as collusion between staff and producers to deny the council actual revenues, the use of unofficial roads by transporters, actual avoidance or evasion of Cess payment as well as the use of unofficial receipt books by council staff. Collaboration with the Central Government institutions has improved significantly the relations between the council and the Cess stakeholders.
- (iv) Staff motivation. The council has continued to improve provision of incentive packages to staff based on performance. Those who collect more revenue get more incentives as well as those who work at night and for longer hours.
- (v) Improvement of offices. The council is committed to continuous improvements and construction of permanent office structures at check points for Police and staff. The aim is to make checkpoints motivating places of work with necessary conditions for official activities
- (vi) Regular Cess collection system review. The council regularly reviews the system to counter fraud and theft attempts by collecting staff at Villages and Wards, monitoring staff at check points and demanding regular reporting by accountants at headquarters.

8.0 SECRETS OF SUCCESS

Mufindi DC initiative has its uniqueness due to internal arrangements, commitment and focused desire to change; a change programme that involves all stakeholders of Cess collection in the council. The success of this change is centered on the following secrets;

- (i) Use of scientific research to make informed decisions. The determination of the modality to demand Cess from either logs or timber was done scientifically, in which a problem was established, methods of data collection employed, data collected analyzed and the findings indicated that timber Cess will make the council advance in revenue generation.
- (ii) Team work among Council departments. With regard to Cess collection all departments are active in supporting the system. For example, while the revenue collectors and accountants collect cash and issue receipts, the natural resources officers check and certify the quality and the value of the timber being processed or transported.
- (iii) Effective leadership. Capacity of the CMT to identify the problems, coordinate various stakeholders and support implementation of the new Cess collection system.
- (iv) Effective and severe implementation of penalty charges (200% to 500%). The Cess bylaw is strict on all defaulters and those who participate or assist defaulters in Cess payment. For this reason the fines, charges and penalties for evading or avoiding Cess payment are so high that it is very risky because the penalties are also accompanied with confiscation of property (timber and lorries) which may lead to bankruptcy.
- (v) Staff commitment. All revenue collectors and staff are seriously committed to this role under the leadership of the Revenue Accountant who tirelessly monitors the implementation of the Cess collection system.
- (vi) Tree Planting Culture. Mufindi people are self-motivated in tree planting as a commercial crop which leads to sustainability of timber Cess collection. It is not uncommon to find tree nurseries in households intended to be used in family size tree farms or sold to other tree planters. The picture below shows a household seedlings nursery very close to the main door.



A beautiful household seedlings nursery

KILOMBERO DISTRICT COUNCIL



ENHANCEMENT OF OWN SOURCE REVENUE COLLECTION



Experience of Kilombero DC

1.0 INTRODUCTION

Kilombero District Council is one of the nine Councils in Morogoro Region. Other councils include Morogoro DC, Morogoro MC, Mvomero DC, Kilosa DC, Gairo DC, Malinyi DC, Ifakara TC and Ulanga DC. The Council is divided into 5 administrative Divisions, 23 Wards and 98 villages. It covers 14,918 Km² equivalent to 1,491,800 Ha which are utilized as indicated Table 1 below. According to 2012 census, Kilombero DC has a population of 407,880 of which 202,789 are men and 205,091 are women. Over 80% of the Kilombero residents engage in farming. Food crops include rice, maize, cassava, banana, legumes, sweet potatoes and ground nuts. Cash crops include sugar cane, cocoa and sesame. The area has very high potential for irrigated farming during dry season since it is supplied with numerous streams and rivers. Livestock keeping, fishing, bee keeping and small business operations complement the major economic activities.

Map: Kilombero DC in Morogoro Region



Kilombero DC has ample labour, with the second largest number of households in the region. The average population growth rate is 4% per annum and this is projected to rise sharply as more people move into the Council for business, agriculture and livestock production ventures, which are growing rapidly. About 93% of the population are involved in smallholder crop farming and very few are involved in livestock keeping. For many years, farming was for subsistence purposes only but in recent years, there has been a shift towards more commercial agricultural production, especially through the production of fruits and vegetables.

Kilombero DC has lowland with 38 perennial rivers that are equivalent to 60% of Morogoro Region's total water bodies. This makes Kilombero an ideal area for paddy production, with 63% of households cultivating paddy. The council experiences high levels of bi-modal rainfall of between 1,200 mm and 1,600 mm per annum. These conditions help promote the strong paddy production industry in the council.

The Council has begun to tap its potential with numerous activities planned to support the development of the agricultural sector, including road infrastructure development, irrigation facilities improvement and telecommunications expansion. However, these plans are challenged by a lack of sufficient funds as well as delays in funds disbursement from Central Government which have led to a number of initiatives being delayed or left incomplete. Nonetheless, the Council

remains confident about the potential for growth in the agricultural sector and continues to make investments.

Paddy is the key crop cultivated across the Council, both as a food crop and a cash crop. Kilombero DC is a heavy producer of paddy contributing 4% of total national rice production compared to the Kahama DC which contributed roughly 8%. Maize is grown primarily for subsistence purposes and as security in case of low paddy harvests or low market prices. Other crops cultivated in the Council include onions, bananas, sesame, sunflower and groundnuts, with production being undertaken through both improved and traditional irrigation systems.

The crops cultivated within a particular area depend on the agro-ecological zone although paddy is present in all three: (i) North Eastern Zone: characterized by clay and sandy soils with frequent flooding ensuring fertile land; key crops grown in this zone are paddy, maize, sugar cane, sweet potatoes, cassava and various fruits and vegetables (ii) Central Zone: key crops grown in this zone are paddy, maize, cassava, vegetables and fruits (oranges, mangoes and pawpaw) (iii) Western Zone: characterized by nutrient rich loamy soil ideal for crops such as maize, paddy, bananas, cocoa, sunflower, sesame and various fruits and vegetables.

Table 1: Land utilization in Kilombero DC

Utilization	Size (Ha)	Size (km ²)
Arable land	445,896	4,458.96
Area suitable for pastoralism	120,000	1,200
Swampy area and wet land	107,626	1,076.26
Natural forests	125,000	1,250
Conserved area	107,915	1,079.15
Planted forests	6,698	66.98
Land suitable for residential area	578,665	5,786.65
Total	1,491,800	14,918

2.0 PROBLEM

Kilombero DC is famous for paddy cultivation and production because of its specific land features mostly covered by river basins. However for many years the Council experienced very low collections of own source revenue from varied agricultural products and businesses. For example in 2009/10, the Council managed to collect only Tshs. 886mil while its potential full capacity exceeds several billions. Kilombero DC performed poorly in local revenue collection due to;

- (i) Poor own source revenue collections as a result of weak by law enforcement, tax evasion and inefficient Cess collection system
- (ii) Outsourcing of Cess collection functions to dishonest private firms and individuals
- (iii) Collusion, dishonesty and fraud practiced by Cess collectors, farmers and business people with intention of benefiting themselves while denying the Council the precious revenue
- (iv) Presence of power hungry and uninformed Politicians instigating Cess payers and the general public at large not to pay Cess and taxes claiming that the Council receives adequate funds from the Central Government
- (v) Heavy reliance on peasant rain-fed agriculture instead of mechanized plantation agriculture made the Council's revenue unpredictable. In years of shortage of rainfall or drought the council used to experience very low Cess collections.

3.0. OBJECTIVES

The main objective of this initiative was to increase own source revenue collections to enable the Council provide better services to the people. Specifically, the Council intended to improve the Cess collection system by reviewing the Cess collection bylaw. The council also aimed at filling in all vacant posts of WEOs (from 15 in 2010/11 to 23 in 2012/13) as key/focal persons for Cess collection. The Council also intended to Identify, rationalize and outsource some of the sources of revenue for efficient collection (from 3 in 20110/11 to 6 in 2012/13) as well as identifying new sources of Cess and effectively supervising the whole process of collecting and reporting. Lastly, the Council ultimate goal for increasing local revenue collection is to meet the need, autonomy and discretion in providing services without total dependency on the Central Government.

4.0 IMPLEMENTATION STRATEGIES

Kilombero DC as elaborated above has a tremendous opportunity in terms of paddy production and processing of rice. Having realized this potential, the Council decided to make consultations and deliberation within the CMT and with WEOs on what to be done to improve Cess collection performance and increase local revenue. From these consultations it was agreed that the Council needs to conduct an inquiry (research) to identify problems, potential sources, capacity of each source and recommend the best collection mechanisms to increase own source revenue. The study was conducted and elaborated on the issues that inhibit high collection of Cess. It also identified problematic sources of revenue that needed special interventions i.e. public toilets, market and bus stand levy.

The second major strategy was the review of the Cess collection bylaw in order to provide proper interpretation of the Cess collection bylaw and to allow Cess collection not only from paddy but also bi-products such as fine brand rice, colored rice, rice chips and molasses. The review of the bylaw also helped the Council to rationalize and harmonize the Cess rates from tonnage to percentage of the volume of cargo of paddy and its products being transported outside the Council.

The Council also engaged in changing and modifying receipt books to include genuine identification marks such as Council seal and serial numbers, coloring and preparing printed fixed amounts for paddy Cess which is the main source of local revenue. This trick ensures that those involved in issuing receipts do not get room to issue counterfeit receipts and carbon sleeping.

Establishment of a Cess collection team chaired by the Council Director with 10 members (council staff and police force) form another strategic decision towards increasing Cess collection for the Council. In the process of Cess collection the Team members alternate and make 24 hours patrol on both South and North road outlets to ensure all of transporters of agro - produce efficiently pay Cess. While on duty, daily subsistence allowance is paid and commuting vehicle is provided.

All these arrangements called for filling in all vacancies important for revenue collection. Recruitment of WEOs to fill all vacancies in Wards was done. Also all 23 WEOs were provided with motorcycles to facilitate and motivate monitoring of Cess collection. The initiative also led to the introduction of a motivation system in which 5-10% of total collections are returned to respective Wards to improve Cess collection by improving offices, purchasing equipment, motivating WEOs and paying extra temporary staff needed for effective Cess collection. These temporary staff include informers, Cess collectors, security guards and porters.

The Council set Cess collection targets per Ward and signed performance agreements between the DED and WEOs. These targets are reviewed every financial year. Also HODs, WEOs and Councilors visited Mbarali DC, Mbeya CC, Kahama DC, Mwanza CC and Temeke MC to learn various experiences on tax and Cess collection. These visits were organized in the form of study tours. Lastly, the Council procured one vehicle (Toyota Land cruiser - hard top) specifically for Cess collection activities including 24 hours monitoring and supervision of the Cess collection process and check points.



Cess collection personnel, car and police

5.0 RESOURCES

Kilombero DC used various kinds of resources to increase revenue from effective collection of Cess. Financial resources were used to cover research costs, decision making meetings, recruitment costs, various staff allowances, fuel costs, study tours, purchase of new receipt books, and purchase of 23 motorcycles for WEOs to mention a few.

Human resources as well have been employed in increasing Cess collection. These included mobilization of 6-10 staff from departments and units of Finance, Agriculture, Water, Community development, Cooperatives, Natural resources, Police Force and all WEOs. These continue to operate jointly to ensure Cess collection is implemented according to plans and projections.

6.0 RESULTS

The Council has witnessed remarkably good results from the Cess collection improvement initiative. One major achievement is the increase in compliance to Cess payment under which Cess payers voluntarily make their payments at pay stations. For a Local Government to increase compliance in tax paying is a commendable achievement need to be learnt by all other Councils.

Secondly the Council has been experiencing increasing of own source revenue year after year. The information below indicates the success in Cess collection making Kilombero DC one of the giants in rural Councils as far as own source revenue is concerned.

Kilombero DC Local Revenue Trend

- *2009/2010 Tshs. 0.886 Billion*
- *2010/2011 Tshs. 1.8 Billion*
- *2011/2012 Tshs. 2.8 Billion*
- *2012/2013 Tshs. 3.4 Billion*

The Council has in place an effective Cess bylaw that details all legal modalities of Cess collection, including the rates, the fines and charges to be granted to Cess defaulters and the roles of various stake holders. The Council fully enforces this bylaw without reservations. All stakeholders of the bylaw are expected to adhere to the principles and procedures set.

The Council has also realized a significant positive change in its capacity to support service delivery. Table 2 below indicates the number of projects implemented through own source revenue. It is alarming and commendable that the Council managed to complete 93 rooms for laboratories in FY 2014/2015.

Table2. Council Support to Service Delivery

Financial Year	Contributed Amount	Type of projects										
		Classrooms	Laboratories	Staff Houses	Restaurant	Roads	Wells	Toilets	Market	Office	Abattoir	vehicles
2010/2011	150,000,000.00	24	0	0	0	0	0	0	0	0	0	0
2011/2012	109,348,769.00	0	0	0	1	0	0	0	0	0	0	0
2012/2013	448,089,182.10	22	0	3	0	5	2	2	2	0	0	0
2013/2014	712,586,261.45	0	0	0	0	0	0	1	0	1	1	2
2014/2015	1,200,000,000.00	2	93	0	0	0	23	1	0	0	0	2

All 98 villages of Kilombero DC receive 20% amount of total own source revenue. The 20% is calculated from the contribution of the specific Village through Cess collection and other Council charges. This has resulted into strong village governments that can plan and implement their development projects without amplified dependency on the Council headquarters. Using these funds villages in Kilombero DC have improved their capacity in terms of governance, implementation of projects, community empowerment and ability to employ staff and make remuneration without difficulties.

Kilombero DC has also improved broadly its contribution to community initiatives and other development projects. The specific areas in which the Council has made significant contributions include the construction of a restaurant at the Council headquarters, construction of 22 Teachers' houses in Luvikila, Mkusi, Idete Crossing, Kisawasawa, Uga, Lungongole, Ipopoo, Msalise, Kiswanya, Sululu, Chiwachiwa, Lyasenga and Tanganyika secondary schools. The Council has also constructed laboratories in secondary schools, modern abattoirs, shallow and deep wells and procurement of grader machine. Refer to attachment 1 for costs and pictures of some of the projects mentioned in this part.

7.0 SUSTAINABILITY STRATEGIES

Kilombero DC has made great achievements in Cess collection despite of inadequate community awareness on taxation in general, resistance by large scale companies to adhere to new Cess bylaw, unprecedented Political interference, unhealthy relations with the Tanzania Revenue Authority, dependency on rain-fed agriculture and limited tax collection equipment. The Council however, has set strategies to ensure sustainability of Cess collection initiative. These interventions include:

Mass education and awareness creation. The Council continues to provide education on importance of paying taxes using Councilors, Community Development Officers, WEOs and the Cess collection Team. This exercise is permanent as the agricultural community receives new comers every year who need to be sensitized with Cess payment operations. It is necessary to note here that paddy cultivation in Kilombero DC attracts youths from many parts of Tanzania.

Identification of new sources of revenue. The Council has continued with identification of new sources of own revenue by focusing on community economic activities and natural resources. The Council has not reached its highest potential in collecting its local revenue. Hence, every quarter there are reports presented in the Full Council proposing newer and lucrative sources of revenue. The objective of persistent identification of sources of revenue is to collect more revenue, provide quality services to tax payers and claim autonomy from dependency on Central Government.

Development and improvements in infrastructure. People's compliance to taxpaying is dependent on the credibility of the Government. When the government improves services and infrastructure people develop trust and their willingness to pay tax increases. The vice versa is true as well. For this reason the Council will continuously engage in building abattoirs, market structures, bus stands, public toilets and Kiosks which in general become centers of Cess, levy and various fee collections.

Upgrading Ifakara Township to full-fledged Town Council. Kilombero DC has made official requests for establishment of Ifakara Town Council which would allow the Council to qualify for collection property tax. The Ifakara Township has many complex and highly valuable fixed properties but since it is in the Rural setting the properties cannot be valued and compelled to pay property tax. The upgrading will generate more local revenue from property tax. During the publication of this Handbook this strategy has been realized as Ifakara TC is already established.

Promotion of irrigation schemes. To raise further revenue from agricultural produce there is a need to make cultivation of paddy and other crops reliable and predictable. This can only be done through using the various water sources for irrigation schemes. Kilombero DC has initiated and developed irrigation schemes at Njagi, Signalali, Mkula and Msolwa villages.

Promoting large scale farming. Kilombero DC has been promoting large scale farming through inviting investors and larger companies to invest in large scale mechanized paddy production. The Council has a profile that advertises its resource capacity for paddy and other crops production. Currently there are two big companies that cultivate paddy, process and pack rice; these are the KPL and Ndamila schemes.



Irrigation canal at Siginali



KPL advanced irrigation



KPL rice processing plant

8.0 SECRETS OF SUCCESS

Kilombero DC performed wonders in Cess collection due to number of secrets. One major secret is effective team work that involves the Council top management, the WEOs and the Councilors. The team spirit in this Council is shared by all officers from the top to the bottom. For example on Cess collection the HODs, the WEOs and the VEOs have shared knowledge of the projections of collections from each Ward or Village and the anticipated challenges on monthly basis. This secret is cemented by the fact that the Council uses its local revenue collectors rather than outsourcing collection of Cess to private firms.

The second important secret is the indulgence of the Council to staff motivation. Theoretically it is well known that personnel produce more energy and commitment to their jobs when they are motivated. The CMT at Kilombero DC uses this theory to harness the most from employees. The staff involved in Cess collection are rewarded with various allowances, gifts and fringe benefits. In return the staff commit their expertise and efforts in collecting Cess without involvement in behaviors that may deny the Council revenue.

Thirdly, the Kilombero River Basin provide long lasting opportunity for the Council to generate revenue. The Council has forged a strong bond with the farmers towards developing infrastructure to facilitate production and transportation and in return collect more Cess. The farmers on their part are hardworking and increasing in number every year. This collaboration and as augmented by community sensitization on paying Cess, the Council currently benefits from loyalty to pay taxes because of vivid improved service delivery resulting from increased Cess collection.

Lastly, due to the nature and the geographical positioning of the Council all crops are transported through one major road which has the North and the South outlets. There are no other road outlets. This helps the Council to access all vehicles and trucks transporting crops outside the Council and collect Cess eliminating chances of escaping the Council check points through use of unofficial roads and pathways as it happens in many other Councils in Tanzania.

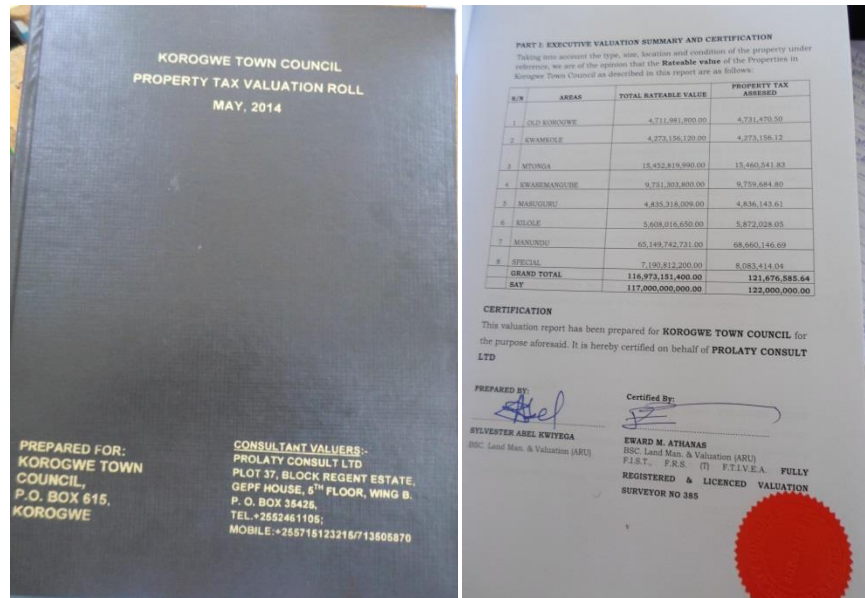
Appendix 1: Council Contributions to Projects from Own Source Revenue

S/ N O	Project	Sector	Implement ation Period	Total cost (Tshs)	Photo
1.	Construction of Restaurant at Council HQ	Administration	2011/12-2012/13	94,568,719.00	
2.	Construction of 22 Teachers' houses in Luvikila, Mkusi, Idete Crossing, Kisawasawa, Uga, Lungongole, Ipopoo, Msalise, Kiswanya, Sululu, Chiwachiwa, Lyasenga na Tanganyika S/schools	Secondary Education	2010/11-2012/13	129,000,000.00	
3.	Constructions of laboratories in /schools	Secondary Education	2014/2015	464,000,000.00	
4.	Construction of modern abattoir	Livestock	2013/2014-2015/2016	94,772,890.82	
5.	Construction of wells	Water	2014-2015	50,000,000.00	
6.	Procurement of Grader machine	Ujenzi	2014-2015	730,000,000.00	

KOROGWE TOWN COUNCIL



INNOVATIONS IN LOCAL REVENUE FOR IMPROVED SERVICE DELIVERY



Experience of Korogwe TC

1.0 INTRODUCTION

Korogwe Town Council was established in 1984. The Council is one of the 11 Councils in Tanga Region. Other Councils include Muheza DC, Handeni DC, Handeni TC, Pangani DC, Lushoto DC, Korogwe DC, Mkinga DC, Kilindi DC, Bumbuli DC and Tanga CC. According to 2012 Population and Housing Census, the population is 68,303 people. Economic activities in Korogwe TC include agriculture (paddy, maize, beans, sisal) small industries, and livestock keeping. Korogwe TC has 8 Wards namely Manundu, Ngombezi, Kwamndolwa, Magunga, Kwamsisi, Kilole, Old Korogwe and Mtonga Msambazi, 17 Mitaa and 7 Villages.

Korogwe TC is the second largest urban center in Tanga Region after Tanga City. Korogwe TC has an area of 212Km², the smallest among the eleven councils in the Region. Korogwe TC is well connected to the rest of Tanga Region, the northern Kilimanjaro and Arusha Regions, and Dar es Salaam Regions to the South. Tanga City is about 93 Km away, Arusha 344 Km, and Dar es Salaam 305 Km. The geographical positioning of the Korogwe Town facilitates high rural to urban migration of different groups of people including youth seeking employment and markets for non-agriculture and agricultural produce in the town. This situation leads into increased informal economic activities in Korogwe town.

2.0 PROBLEM

Korogwe TC was established after splitting the former Korogwe DC. The Council was formed as a result of population growth, development of infrastructure, growth of manufacturing sector, and improvement in economic and social services. Since its establishment, Korogwe TC experienced various challenges in providing services to the people due to extremely low revenue collections from own sources. These challenges included shortage of office space and transport facilities, limited number of surveyed plots for residential, institutional and industrial purposes, lack of equipment for solid waste collection, shortage of classrooms, laboratories, staff houses and limited resources for routine Council operations. All these created a big gap in service delivery as all need significant amounts of funds. The capability of the Council to collect revenue from own sources and fill in the gaps in service delivery also continued to be low. This resulted into several conflicts between the Council and the people of Korogwe Town. Poor service delivery by local governments always results in discontented people accompanied by reluctance to pay taxes and participation in development initiative. The whole situation creates a vicious cycle which results in low local revenue collection, low capacity to deliver services and slow speed in bringing about development for the people.

3.0. OBJECTIVES

The major objective was to improve own source revenue collection through non-traditional sources i.e. surveying and selling plots. The ultimate objective of the initiative was to improve service delivery to the community. The specific objectives for Korogwe TC to indulge in increasing revenue collections were;

- (i) To survey land and sell residential, recreational, commercial and industrial plots to Korogwe inhabitants. This in turn would increase the number of valued properties and create a reliable source of revenue in the form of property tax.
- (ii) To identify all properties in town, conduct valuation, establish tax rates for each property and introduce electronic system for collecting property tax.
- (iii) To involve the citizens in service delivery especially in solid waste collection in areas that generate several tons of solid waste daily such as the market area and the main bus stand.
- (iv) To develop council's capacity to contribute in service improvements through construction of modern offices, laboratories, abattoirs, classrooms and staff houses.

4.0 IMPLEMENTATION STRATEGIES

Land surveying is the art and science of establishing or reestablishing corners, lines, boundaries, and monuments of real property (land), based upon recorded documents, historical evidence, and present standards of practice. Land Surveying also includes associated services such as analysis and utilization of survey data, subdivision planning and design, writing legal descriptions, mapping, construction layout, and precision measurements of angle, length, area, and volume. In order to increase own source revenue in 2013, the Council through Land Office decided to survey, demarcate and sell plots for housing, business centers, institutions and industries. The initiative however, was threatened by lack of funds to implement. To address this situation, the following strategies were employed;

- (i) Seeking and identifying Land area to be surveyed for plots. The Council formed a task force which was assigned the task of seeking and identifying the land area to be surveyed. The task force identified the land that was underutilized and belonging to the Ministry of Livestock Development and Fisheries. The Council signed an agreement with the Ministry in which it was required to shift the Cattle auctioning mart facility and provide another area/land for livestock holding activities. The holding ground was shifted to Mgombezi area where a new and modern livestock auction facility was constructed.
- (ii) Preparation of a business plan. The Land department prepared a business plan with a proposal to seek for a loan amounting to Tshs.330, 000,000/=. These funds were to be utilized in the process of land survey. The Council did not have this amount and a new model of implementation had to be decided by the CMT and the Council. The proposal was tabled before the Full Council to seek endorsement on implementing the project on credit basis. A partner or a business firm be found that would survey the land using its own financial and human resources and be paid during the actual selling of surveyed plots. The Council adopted this procedure and allowed the Land Department to negotiate with various partners.
- (iii) Negotiations were made with Morogoro Ardhi Institute to survey the earmarked land, demarcate plots and construct access roads on condition that the fees will be paid immediately after selling the surveyed plots. The exercise took 3 months leading to a generation of a total of 1,532 surveyed plots.
- (iv) Costing and selling of plots. The exercise of selling plots stated by costing the plots according to size and use/purpose, site and scenery. The price ranged from Tshs. 1,500/= to 2,500/= per square meter. Thus the expected income from all plots was Tshs. 3.3billion/=. During the writing of this case study 662 plots had been sold and the Council had collected a total of Tshs.1.3bn/=. The selling of remaining plots was ongoing.
- (v) Issuance of certificates of occupancy. People who purchased the surveyed plots were granted with certificates of occupancy and were allowed to develop the properties. The development of the plots is done after the site plans, drawings and models of property to be developed are approved by the Council and the construction permit issued. This is intended to ensure that the properties that are developed in the newly surveyed plots lead to well paned town adhering to roads, electricity and water systems and guaranteeing future beautification of the town.
- (vi) Planning and budgeting for expenditure of funds accruing from the sale of the surveyed plots. The Council planned and endorsed the utilization of the funds for constructing Land Department office building, valuation of all properties in the Council and production of valuation report, purchase of 2 vehicles, purchase of a tractor for transportation of waste, construction of classrooms and laboratories, construction of livestock auctioning mart facility, paying of Council debts and paying school fees for most vulnerable children.

Table 1: Selected Projects Funded by Revenue from Selling Plots

SN	DESCRIPTION	AMOUNT TSHS.
1	Recover the loans of and pay for plots processing fee (Morogoro Ardhi Institute)	330,000,000
2	Construction of the cattle/cows auctioning mart	79,842,000
3	Construction of the Land Department office	153,782,096
4	Construction of 9 Class rooms in primary schools	99,000,000
5	Contributions to development projects including construction of Laboratories in Secondary schools	192,582,958
6	Acquisition of two Cars(For Land office and Town director	205,000,000
7	Valuation of properties/ Houses i.e. 5,500 were valuated	192,000,000
8	Clearing of debts to staff and service providers	50,000,000

5.0 RESOURCES

The initiative to raise revenue through surveying and selling plots is a unique endeavor that newly established Town Councils can take as a lesson and adopt it into their situations. The major resources in this initiative are human resources involving their competencies and skills in creativity and innovation of the CMT members. This involved effective actualization of ideas into notable results through harnessing the available opportunities. Specifically in this case the Land Department commitment to designing the project, defending it at the CMT and the Full Council, soliciting an implementation firm that is ready to implement the project on credit basis and supervision of surveying process as well as the selling of plots. The Council also used some financial resources in terms of paying allowances and fuel costs. The Morogoro Ardhi Institute which surveyed the plots received Tshs 300 million after the Council had started selling the plots.

6.0 RESULTS

Korogwe TC has realized many achievements through this integrated approach of raising revenue. One major result is the establishment of 1,532 surveyed plots with access roads and public open spaces. The selling and usage plots for construction will prevent Korogwe Town from multiplication of squatters which pose serious challenges in service delivery in terms of health, provision of water and electrification. Korogwe TC has proactively intended to prevent the outgrowth of unplanned settlements through this initiative.

During verification of this case the Council had sold 662 plots raising Tshs1.3billion. This was a remarkable achievement. The Council used the accruing funds to pay Morogoro Ardhi Institute the sum of Tshs 300 million for surveying the land. The remaining funds were used to construct Land department offices, improve service in solid waste, purchase cars and make contributions to construction of laboratories and classrooms in the Council. The Land office building hosts other departments as well i.e. TASAF and Education. The pictures below show the building and the vehicles that were purchased using the revenue obtained through the selling of the surveyed plots.



Land Department Office Building

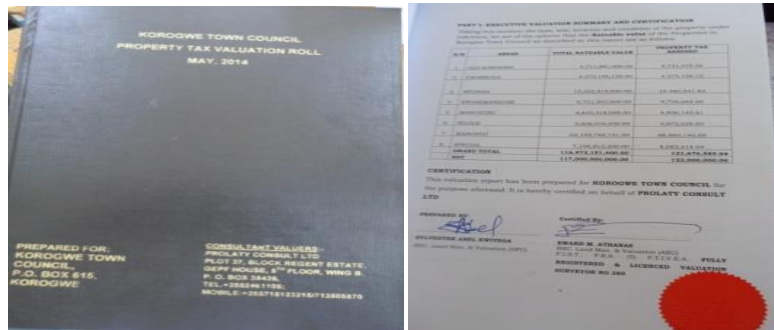


Town Director's car



Land office car

The Council also used the funds obtained from selling surveyed plots to conduct property valuation in the Town. The Property Valuation Roll is in place and has significantly facilitated the collection of property tax. The Council has started to collect property tax at the disaggregated rate ranging from 0.01% to 0.02% and the expected property tax per year is set at Tshs.124,000,000/=. This source of revenue is the most stable one as properties keep on increasing in value and are fixed. The projections show that the amount of revenue to be generated after completion of valuation is threefold the amount that the Council used to collect before valuation. The collection was based on fixed rates.



Property Valuation Roll

The Council also used revenue from the selling of plots to improve services in education. The Central Government in FY 2013/2014 requested all Councils to construct and complete buildings for laboratories in all Secondary schools which again happen to be in all Wards. Korogwe TC did not experience hardships in building laboratories as other Councils did. Funds were readily available from the initiative. The Council also constructed and improved classrooms and toilets in both Primary and Secondary schools.



Demolished and New classrooms at Kwangumi P/school



Demolished and New classrooms at Kitopeni P/School

As mentioned earlier the land that the Council used to create surveyed plots belonged to the Ministry of Agriculture and was used for livestock auctioning activities. The Council used the funds obtained through selling of plots to relocate the livestock auction market as a compensation for the surveyed land. The Council constructed a new and modern livestock auction market structure at Mgombezi.



The new and modern livestock auction market structures at Mgombezi

The improvement in revenue collection motivated the Council to identify all most vulnerable pupils from poor household who faced difficulties to pay school fees and purchase important school requirements such as books and uniforms. The list also involved pupils with various disabilities engulfed in extreme family poverty. The Council introduced a support programme for these pupils using the funds from selling of surveyed plots.

The Council revenue improvement from selling plots and results of conducting valuation of property increased the ability of the Town Council to pay various debts. The Council had lots of outstanding debts for staff, teachers in particular who were never paid their allowances for leaves and transfers and contractors who had provided various services to the Council. Using the funds from this initiative; during the writing of this case study the Council had managed to pay more than half of the debts.

The Town Council improved and rearranged the Solid waste collection system. To solve the existing problem of waste collection, the Council decided to use the existing CBOs within the Town. A joint meeting on new arrangements for collection and disposal of solid waste between the Council, Ward Executive officers, Mtaa Executive Officers and the Mtaa leaders was conducted. It was agreed that Mtaa leaders will be responsible for the solid waste collection. The CBOs were mobilized and sensitized about solid waste management and modalities for participatory collection, transportation and disposal. The facility users were categorized into various groups (household, Institutions, business areas) and fees for waste collection identified according to the Council solid waste management bylaw. The Council in collaboration with various stakeholders purchased a 3 tons tractor and a trailer for transportation and disposal of solid waste. The CBOs were tasked with fee collection, managing transportation of waste to the dump site, paying for fuel and tractor laborers and dealing with defaulters. Solid waste management is decentralized to the community through CBOs making Korogwe TC a unique case. The funds for this reorganization of the solid waste management system also originated from the selling of the surveyed plots.



The Tractor for solid collection and the dumping site

7.0 STRATEGIES FOR SUSTAINABILITY

Many initiatives in revenue collection bring short lived results due to poor planning for sustainability. Korogwe TC however, designed several strategies to ensure that the initiative leads to permanent change and improvement in revenue collection. These strategies are elaborated below.

- (i) Construction of the modern new bus stand with modern bus booking offices, shops and garages and renting of the constructed facilities. This project is underway and the objective is to increase revenue collection sources that are reliable and permanent.
- (ii) Construction of a modern shopping Centre that will include super markets, shops, stalls, restaurants, garbage collecting bays, public toilets and gardens.
- (iii) Collection of revenue from the livestock auctioning mart and the holding ground at Mgombezi. The land surrounding this area will also be developed to accommodate shops and kiosks to be rented to petty business persons and provide another source of revenue.
- (iv) Continued valuation of new properties to sustain property tax collection. The Council is determined to conduct valuation of properties from time to time to capture newly developed properties to keep pace with the urbanization speed of Korogwe Town. Urbanization is taking place at a faster speed as Korogwe Town is the center for communities that practice agriculture in Korogwe DC and nearby Councils of Lushoto, Handeni, Muheza and Mkinga.
- (v) Compensating land owners and surveying more plots using own sources. During the writing of this case the exercise of surveying more 100 plots for commercial purpose had started. The Council is determined to eliminate development or regeneration of unplanned settlements in Korogwe town by being abreast in planning land use, surveying and selling surveyed plots.
- (vi) Attraction of investors and land developers. The Town Council has made several advertisements through the mass and social media of its investment opportunities including availability of surveyed land and plots. The Council has started to get positive responses from various private and public investors. For example the Nation Housing Corporation has acquired plots for developing housing estates.
- (vii) Continued identification of new sources to widen tax base. The Council is set to conduct an in-depth inquiry on various opportunities for increasing revenue in agricultural, commercial, retail and industrial sectors.

8.0 SECRETS OF SUCCESS

The success made by Korogwe TC has its rationale in these secretes that facilitated the implementation of project of surveying plots. These secrets include the following;

- Effective conversion of ideas into reality. Innovation and creativity in Tanzania is generally not honored in many cases. The openness of Korogwe TC to honor and adopt new ideas, innovations

and inventions is a major secret in making it possible to survey the Land and conduct valuation of property; the objective being increasing the capacity of local revenue collection and claim more autonomy from dependency on Central Government funding.

- Result oriented leadership by the Council Director. Management and leadership play a significant role in achieving results in organizations. The adoption of new ideas in this case was made possible due to qualities of the Council Director who is effective in involving staff in decision making, leading by examples and committing staff to produce realistic results. These qualities facilitated the achievement of the initiatives.
- Effective utilization of professionalism. The staff at the Land office and the CMT members at large behaved very professionally to make the project a success. The preparation of a technical project proposal, the soliciting of project implementing firm on credit basis and the supervision to ensure effective project output are all important technical steps that need professionalism.
- Effective collaboration between various Government institutions. The success of this project also emanated from the smooth joint operations of various government institutions including the Council, the Ministry of Agriculture, the Ministry of Land and the Morogoro Ardhi Institute.

Chapter Three

Participatory Service Delivery

Service delivery is an essential function in the relation between government bodies and citizens. Service is a system or arrangement that supplies public needs. Helmsing (1995) defines service delivery as a deliberate obligatory decision by the elected or appointed officials to serve or deliver goods and services to the recipients. Service delivery is an attitudinal or dispositional sense, referring to the internationalization of even service values and norms.

Service delivery is a continuous, cyclic process for developing and delivering user focused services. It involves user engagement that is, identifying users and understanding their needs. Service delivery also requires Service Design and Development process between users, providers, suppliers, and partners of creating, designing, and developing services and ensuring user needs are met. Ultimately service delivery is about producing, disseminating, and communicating the services that are fit for purpose and relevant to user needs. In service delivery there is always a need for evaluation and improvement process to collect user feedback and performance metrics to continuously evaluate and improve upon products and services.

Service delivery is the government's key task. Government exists among other reasons because it is the only structure that can properly provide the guidance of certain critical services such as public order, safety, infrastructure, management and maintenance of public roads and so forth. The requirement and concern for such provisions gives legitimacy to government activities. It is laid down in constitutions and international treaties that government is responsible for basic services in many social areas including Education, Social security, basic provisions, Legal protection and Housing. The government must provide citizens with guarantees on the continuity of service delivery: equal access to all irrespective of social and cultural background and affordable prices. This has consequences for executive organizations. Transparency, efficiency, general accessibility and such like, influence the quality of the package of products which the government delivers its services to citizens.

To many citizens, their Local Government is the most tangible form of government, it is also the layer of government with which they have most contact in their everyday life. The Tanzanian Local Government Structure shows that LGAs provide services that are Social in nature i.e. health, water, education, welfare, waste management, and those that are Economic in nature i.e. Land and human settlements, infrastructure, agriculture, environment and community development.

The concept of participatory service delivery used in this handbook, refers to service delivery that attracts all stakeholders. The center of participation is the community that benefits from the services provided by the community itself, the local government authority, the central government, non-governmental organizations or even international organizations. Participatory service delivery places the beneficiary community at the center during planning, delivery of the service and evaluation of the efficacy of the service. Participatory service delivery guarantees sustainability of the services being provided.

In this chapter, seven cases on participatory service delivery are presented. The Handeni DC best practice titled "Niche Nisome Initiative" describes the process of overcoming dropouts in Secondary schools and highlights strategies that can be used by LGAs to overcome dropouts of girls in Secondary

schools. The strategies include adopting “Niche Nisome” strategy, researching and establishing the underlying causes of school girls’ marriages and pregnancies, sensitizing the community on the importance of girl education, and involving the whole community in protecting school girls. The initiative also includes strategies for improving learning environment for school girls.

The Lushoto DC best practice details on community labour – based technology to construct all weather feeder roads in hard to reach mountainous areas. It shows how the department of infrastructure development adopted Community Based Labour Technology (CBLT), identified the artisans in villages, trained the artisans and constructed quality feeder roads using local artisans. This best practice also shows how LGAs can use the Force Account to implement construction of projects in areas where it is difficult to attract contractors.

Mufindi DC like Lushoto DC has a best practice in this chapter that narrates the construction of Isipii – Mpanga Tazara Road using Labour Based Technology (LBT). It highlights important features of community self – help efforts supported by the Council. The initiative shows how the community organizes itself, takes actions regarding road construction and allows the Council to make savings that can be used to provide other services. This best practice shows how labor based technology and community self-help efforts managed to make savings of up to 85%.

Moshi DC best practice on community self-help efforts in feeder roads improvement is an initiative by the Kimochi Ward citizens. This community experienced difficulties in accessing social and economic services due to poor feeder roads. The community approached and solved the problem through lobbying for a village assembly, formation of a steering committee, conducting fund raising, mobilizing the community, hiring road construction equipment and supervising construction works. The Council provided only technical support.

Siha DC best practice details on community based environmental sanitation to eliminate frequent outbreaks of fecal borne diseases caused by poor sanitation. The Council initiated a sanitation campaign, used triggering programmes, conducted training to various facilitators and used alternative shit calculation model to change the Maasai Culture that strongly rejects the use of toilets. Eventually, the Maasai peoples’ mindsets changed and have adopted the use of toilets.

Kilimanjaro Region best practice on Sustainable Land Use Management shows that Mwanga and Siha DCs implemented effectively this initiative through participatory awareness creation, formation of farmers groups, preparation of terraces, training of key stakeholders, establishment of tree nurseries, massive tree planting and creating institutionalized linkages in production, cooperatives and services.

The last best practice in this chapter is from Ngorongoro DC and it is about cultural tourism and participatory forest conservation. It shows how the Council has achieved this through awareness creation, participatory forest management, establishment of village natural resources committees, demarcation of forest boundaries, formation of forest scouts groups, establishment of forest conservation micro projects and identification of tourism sites and beneficiaries.

Salient lessons emerging from the best practices in this chapter indicate that;

- Service delivery is never a task of the Central Government and the Local Government alone, rather the community at large needs to be given the opportunity to participate fully in delivering their own services. The communities through their self-help efforts can do a lot in meeting their

needs and meeting the services they need. With the right approach for community mobilization, people are ready for their development.

- Innovation and commitment of the LGA staff and their love to the people they serve, can make a huge difference in service delivery creating efficiency, efficacy and sustainability to the services initiated and provided.
- Appropriate and Labour based technology can adequately help LGAs and community make savings in construction projects such as roads, classrooms, health facilities and offices.
- In Tanzania we have not explored much on local resources. There are a lot of idle locally available resources waiting for innovative minds to venture in. The open land can be converted to forests and tourism sites. The rich culture can be merged with natural resources to protect the environment, promote tourism and increase employment opportunities.

HANDENI DISTRICT COUNCIL



NIACHE NISOME INITIATIVE – OVERCOMING GIRLS’ DROP OUTS IN SECONDARY SCHOOLS



Experience of Handeni DC

1.0 INTRODUCTION

Handeni DC is one of the 11 Councils of Tanga Region situated 187 Km to the western part of Tanga Region Headquarters. It lies between Latitudes 4.9° – 6.0° South and Longitudes 36.8° – 38.5° East. It borders Pangani DC and Muheza DC to the East, Korogwe DC and Simanjiro DC to the North, Bagamoyo DC to the South and Kilindi DC to the West. The Council covers an area of 7,080 Km². The Council has no coastline; rather there are scattered undulating hills and plateaus. River Msangazi forms the main drainage of the Council that lies between 600 – 1,200 meters above sea level. Handeni DC experiences a diversity of climatic conditions with the average temperature of 29°C. Usually, the Council has two rainy seasons annually (short rains and Long rains) with the average rainfall of 500 – 1000 mm. per annum.

According to 2012 population census, the council has a population of 355,702 of which 179,816 are female and 175,886 are male with an average growth rate of 3.3%. In most areas, the Council is sparsely populated. Dense population occur mostly along the main roads of Mkata - Handeni, Manga –Kabuku - Segera - Mandra, Handeni – Korogwe, Handeni – Mziha and in the villages surrounding Handeni town. Administratively the Council is divided into 7 Divisions, 23 Wards, 112 Villages and 983 Vitongoji.

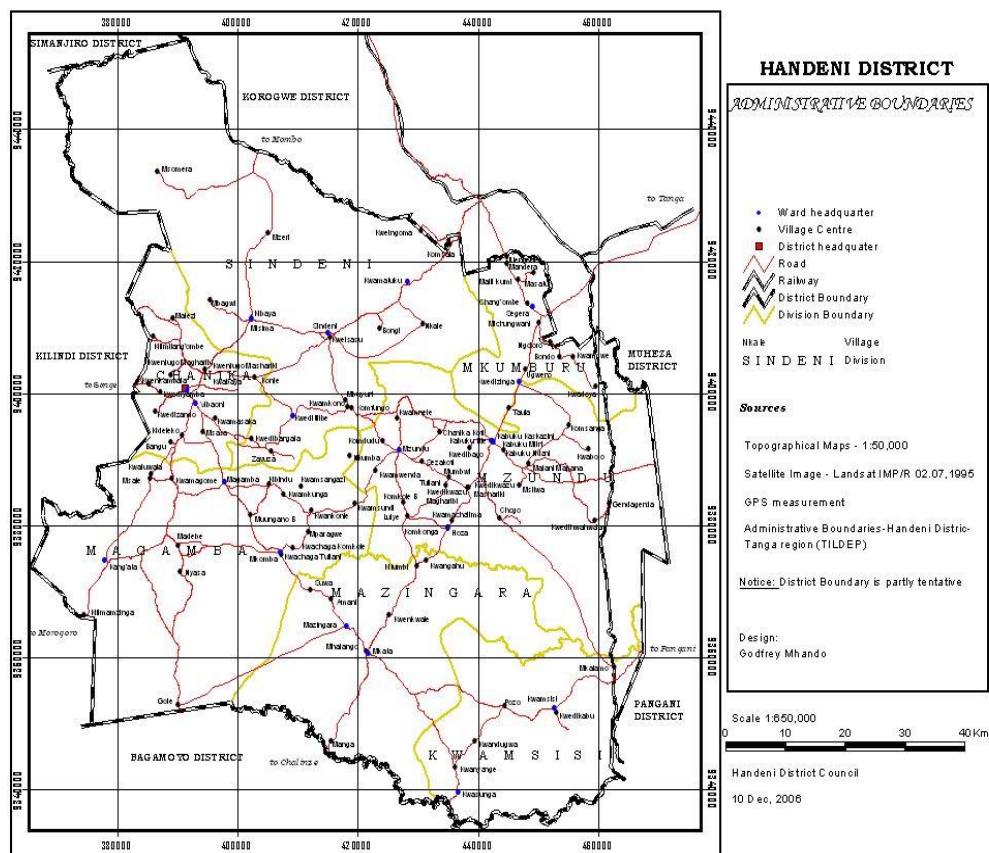


Figure: Handeni DC Administrative Map

Handeni DC communities are Farmers, Livestock keepers, Businessmen and Workers; agriculture being the main source of livelihood as it employs about 90% of the population, followed by livestock keeping. The main crops are maize, beans, oranges, cassava, sunflower, cotton, mango, bananas, vegetables and sorghum.

2.0 PROBLEM

Since 2005 the Government directed all Wards in Tanzania to construct and operate Secondary schools. This increased the number of community Secondary schools and enrolments of Form one throughout the country. Handeni DC also established Secondary schools in all 23 Wards. Although this is a positive change in service provision, the communities in the villages were not ready, leading to practices that affected the school life of the female pupils enrolled in Secondary schools. For example, girls who used to get married immediately after completion of Primary school, after the increase in enrolments had to attend schools. Due to clinging to traditions, including poverty, a significant number of girls and boys dropped from school in favor of petty businesses for boys and forced marriages for girls. Apart from forced marriages, pregnancies also increased in schools. Other causes were household poverty, lack of school hostels for girls, girls living away from families close to secondary schools and community traditions that contradict education, particularly girl child education.

Between year 2009 and 2011, Handeni DC witnessed an increase in the number of pupils' dropouts making a marked difference between those registered to join Secondary school education and those completing Form Four. This situation affected female pupils in particular because of childhood pregnancies, truancy and early marriages. This was exacerbated by prevailing Handeni community culture which does not support girl child education. As a result, between 2010 and 2012, 61 pupils dropped from schools due to pregnancies. The most affected were, Mazingara Ward (Mazingara Secondary school 11 pregnancy cases), Misima Ward (Misima S/school 7 pregnancy cases and Ndolwa Ward (Ndolwa Secondary school 9 pregnancy cases). Table 1 shows pregnancy cases in S/schools while Table 2 compares enrolments and completion of secondary school pupils.

Table 1: Pregnancy Cases in Selected Secondary Schools

Year	2009	2010	2011
Mazingara S/school	12	9	11
Misima S/school	8	13	7
Ndolwa S/school	6	5	9
Total	26	27	27

Table 2: Student Enrollment and Completion (2007/10 and 2008/11)

Enrolment	M	F	Total	Enrollment	M	F	Total
2007	1467	1325	2792	2008	1409	1389	2798
Completion 2010	792	937	1729	Completion 2011	1066	891	1957
% Completion	52%	70%	61%	% Completion	75%	64%	69%

Handeni DC also encountered several general challenges that adversely influenced girl child education in Secondary school. These challenges are summarized below;

- (i) Poor learning and teaching environment characterized by shortage of classrooms and laboratories, shortage of teaching and learning materials, shortage of teachers, lack of hostels, lack of school feeding initiatives and lack of exposure.

- (ii) Most of households in Handeni DC suffer from extreme poverty resorting into bride prices (dowry) for temporary subsistence means. This tempts the families to comply with early marriages even for schooling girls. Due to poverty, girls are subjected to receiving gifts from deceitful men leading into sexual harassments.
- (iii) Lack of water supply in school compounds forces girls to roam around searching for water exposing themselves to sexual harassments.
- (iv) Presence of “jobless corners” with drunkards, drug abusers, motorcyclists and petty traders around the schools subjects girl students into sexual temptations.

2.0 OBJECTIVES OF NIACHE NISOME INITIATIVE

Realizing the increase in dropouts of girls from Secondary schools, in October 2012, the then District Commissioner of Handeni championed the initiative – NIACHE NISOME - to ensure female pupils are attracted, motivated to continue and complete their Secondary school education. Specifically, the initiative intended;

- To improve teaching and learning environment
- To eliminate pregnancies and dropouts in schools
- To sensitize Handeni communities on the importance of girl child education
- To empower school committees for them to strategically deal with dropouts
- To eliminate and abolish jobless corners around schools
- To improve services in schools especially water, installation of solar power and provision of lunch.

3.0 IMPLEMENTATION STRATEGIES

Handeni DC adopted the “Niche Nisome” strategy from the District Commissioner leading to calculated steps for reaching the objectives listed above. After consultations and decisions by the CMT and the Full Council, the Council started to implement the initiative by adopting the strategies elaborated below.

Handeni DC conducted an inquiry to find out the extent and the causes of school girls marriages and pregnancies leading to dropouts. The findings established that school girls raised in poor families did not have knowledge and skills to protect themselves against early sexual relationships and sexually transmitted diseases. It was also clearly noted that girls from poor families did not consider education to be valuable hence ready for marriages decided by their parents/guardians. The study also identified that peer groups in schools and surrounding areas contributed to early sexual relationships.

Secondly, the Council conducted sensitization forums to communities in villages on the importance of girl child education through meetings, school committees with an intention of making households and communities to champion the initiative. The contents of these forums included the risks of early marriages, the long term effects of improper traditions, the nobleness of a girl child having proper education and the elimination of poverty circle through educated girls in households and communities.

Thirdly, the Council identified peer groups and equipped them with peer group education on disadvantages of early sex and other inappropriate behaviors. The peer groups were assisted to organize themselves into teams and appoint team leaders, a strategy aimed at self-monitoring mechanisms against inappropriate behaviors. The groups were also encouraged to engage in income generating activities that would keep them active throughout the day and keep them away from chasing school girls. In the same manner the Council made follow-ups on quarterly basis to determine changes towards appropriate behaviors amongst students and peer groups.

Fourthly, the Council empowered school girls through creating adequate awareness on reproductive health, importance of girls' education and skills to protect themselves against temptations for sexual relationships. Simultaneously the Council cemented this awareness creation programme with production and distribution of T-shirts stamped with the catchphrase NIACHE NISOME to girl students in the Council. Teachers and parents were directed to encourage the school girls to wear the T-shirts while in movements in public places. This was intended to spread the message that the community should support girls to continue with their education.

Fifthly, the Council formed a taskforce involving Councilors, Council staff, Police Force and Community members to make follow ups of girls, who were not attending schools, establish the reasons for not attending school and bring them back to school. In case of marriages, the team intercepted the marriages by bringing the girls back to school. This was done according to education rules and regulations. In collaboration with an NGO, CAMFED TANZANIA, the Council identified 790 girl pupils who were household heads due to deaths, alcoholism, domestic violence, divorces and extreme poverty of parents/guardians. These girl pupils were counseled and provided with necessary support to continue smoothly with studies.

After implementation of the major strategies elaborated above, the Council also focused its attention to the learning and teaching environment and then made some improvements.

- (i) Construction of girls' hostels in Secondary schools and improve their living through installation of solar power, drilling of boreholes for water supply and employing matrons.
- (ii) Provision of communal lunch in schools. The Council ensured that pupils in all 147 Primary schools and 29 Secondary school get meals daily throughout the year. This program operates under a cost sharing scheme in which parents contribute cash money or food stuffs.
- (iii) Building and renovating teachers' houses, classrooms and toilets for both staffs and students



Classroom construction and rain water harvesting in Secondary schools

- (iv) Improving teaching and learning environment by buying text and reference books for students and teachers, purchase of desks and establishment of social amenities such as playing grounds.
- (v) Recruiting more teachers and motivating them to accept working in the remote and difficult rural areas.
- (vi) Establishment of an Education Trust Fund. The Council mobilized various stakeholders to contribute to an education fund that supports most vulnerable pupils. The Council has legalized the Trust fund and is successfully operated through an enacted bylaw. By the end of 2014 the Trust Fund had a total of Tshs. 93,000,000/=.

- (vii) The signing of MoU. The Council has signed MoU with the Village Governments for each village to ensure that pupils remain at school. In case of default, disciplinary measures are taken to Village leaders and the parents/guardians.
- (viii) Strengthening of self-reliance education in which pupils participate in farming and production activities in schools. For example, several schools produce maize used for food at school. Schools receive seeds and extension services from the Council.



S/school girls participating in self-reliance activities

5. RESOURCES

To implement the NIACHE NISOME initiative, the Council did not prepare a specific budget rather the activities were implemented within the regular Council annual budgets. The table below shows the financial resources used to implement some of the activities in the NIACHE NISOME initiative between 2012 and 2014.

Table 3: Selected Niache Nisome Implementation Costs

Na	Input	Number of participants	Number of days	Rate	Total
1	Perdiem domestic	19	8	45,000	6,840,000
2	Food and refreshment	240	8	5,000	9,600,000
3	Stationeries and office consumables	1	1	5,000,000	5,000,000
4	Diesel	1	1	6,000,000	6,000,000
Grand Total					70,640,000

6.0 RESULTS

Handeni DC has community that maintains its strong artifacts and traditions making it very difficult to implement change and introduce modernity. The Council in this case managed to get positive results due to adoption of participatory methodology in which not only the Central Government and Local Government institutions were involved but also the youth, the elders, households, teachers, school committees, male pupils and the target group itself i.e. female pupils. The Village governments also through the MOUs played significant role in changing the mindsets, attitudes and behaviors of the villagers towards a schooling girl. Some of the notable results of the Niache Nisome initiative are explained below.

Handeni DC made significant achievements in improving school attendance as the pupil's attendance increased from 72% in year 2011 up to 86% in 2013. Also the pregnancy cases dropped from 29 in 2011 down to 3 pregnancy cases in 2013. Niache Nisome initiative intended to reach zero pregnancies and zero dropouts for girl pupils by 2015.

Box 1: Citizen Newspaper on Monday July 21, 2014

THE CITIZEN

Handeni. A deliberate campaign aimed to fight pregnancy among schoolgirls in Handeni District, Tanga Region has apparently started to pay off following a dramatic fall in reported cases; it was revealed here last week.

Between January and May this year only six cases were reported compared to 22 pregnancies during the same period last year, according to the officer commanding district (OCD) Zuberi Chembera.

He attributed the drop of reported pregnancy cases among schoolgirls to a campaign dubbed 'Niche Nisome' which was initiated by the district commissioner Muhingo Rweyemamu. He added that the campaign has been successful because residents of the district have started to utilise the services of Gender Desk set up by the Police Force in order to address the problem of early pregnancy.

The OCD urged people to continue reporting such pregnancies because by so doing they would sensitize people on how assist the innocent school girls to avoid being made pregnant.

The desk was set up by the police in every district and region in collaboration with the Education Department and respective defence and security committees and is also aimed to educate the parents on the hazards of early pregnancies.

"At least there is some hope now with the drop of the reported pregnancies," the area police chief told this newspaper in an interview, adding; "people should not fear to come to us to report such cases".

It is estimated more than 8,000 primary and secondary school girls in Tanzania are forced to abandon studies due to pregnancy each year, it was disclosed here last week.

To make matters worse, many of the kids born by the school dropouts end up as street children because their parents cannot afford paying for their up keep and education.

The Council through its sensitization programme, the signing of MoUs with Village governments and collaboration with various NGOs in the area has managed to mould Handeni community attitudes towards believing and supporting girl child education. Many households have adhered to committing financial resources for girl education rather than considering girls as source of cash through dowries.

The change in community attitudes at large and the control of jobless corners has resulted into significant reduction of harassment of girl pupils while on movements from home to schools and back

home. The members of the jobless corners themselves have changed their attention to seeking income generating activities to raise their income. This has impact on the living standards of the households as participation of young men in economic activities creates security in terms of household needs such as food, water and school fees.

The Village governments, school committees, parents and teachers have strongly worked together to ensure compliance to education rules and regulations. This involves the whole community in ensuring that girls attend school, get positive treatment in public places and are not subjected to torture and harassment in all situations.

The Council has achieved significantly in improved teaching and learning environment. Increase in number of classrooms, desks, books, hostels, toilets, teachers' houses, solar panels, rain water harvesting tanks, bore holes etc. Up to December, 2014 the Council had improved the teaching and learning environment by providing items listed in table 4 below.

Table 4: Important Items in Schools

Infrastructure	Number of infrastructure		Total
	Primary school	Secondary school	
Staff houses	210	61	271
Classrooms	844	311	1,155
Toilet holes	1,042	390	1,432
Dormitories	-	6	6
Rain water harvesting structures		14	14
Desks	13,695	12,586	26,281

The Council has also witnessed an increase in the Form Four performance in National examinations has increased from 30% in 2012 to 39.1% in 2013 while Form Two performance has increased from 31% in 2012 up to 48% in 2013. All schools in Handeni DC have introduced self-reliance education program in all Primary and Secondary schools so as to ensure children get hard working and self-sustaining skills. The schools as well benefit from pupils engagement in self-reliance activities as they produce crops that are used to provide lunch. Lastly, provision of meals in the day time for each Primary and Secondary school has enhanced the Niache Nisome objectives by ensuring that girls are happy at school as all basic needs are readily available than at their parents households.

7.0. STRATEGIES FOR SUSTAINABILITY

Handeni DC in collaboration with all Central Government institutions and state organs, the Police in particular, is determined to ensuring that the results of the Niache Nisome initiative become permanent and the change in community attitudes and behavior become irreversible. This is to be realized through the strategies mentioned below.

- (i) Continued mobilization of various stakeholders to contribute for the development of education sector particularly the education trust fund.
- (ii) Continued parents' education on the importance of education to their children and continued penalties against parents whose children drop from schools.
- (iii) Continued awareness creation to the Handeni community on the importance of girl child education and discouraging student marriages
- (iv) Facilitation of sports in schools by having interclass and interschool competitions and reward pupils/schools that perform well
- (v) Continued support of the Police Department in maintaining peace and order in Handeni DC that guarantees safe schooling environment for all pupils in general and female pupils in particular.

8.0 SECRETS OF SUCCESS

Change is always threatening and many organizations and people have failed to introduce and lead change towards new positive results. Handeni DC succeeded in changing not only the attendance and pass rates of Secondary school pupils but the traditions, mindsets and behaviors of strong Zigua community. One wonders how this change was possible and what drivers were used to make this change possible. The Council leaves lessons for other LGAs in the form of secrets of success. These are;

- (i) Involvement of both parents and other stakeholders in the Council to contribute for education development
- (ii) Effective use of other government departments such as the Police and the Court.
- (iii) Political will. Political personnel who have touch with community and can sense the needs and the gaps that people have, take appropriate measures to solve the problems and enjoy success in changed community. These are politicians who are success and change oriented and has a culture of leaving foot prints wherever they work on development issues.
- (iv) Regular school inspections made by District and Zonal inspectorate teams. These receive reports about many education matters but including dropouts and pregnancies and take appropriate actions before it is too late.
- (v) Visionary leadership by the District Commissioner who strategically focused on addressing challenges surrounding girl child education.

Appendix 1 Strategies for Sustainability

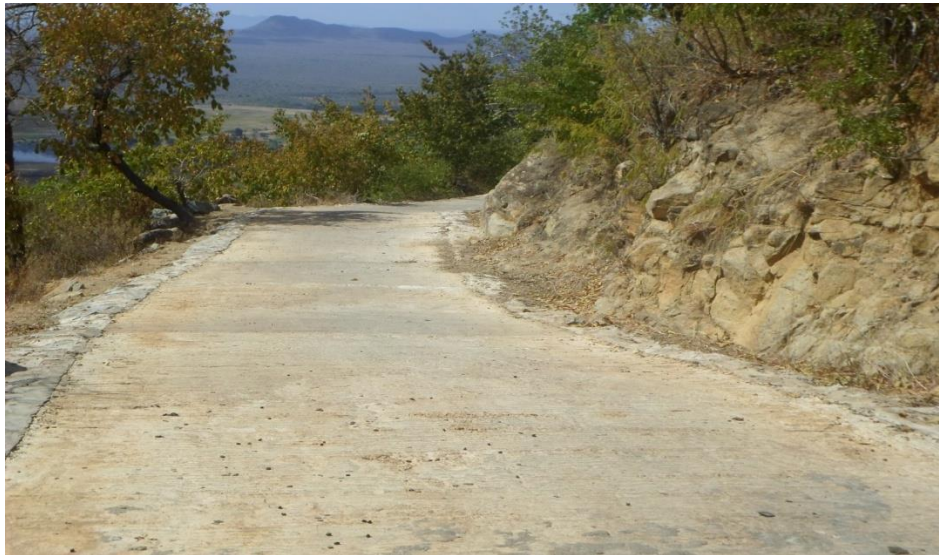
S/No.	STRATEGY	PROJECT/ACTIVITY	TOTAL NUMBER			SOURCE OF FUND
			2011/2012	2012/2013	2013/2014	
5.1a	To make improvement of both teaching and learning environment for primary schools	To procure text and reference books	251,726	271,876	281,876	Central Government Parents, Different stake holders (World Vision Tz)
		To procure desks	20,504	21,171	22,152	Central Government Parents, Different stake holders (World Vision Tz)
		To construct classrooms	882	898	963	Central Government Parents, Different stake holders (World Vision Tz)
		To construct staff (Teachers) houses	220	221	254	Central Government Parents, Different stake holders (World Vision Tz)
		To construct toilets	1028	1072	1518	Central Government Parents, Different stake holders (World Vision Tz)
5.1b	improving both teaching and learning environment for Secondary schools	To procure text and reference books	7,395	10,000	3,000	Central Government Parents, Different stake holders.
		To procure desks	4,426	4,000	4,200	Central Government Parents, Different stake holders
		To construct classrooms	9	8	6	Central Government Parents, Different stake holders (World Vision Tz)
		To construct staff (Teachers) houses.	5	4	2	Central Government Parents, Different stake holders (World Vision Tz)
		To construct Students toilets	8	8	20	Central Government Parents, Different stake holders (World Vision Tz)
5.2	Providing meals at schools	i.b. The council monitors the provision of meals to school pupils in 147 primary schools in may/2014	Primary - 18	Primary – 36	Primary – 147	Central Government Parents, Different stake holders (World Vision Tz)
		ii.b. 29 Secondary schools in may/2014.	Sec. 5	Sec. 23	Sec. 29	Central Government Parents, Different stake holders (World Vision Tz)
5.3	Establishment of Education Trust fund	Different stakeholders are sensitized to contribute for the education Trust fund for the implementation of different educational activities	Tsh.7,000,000	Tsh. 20,000,000	Tsh. 93,000,000	District employees,, Councilors and other stakeholders
5.4	Implementing “Niache Nisome” program	To educate parents and other stake holders in the district on the importance of education to the community.	0	Sec. 29	Sec. 29	District commissioners’ office, District executive Director and Parents
5.5	Signing Memorandum of Understanding	Agreement is made between the District council and village Government to make sure that student and pupils attendance in schools is maintained and parents who	0	Vijiji – 112	Vijiji – 112	The District executive director
5.6	Educating parents	The district council has made the school problem to be the permanent agenda in all formal development meetings that are made from the hamlet and	29 Secondary schools has reached	29 Secondary schools has reached	29 Secondary schools has reached	District commissioners’ office, District executive Director

		ward level.				
5.7	Education for self-reliance	The Council is encouraging each school to cultivate at least one hectare farm of food crops (maize, sorghum, Cassava) so that they produces obtained are used by pupils for their meals	5 Secondary Schools.	23 Secondary schools	23 Secondary schools.	District commissioners' office, District executive Director.

LUSHOTO DISTRICT COUNCIL



DEPLOYMENT OF COMMUNITY LABOUR-BASED TECHNOLOGY

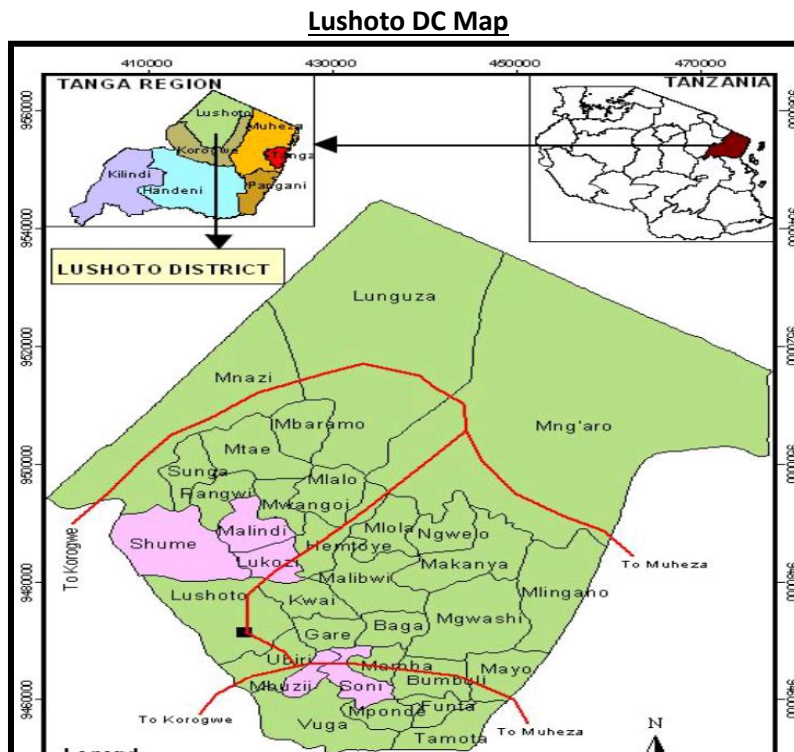


Experience of Lushoto DC

1.0 INTRODUCTION

Lushoto DC is situated in the Northern part of Tanga Region within 40° 25' – 40° 55' Latitude South and 30° 10' – 38° 35' Longitude East. It borders the Republic of Kenya to the Northeast, Same DC to the Northwest, Korogwe DC to the South, Mkinga DC and Muheza DC to the East. According to 2012 census, the population of Lushoto DC is 332,436, (153,847 male and 178,589 female) with a population growth rate of 1.1%. About 85% of total population engage in agriculture (small scale farming) and livestock keeping and the remaining 15 % engage in small businesses.

The Council has an area of 3,500 Km² and accounts for about 12.8% of Tanga Region. The Western Usambara Mountains dominate the landscape which lies between 300 – 2100m above sea level. The highlands cover about 75% (2625 Km²) of the total Council area, with altitude of 1000m – 2100m above sea level. The lowlands cover about 25% (875 Km²) of the total Council area between altitudes of 300m – 600m above sea level. The Mountains and their lower slopes occupy about 90% of the total land of Lushoto DC. The slopes are moderately steep to very steep and there are many narrow valleys as well as rock outcrop in the terrain.



2.0 PROBLEM

Lushoto DC is located on mountainous terrain which forms a permanent challenge in opening up land for construction of roads due to difficulty in using road construction equipment and machinery. Steep and undulating terrain makes some of the Villages and communities hard to reach resulting into difficulties for the Council to provide services to the communities particularly those living on mountainous areas. The terrain does not attract qualified contractors to undertake civil works in the area. Even those who win bids for construction are forced to make use of Village labour. Some dishonest contractors do not fairly pay the villagers leading into conflicts between the community and the Council which offers contracts to bidders. In most cases, prices offered by contractors surpass the real

construction prices by 40-50%. Moreover, there were recurrence of misunderstandings between technocrats and politicians on the process of offering tender awards to external contractors. Inevitably there are some areas that cannot be opened by machines. Also lack of community ownership of the projects that were implemented through external contractors led to vandalism, lack of regular maintenance hence limited sustainability. This necessitated the use of community labor based technology operationalized through force account in hard to reach construction works.

3.0 OBJECTIVES

Lushoto DC has always intended to open up roads in all villages and communities despite the complicated terrain up the hills. The highlands have communities that engage in cultivation of various types of crops such as coffee, tea and temperate climate fruits. Also several types of vegetables are cultivated on the highlands. All these need reliable infrastructure in terms roads to allow transportation of the farm produce. Therefore the prime Council's objective of this initiative was to ensure that the community accesses the basic social and economic services through improved infrastructure. Specifically, the initiative intended;

- (i) To open the hard to reach areas by all-weather feeder roads and allow the communities to prosper in agriculture, housing and transportation.
- (ii) To engage the community into development projects through labor based technology. The engagement of community in road construction also activates the community in terms of participation, decision making, ownership and provides the opportunity for income generation as the labor based technology is not about self-help but the labor extended is paid for.
- (iii) To design and construct cost effective road infrastructure through close and participatory monitoring by the community members and provide supportive supervision by technicians from Council headquarters.
- (iv) To cultivate community ownership of their development projects. Due to effective participation, the communities feel attached to their projects and required to maintain them regularly.
- (v) To promote experienced-based learning by directly implementing development projects among community members and LGA staff.
- (vi) To absorb the idle labor into productive development activities. Agricultural activities are generally season based and there are seasons that people become idle while waiting for farm produce to mature. During this time there is idle labor that can be used in other development initiatives including opening up roads and upgrading them.

4.0 IMPLEMENTATION STRATEGIES

Community Labour-based Technology (CLBT) refers to methods in civil engineering that use labour and light equipment as the predominant mode of production. Although the use of CLBT in road rehabilitation and maintenance has been recognized for its impact for economic development in Lushoto DC, a fundamental bias towards use of equipment based and *Force Account* as mode of payments seems to pervade both the public and private sectors. Force account refers to; work ordered on a construction project without existing agreement on its cost, and performed with the understanding that the contractor will bill the owner according to the cost of materials and equipment, plus a certain percentage for overhead and profit. In other words, Force account works means contracted construction work paid for on the basis of the time taken and material consumed. Despite of its importance in hard to reach areas, force account practice is not popular under public procurement regulations.

The department for Infrastructure development realized that the construction of roads in villages that are on steep slopes of the Usambara Mountains cannot be implemented using proper procurement of

construction firms that use heavy equipment to open up roads and construct them to gravel or ash felt level. Therefore it was necessary to prepare a comprehensive proposal on the idea of using the community based labor technology (CBLT). This CBLT proposal was presented at the CMT and the Full Council for endorsement and mutual consent because it had aspects of *force account* that are unfavorable to the public procurement regulations and guidelines.

After the proposal for CBLT was approved the Council moved further to conducting community mobilization to organize village based local artisans of various specialties into groups. Initial community sensitization was done by the Councilors through public meetings urging the artisans to attend identification meetings with Council engineers and technicians.

Through the Council Works Engineer, artisans' identification was done in each Ward followed by formation of Ward artisans groups, formulation of group constitutions and establishment of group leadership. Artisans were organized into group structure for sustainability in their operations and effective management of finances as involvement in road construction is one of the income generating activity or project. The Council also trained all Ward Artisan Groups (WAGs) on basic infrastructure construction skills (updating on construction specifications) and management skills (financial management, opening bank accounts, record/book keeping, implementation report writing, procurement skills, etc.)



Council Engineer Training WAGs

After comprehensive training the Council facilitated registration of the WAGs by elaborating on registration procedures. This activity was done by the Council community development office in collaboration with the Council solicitor. The registration of the WAGs is important as once they are registered and issued with Certificates they can enter into contracts with Village governments and the Council for construction of many other types of infrastructure such as classrooms, laboratories, dispensaries, culverts and staff houses.

To facilitate construction of roads, segregation of construction projects (at Council level) into those which can be implemented by qualified contractors and those to be implemented by the WAGs was necessary. The projects to be implemented by the WAGs are those happening in difficult terrain termed as hard to reach spot maintenance, routine maintenance and new road formation. These areas actually do not attract heavy equipment based contractors.

Tendering, awarding and contracting construction works to qualified contractors. (a) For road construction projects, the Council clearly identified the projects to be implemented by WAGs and amount of funds in the contract. What is unique in this arrangement, the qualified contractor is obliged to issue payment cheques back to the Council for the Council to deposit the amounts to the WAGs' bank

accounts for road works. Sometimes the contractor directly pays cash to the WAGs under Council agreement and supervision. In this way the WAGs are motivated as they are guaranteed of the payments. This arrangement obliges the contractor to provide technical backstopping to the WAGs on site to ensure project completion and maintain credibility. (b) For construction of public buildings (such as classrooms, laboratories, dispensaries, staff houses, hostels, information centers etc.) the funds are disbursed directly to the Ward accounts to implement prioritized projects. The WDC conducts all tendering processes. During selection of the bidders the WDC gives priority in awarding the construction work to the WAGs and effect payments accordingly. The arrangements (a&b) conform to PPRA requirements, financial memorandum, accountability and auditing.

Strategic assignment of 12 Auxiliary Technicians to Wards in order to facilitate the WAGs on project implementation (conduct site meetings, preparation of work programme, procurement of materials, construction according to specifications and standards, report writing, etc.). 4 technicians in hard to reach wards have been provided with motorcycles for smooth movements.

Roads Constructed through CLBT

Construction of roads (since 2010 to 2015) :

- *Halmashauri – Maguzoni (1.4km) – Double surface dressing (paved)*
- *Mnazi – Mbaramo (2.1km) - Concrete*
- *Mbaramo – Wangwi (6km) – Earth*
- *Zimbiri – Mbaramo (6km) – Earth*
- *Baghai – Tewe (12km) – Earth*
- *Lunguza – Tewe (5.1km) – Earth*
- *Kigumbe Vented Drift at Kwai Ward*

Buildings constructed under CBLT

Construction of Public Buildings (2013 to 2015):

- *Administration Block at Ndurumo Secondary School*
- *Girls Hostel at Magamba Secondary School*
- *Mbaramo Ward Office*
- *Tourist information centre*



Tourist information center under construction through CLBT

5.0 RESOURCES

Lushoto DC endeavor to open up roads and upgrade them to effective transportation services throughout the year used various types of resources. As shown above, human resources involved the Council staff, engineers, technicians, village artisans and community members in Villages and Wards. The Council also committed financial resources as summarized in table 1 below.

Table 1: Funds used to construct Roads

ACTIVITY	SOURCE OF FUNDING	ACTUAL COSTS
Community Mobilization	-	-
Identification WAGs	OC	Fuel cost (840Litres@2100=1,764,000.00
Training of WAGs	Road fund (Supervision cost)	Fuel cost (840Litres @2100=1,764,000.00
Construction of roads:		
Halmashauri – Maguzoni (1.4km) – Double surface dressing (paved)	Road Fund	119,492,400.00 (Material Plus Labor charge cost)
Mnazi – Mbaramo (2.1km) - Concrete	RF	84,687,500 (Material Plus Labor charge
Mbaramo – Wangwi (6km) – Earth	RF	3,700,000 Labor charge cost
Zimbiri – Mbaramo (6km) – Earth	RF	3,920,000 Labor charge Cost
Baghai – Tewe (12km) – Earth	RF	21,680,800.00 Labor charge cost
Lunguza – Tewe (5.1km) – Earth	RF	10,180,000.00 Labor charge cost
Kigumbe Vented Drift at Kwai Ward	RF	8,700,000.00 Material Plus Labor charge cost
Construction of Public buildings:		
Administration Block at Ndurumo Secondary School	CDG	18,000,000.00 Material Plus Labor charge
Girls Hostel at Magamba Secondary School	CDG	70,000,000.00 Material Plus Labor charge
Mbaramo Ward Office	CDG	7,000,000.00 Material Plus Labor Charge
Procurement of 4 Motorcycles	CDG	14,500,000.00
Routine Supervision	RF-Supervision cost	6,600,000.00

6.0 RESULTS

Lushoto DC met all the objectives that it had set for the CLBT initiative. The overall achievement in this case is improved service delivery for the villages lying on rough, steep and isolated terrain but which are economically vibrant through cultivation of many various types of crops, vegetables and fruits. Some of the specific results of the CLBT initiative are elaborated below.

The Council has registered 28 WAGs having members, constitutions and bank accounts. All members have been trained on basic infrastructure construction skills (updating on construction specifications)

and management skills (financial management, opening bank accounts, record/book keeping, implementation report writing, procurement skills, etc.)

The Council now boasts to have “all weather roads” and public buildings in place in hard to reach Wards such as Mnazi – Mbaramo, Mbaramo – Wangwi, Zimbiri – Mbaramo, Baghai – Tewe, Lunguza – Tewe and Kigumbe Vented Drift at Kwai Ward. A few years ago these areas could not be reached by cars.



CLBT constructed double surface dressing, Earth and concrete roads

The Council has allocated auxiliary technicians in all hard to reach Wards. These are active in assisting the WAGs and Villages in periodic road maintenance as the roads that are on mountains need frequent repairs due to erosion and landslides. All villagers are active in informing each other and the WAGs on areas that need immediate repair. The auxiliary technicians also assist communities on the construction of public buildings such as classrooms, laboratories and staff houses.

The CLBT initiative resulted in cost saving and value for money in road construction works. The use of WAGs and other villagers saves costs to above 50% of all the costs of using heavy equipment construction of roads. The savings also emanate from the fact that there are mountains and terrains that cannot be accessed completely by road construction machines. Hence CLBT becomes cost effective and appropriate technology for these areas. Table 2 shows the savings made from the use of CLBT.

Table 2: Actual Costs and Estimated Costs

ACTIVITY	ACTUAL COST USING WAGs (Tshs)	ACTUAL KMs CONSTRUCTED	ESTIMATED COST USING CONTRACTOR (Tshs)	ESTIMATED KMs BY CONTRACTOR	SAVINGS (%)
Construction of roads: Halmashauri – Maguzoni (1.4km) – Double surface dressing (paved)	119,492,400	1.4	398,308,000	420m	70
Mnazi – Mbaramo (2.1km) - Concrete	84,687,500	2.1	330,750,000	538m	74
Mbaramo – Wangwi (6km) – Earth	3,700,000	6	9,000,000	1.8	50.9
Zimbiri – Mbaramo (6km) – Earth	3,920,000	6	9,000,000	2.6	50.6
Baghai – Tewe (12km) – Earth	21,680,800	12	72,000,000	3.6	69.9
Lunguza – Tewe (5.1km) – Earth	10,180,000	5.1	30,600,000	1.7	66.7
Kigumbe Vented Drift at Kwai Ward	8,700,000	Vented drift of 3.5m width to 5m Length	24,870,000	Vented drift of 2.2m width to 2.5m Length	65
Construction of Public	36,000,000	Construction	64,800,000	Construction	44.4

ACTIVITY	ACTUAL COST USING WAGs (Tshs)	ACTUAL KMs CONSTRUCTED	ESTIMATED COST USING CONTRACTOR (Tshs)	ESTIMATED KMs BY CONTRACTOR	SAVINGS (%)
buildings: Administration Block at Ndurumo Secondary School		Administration block of 216m ² Floor plan area		Administration Block of 120m ² Floor Plan area	
Girls Hostel at Magamba Secondary School	94,000,000	Construction of 1885m ² Floor plan area Girls Hostel Building at Magamba secondary school	282,275,000.00	Construction of 627m ² Floor plan area Girls Hostel Building at Magamba secondary school	66.7
Mbaramo Ward Office	7,000,000.00	Construction of 56m ² floor plan area ward office	16,800,000.00	Construction of 23.3m ² floor plan area ward office	58.3

The Council also made significant cost savings leading to value for money in construction of public buildings. Table 3 below shows some examples of the saving made.

Table 3: Savings Made from Construction of Public Buildings

ACTIVITY	ACTUAL COST USING WAGs (Tshs)	ESTIMATED COST USING CONTRACTOR (Tshs)	SAVINGS (%)
Construction of Public buildings: Administration Block at Ndurumo Secondary School	36,000,000	64,800,000	44.4
Girls Hostel at Magamba Secondary School	94,000,000	282,275,000	66.7
Mbaramo Ward Office	7,000,000	16,800,000	58.3

Through CLBT initiative Lushoto DC has realized the following;

- (i) The Council can easily provide public services (education, health and transport) due to improved infrastructure particularly in hard to reach Wards.
- (ii) Communities in hard to reach Wards can easily access markets for their agricultural produce (ginger, cardamon and horticultural crops).
- (iii) Public transport has improved and people can easily commute to Council headquarters and other business centers.
- (iv) There is high ownership of the constructed community based projects. This is due to the fact that WAGs fully participated in project implementation and management of funds cultivating attitude of valuing their projects. This has guaranteed continuous care and maintenance of the infrastructure constructed.
- (v) The incomes of the communities in hard to reach Wards have improved leading to use of motorcycles as alternative and efficient means of transport both for public and agro-products.
- (vi) After implementation of projects, WAGs set aside 5% from their savings to provide welfare support to the elderly (2.5%) and disabled (2.5%). This has created greater appreciation and support to WAGs' works by community at large.
- (vii) Lushoto DC has created a pool of highly experienced artisans who from time to time are deployed by qualified contractors in other Councils. These have also reduced costs of supervision and monitoring as the Council uses them to perform instead of sending engineers from headquarters.
- (viii) The CLBT initiative has created good relationship between the hard to reach Ward communities with the Council, between the Councilors and the staff and between the contractors and communities.



Council engineer with a happy road user

- (ix) The CLBT initiative has demonstrated effectiveness of the use of **FORCE ACCOUNT** in cost saving and result based completion of quality and timely projects resulting into accelerated community development.

7.0 STRATEGIES FOR SUSTAINABILITY

Lushoto DC has set several strategies for making the CLBT initiative sustainable and ensuring that the communities in hard to reach areas continue to get public services sustainably. One of the concrete strategies is the upgrading of the WAGs to make them fully registered community contractors. This will allow the Council in the future to enter into construction contracts directly with community contractors rather than the current practice of attaching WAGs to registered private contractors.

Lushoto DC has strategized in ensuring that more roads are opened up and upgraded in all Wards and Villages that are considered “hard to reach”. In line with this the Council is determined to maintain effective collaboration with WAGs and communities to ensure that periodic maintenance of the roads in hard to reach areas is done timely and efficiently.

Other strategies include (i) regular training and experience sharing among WAGs including sending of WAG leaders for further training at Appropriate Technology Training Institute (ATTI) Mbeya (ii) promotion of WAG works by providing and supporting them to acquire LBT construction equipment and (iii) continued monitoring and supportive supervision by the Public Works Department.

8.0 SECRETS OF SUCCESS

Lushoto DC experiences the same challenges as many other Councils in Tanzania. To get positive results from the use of CLBT there are several underlying facts that facilitated this achievements. These include;

- (i) Readiness of the artisans to self-organize into WAGs and accept the construction role.
- (ii) Politicians (Councilors, District Commissioner, Members of Parliament) readiness to support the initiative.
- (iii) Visionary leadership of the District Executive Director and team work among CMT members in supporting implementation of this initiative.
- (iv) Effective and careful use of FORCE ACCOUNT.
- (v) Creativity of the District Engineer in designing and implementing this initiative eliciting commitment and continuous engagement with community.

- (vi) Placement of 12 Auxiliary Technicians in hard to reach Wards who stay with community to monitor day to day activities.
- (vii) Close monitoring of contractors by LGA on day to day implementation to ensure quality projects.



Newly constructed District Council office under close supervision of the Council engineer

- (viii) Strategic allocation and prioritization of funds (by the Council) to peripheral Wards (hard to reach) for projects which address felt needs of the people.

MUFINDI DISTRICT COUNCIL



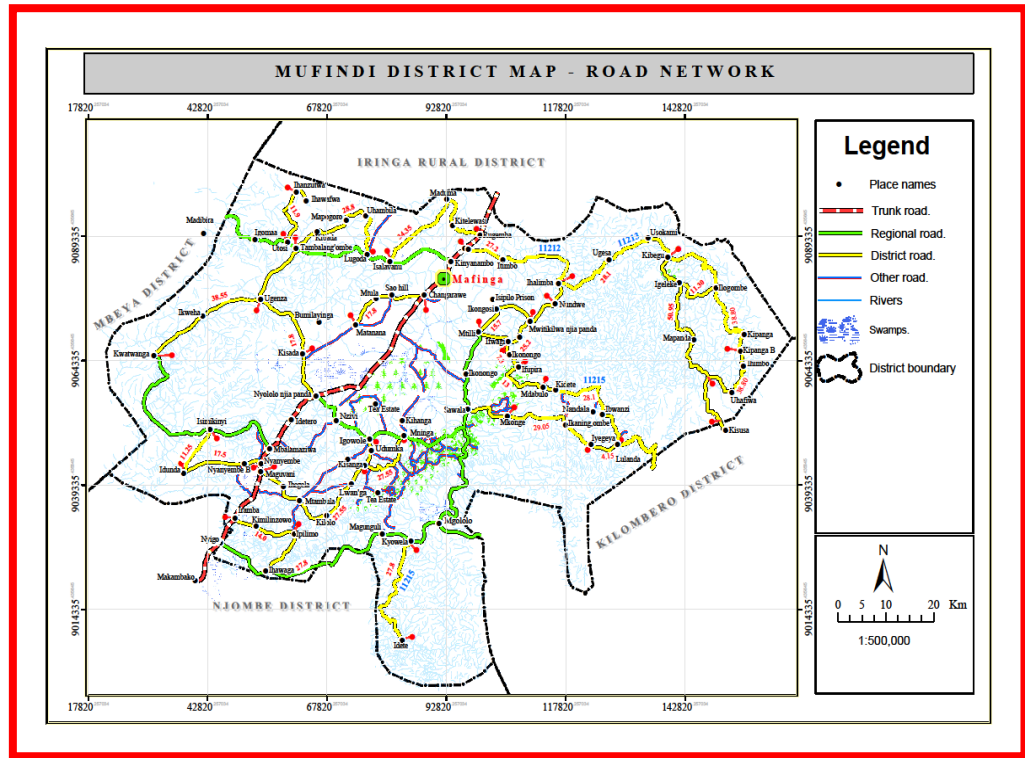
CONSTRUCTION OF ISIPII- MPANGA TAZARA ROAD USING LABOR BASED TECHNOLOGY



Experience of Mufindi DC

1.0 INTRODUCTION

Mufindi District Council was established in early 1970's. Mufindi DC is among the five Councils of Iringa Region located 80 km South of Iringa Municipality. Other Councils include Iringa MC, Iringa DC, Mafinga TC and Kilolo DC. Mufindi DC is bordered by Njombe Region to the South, Mbeya Region to the West, Iringa DC to the North and Kilolo DC to the North East. The headquarters is located at Mafinga town along Mbeya highway. In terms of international identification, the Council lies between Latitudes 8°.0' and 9°.0' South of Equator and between Longitudes 30°.0' and 36°.0' East of Greenwich. The land is occupied by forests (10,411.3 sq.km) leaving only 2,427.6 sq. km. for human activities.



The major ethnic group is the Wahehe who constitute about 85% of the entire population. Their main activity of the inhabitants is farming followed by small scale livestock keeping. The Wabena, Wakinga and others make up the remaining 15%. These migrated into Mufindi DC from neighboring Njombe and Makete DCs in search of green pastures in tea and timber industries as well as employment in government institutions. Table 1 below shows the Mufindi Divisions and the main ethnic groups.

Table 1: The Distribution of Five Major Ethnic Groups by Division

S/No.	Division	Area km ²	Wards	No. of Ethnic Groups	List of Five Major Ethnic Groups
1	Ifwagi	2,100	9	3	Wahehe, Wakinga and Wabena
2	Kasanga	1,500	8	3	Wahehe, Wakinga and Wabena
3	Kibengu	820	3	2	Wahehe and Wabena
4	Malangali	1,500	6	3	Wahehe, Wakinga and Wabena
5	Sadani	1,203	4	2	Wahehe and Wabena
	Total	7,123	30		

Benchmarking on 2002 population and housing census, population of Mufindi DC increased from 272,071 people in 2002 to 317,731 in 2012, contributing about 34 % of Iringa Region total population

with an annual average growth rate of 1.5 %. Mufindi DC is estimated to have minimum population growth rate compared to other Districts in the region. This growth rate is below the regional average of 1.6 % as well as the national average growth rate of 2.4%. According to 2008 projected population, Mufindi DC is the most densely populated Council in the region while its per capita GDP is TZS 1,206,917 per annual.

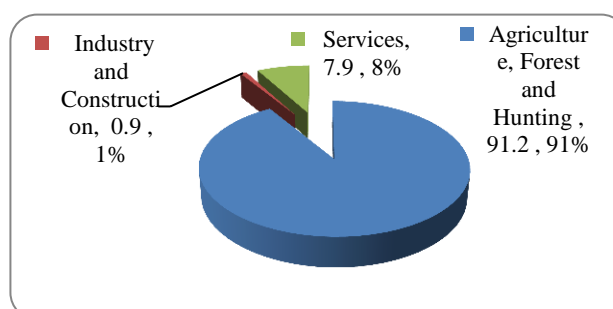
The Council is divided into 5 divisions of Ifwagi, Sadani, Kibengu, Kasanga and Malangali; 30 wards; 125 villages and 608 Vitongoji distributed unevenly as shown in Table 2 below.

Table 2: Land Area and Administrative Units by Division

S/No.	Division	Area Km ²	Wards	Villages	Hamlets	% Area
1	Ifwagi	2,100	9	32	150	29.5
2	Kasanga	1,500	8	32	158	21.1
3	Kibengu	820	3	16	81	11.5
4	Malangali	1,500	6	27	133	21.1
5	Sadani	1,203	4	18	86	16.9
	Total	7,123	30	125	608	100.0

The economy of Mufindi DC is dominated by agriculture which employs more than 85 % of its population. Both cash and food crops are produced, with the latter dominating. According to the results of 2008 Regional Gross Domestic Product Survey, agriculture contributes close to 91% of the Councils' GDP of which crop production contributes about 90.2% followed by livestock (0.7%) while hunting and forestry account for 0.2%. Relatively good performance of manufacturing sector has been influenced by the availability of large scale multinational companies which engage in pyrethrum and tea production and processing. These are Pyrethrum Company of Tanzania (PCT) and Tea processing and packaging industries (Uniliver Tea Tanzania Ltd, Mufindi Tea Company and Chai Bora). Chai Bora basically is for tea packaging while the other two are for processing. The manufacturing sector is also influenced by a number of wood related processing industries including the Mufindi Paper Mill (MPM) at Mgololo and Sao Hill industries and many other small industries.

Figure 1. Contribution of GDP by broad sector



2.0 PROBLEM

Mpanga – TAZARA Village is isolated and situated 115Km from Mafinga Town (Headquarters of Mufindi DC). The neighboring villages are located 25 km away in all sides. The only road to Council headquarters is up to Isipii village which is 25 km from Mpanga – TAZARA. For almost 27 years and due to limited funds (estimated at Tshs 800 million) for road construction, the village relied on TAZARA railway as the only transport and communication means. In order for someone to reach Council Headquarters, the only alternative was to board a train to Makambako which is 80Km and

connect with bus transport from Makambako to Mafinga another 101Km. To make the matter worse, the train schedule was only twice a week at mid night. Traveling back included staying in Makambako to wait for the train which had serious implications on the living costs. Later, the train schedule was reduced to once per week. Occasionally, TAZARA services would be suspended due to breakdowns and staff strikes for days, weeks and even months. Owing to all these difficulties, the villagers suffered from the following:

- Inefficient governance; reaching WEOs, VEOs and extension officers from headquarters was extremely difficult. It was also difficult to retain staff and to enhance service delivery. In relation to this difficulty, the Council was forced to make Mpanga – TAZARA a Ward with a single village, an endeavor that is expensive.
- Poor service delivery in terms of distribution of education materials and ambulance services as the schools and dispensaries in the village could not be reached by Council vehicles or any other vehicles.
- Inadequate, unreliable and expensive transportation of agricultural produce. Isipii – Mpanga TAZARA area is suitable for production of pineapples, yams, bananas, cassava and other fruits, but these could not reach markets and increase households' incomes due to the lack of roads.
- Gross underuse of land and water resources; Mpanga – TAZARA village has enormous land potential for agriculture and forestry that are underused due to limited accessibility.
- Poor living standards. As a result all these hurdles the villagers in Isipii – Mpanga TAZARA area experienced declining incomes, poor housing and declining services which cumulatively resulted in extreme poverty and very low living standards.

3.0 OBJECTIVES

The Isipiii – Mpanga TAZARA villagers set a strong determination towards achieving the opening up a road. The general objective of the community was attainment of enhanced socio – economic services at Mpanga – TAZARA Ward/Village by constructing 25Km of road from Isipii Village to Mpanga - TAZARA. The intended outcomes included;

- Improved transportation of goods
- Improved access to health facilities (Transportation of medicines etc.)
- Increased staff retention
- Increased attraction of investors on agriculture and forestry in particular
- Raised value of land –high demand
- Increased routine visits by education officers to enhance Primary school education performance
- Improved accessibility to market for agricultural products (availability of motorcycle to individual villagers)
- Improved movement from the Village to the market places
- Increase of social interaction by neighborhoods
- Improved living standards

4.0 IMPLEMENTATION STRATEGIES

The implementation of road construction involved two phases. The first phase took place during 2008 - 2009. Phase one activities involved massive community sensitization and mobilization of resources; meaning self-organization of villagers and prioritization of Mpanga TAZARA – Isipii road construction. This involved meetings at Village level to start digging the road, consultation with other benefiting villages (Isipii, Ibwanzi, Ihanu, Lulanda and Ikanga) and forwarding their resolutions to the Council. Lulanda village spontaneously initiated digging 10Km of road towards Mpanga - TAZARA village which joined the digging initiative towards Isipii.

After witnessing the villages' initiatives, the Council decided to provide technical and financial support. This happened after sensitization and convincing the Councilors to set aside resources for the road construction. Conducting participatory road survey which involved surveying and designing the road from Isipii to Mpanga – TAZARA village that started in 2008/09FY. Two road technicians in collaboration with villagers from Isipii, Ibwanzi, Ihanu, Lulanda, Ikanga and Mpanga - TAZARA Villages voluntarily participated in the survey work and site clearing.



Big trees that were cleared

Construction of the road using labor based technology started 2008/09 and completed in 2009/10 involving at least 40 people per day from benefiting villages. Villagers from Isipii, Ibwanzi, Ihanu, Lulanda, Ikanga and Mpanga - TAZARA villages participated during this construction in falling down trees, digging land, collection of stones, construction of drainage canals and laying down timber to make bridges. All these activities were supervised by Council technicians who spent nights and days with the villagers.



Construction activities in progress

Capacity building to Gang leaders. The villagers and the Council technicians selected groups of youth from all the villages along the Isipii – Mpanga - TAZARA road and formed Gangs of local Artisans. Each group was assigned a Leader. The gang leaders were then trained for the purpose of establishing resource capacity of local artisans. The training covered aspects of community mobilization, road monitoring, road maintenance and the use of local resources and materials for road rehabilitation. Gang leaders are responsible for ensuring the road is passable throughout the year by involving the gang members and the community in all the villages.

The second phase of the construction of the Isipii – Mpanga - TAZARA road took place during the 2010 – 2013 financial years. After attaining phase one success, the community and the Council engaged in upgrading the road to District Road standards by using machine based technology. The community organized itself in ensuring that road maintenance is done timely and especially during rainy seasons. The role of the Gangs and their leaders was widened to involve frequent monitoring visits to areas that need quick repairs particularly during rainy season.



Well paved Road on Mountainous Terrain

5.0 RESOURCES

The community and the Council committed different types of resources in both phases. The Budget allocated from Council own source for phase one was Tshs. 18million while the Council set Tshs 105million for phase two. The Council also used 2 vehicles for transportation of Council technicians and materials and ensured that fuel was available throughout the construction period.

The Council also allocated Technical staff for survey, construction, supportive supervision and monitoring on Labor Based Technology (LBT). Thirdly, the whole community voluntarily participated in road construction. Community participation from six villages of Isipii, Ibwanzi, Ihanu, Lulanda, Mpanga - TAZARA and Ikanga were involved each day with not less than 40 people working in the project. To make the participation of the community effective the Council ensured that all LBT tools such as pedestrian rollers, towed graders, hoes, matches and pangas were available. Community participation reduced the cost of construction from the estimate of Tshs 800 million to only Tshs 123 million (i.e. only 15% of the pure contract costs).

6.0 RESULTS

The community and the Council achieved the objectives of constructing a road using LBT. The 25km of the precious road is in place allowing traffic of light vehicles, motorbikes, bicycles and people, although not passable throughout the year especially during heavy rainfall season. This road has improved the movement of the people from the six villages to the Council headquarters. The teachers, health staff and many other extension staff now enjoy going to the Council headquarters for receiving various services using the road which has reduced significantly the time that was spent to use the rail and the Makambako route.



Paved road crossing thick savannah forests

Improved health and education services as ambulances and examination vehicles can at least access Mpanga - TAZARA village. The Primary schools can now be visited for inspection and monitoring while the health facilities in the villages can easily be supplied with drugs and medical equipment from the Council. The improvement in health services has become more evident as the motorcycles are now using the road to ferry the sick to the hospitals in other areas of the Council. This is a result of the availability of the road.

The presence of 12 gang leaders trained on labor based technology is a great result. These organize the groups to immediate detect road problems and make repairs. In cases of major road problems

they immediately provide information to the community to participate in the maintenance activities. Occasionally the gang leaders request support from the Council for LBT equipment and expertise.

The road has led to significant changes administratively. While the WEOs, VEOs and Councilors can easily visit the Council headquarters, the staff from the headquarters can as well monitor and supervise service provision smoothly. Staff retention has improved as the primary school has 7 teachers and the dispensary is staffed with several personnel.

The Isipii – Mpanga - TAZARA road has created a window for investments in the six villages. Local investors have been attracted especially those engaged in tree planting along the newly constructed road. Isipii and Mpanga - TAZARA villages are endowed with mountains that receive adequate rainfall per annum which makes tree planting and harvesting lucrative business. This opportunity was never used in these villages due to the lack of road.



Trees being planted on hills along Isipii – Mpanga Tazara Road

The living standard of the people along the Isipii – Mpanga -TAZARA Villages is improving steadily. While some community members have acquired motorcycles, the construction of modern houses has increased as the building materials can easily be transported to these villages. Retail shops and businesses are in increase while the selling of agricultural products and their transportation is becoming reliable. All these guarantee increase in household incomes and hence improved living standards and wellbeing of the community.

7.0 SUSTAINABILITY STRATEGIES

Despite the achievements observed, there are challenges such as frequent and rampant landslides, complicated terrain and limited financial resources that attract strategies for sustainability. One major strategy is effective collaboration between the communities and the Council. This collaboration ensures that the road is passable throughout the year as the routine maintenance is easily performed by the villagers and the Council.

The second strategy is the establishment of the Gangs and Gang Leaders. 12 Gang Leaders are registered as Specialist Class III Labor Based Contractors so as to provide road construction and maintenance services in the surrounding villages according to the technology given. The Gang Leaders also ensure that the communities are motivated to maintain the road particularly in the respective village areas. The Gangs are actually motivated as when the Council makes major repairs of the road; the Gangs are contracted out and paid for their services.

The last strategy involves continuous sensitization of various stakeholders to plan and budget for routine maintenance including spot improvement and periodic rehabilitation. In this case all villages include in their plans and budgets provisions for the road. The council as well sets the budget for maintenance and improvement of the road.

8.0 SECRETS OF SUCCESS

The success of the construction of the road from Isipii to Mpanga - TAZARA Village is an achievement that has several secrets of success. These include the willingness of the society to effectively participate in the whole process from survey, designing and implementation, effective Councilor's participation in sensitizing the community and the realization and the use Labor Based Technology in road construction. Other secrets include the availability and readiness to provide technical assistance from the Council (Staff from District Engineer's Office), effective team work among various Council technical staff and effective actualization of a community felt need (road). All in all the actualization of the community felt need through the use of LBT in road construction makes the center of these secrets of success.

MOSHI DISTRICT COUNCIL



COMMUNITY SELF-HELP EFFORTS IN FEEDER ROADS IMPROVEMENT



Experience of Kimochi Ward

1.0 INTRODUCTION

Moshi District Council was established in January 1984. The Council lies between Longitude 37° to 38° East and Latitude 2° - 30' - 50° South, bordering Rombo DC to the North, Republic of Kenya to the East, Mwanga DC to the South, Hai DC and Simanjiro DC to the West. The Lower Zone (Lowlands) ranges between an altitude of 700 – 900 meters above sea level in which people engage in paddy and sugarcane production mainly through irrigation, maize cultivation and free cattle grazing. The area is sparsely populated with population ranging between 15 – 30 people per km² as compared to the highland area where population density ranges between 400 – 800 people per km².

The Middle/Central Zone ranges between 901 – 1500 meters above sea level where people practice agriculture. The main crops are coffee, maize, beans and fruits. Dairy cattle keeping through zero grazing is also practiced. The Upper Zone (Highlands) is located on the slopes of Mt. Kilimanjaro and is a densely populated area (400 – 800 people per km²) with an altitude ranging from 1501 – 5895 meters above the sea level. People in this zone practice agro-forestry and dairy cattle keeping. The main crops cultivated in this area are coffee, banana, fruits, and vegetables. There is also wide spread production of timber from various tree species.



According to 2012 census the population is 466,737 out of which 225,767 are males and 240,970 are females. The average household size is 4.2. The Council is divided into 4 Divisions, 31 Wards, 145 Villages and 689 Vitongoji. Kimochi Ward has population of 13,562; 6,476 being male and 7,086 female.

Moshi DC has a total of 697.24Km of road network out of these; 176.3Km are Council roads while 520.94Km are feeder roads. About 176.3Kms are at gravel level, which are passable throughout the year and 520.94Km of the roads are earth roads which are not passable during rainy season. About 80% of Moshi roads are on mountainous terrain dominated with volcanic clay soils.

3.0 PROBLEM STATEMENT

Despite of the importance of feeder roads in local economy, for many years Kimochi Ward experienced a challenge of impassable roads which resulted into a lot of problems to the Community particularly during the rainy season. As a result, it was difficult to access social and economic services (hospital, church, market and production services). In extreme cases poor roads could result into accidents and prolonged delays to reach destinations especially for travels to and from Moshi Town, which is the center for all social and economic needs. This situation was exacerbated by the fact that the Road Fund financing does not cover construction and maintenance of feeder roads in small communities and villages.

Table 1: List Roads which were not Passable

No	Road Name	Length in Km	Funding to date	Problems	Constraint
1	Old Moshi-Mdawi - Kisaseni	7.9	Nil	Developed large potholes with deep gullies that affect the road users particularly the sick people, tourists as well as the indigenous.	Insufficient resources to maintain roads from Government A lot of water that runs along the road during the rainy season.
2	Manyumbu-Kisaseni-Kitimbirihu	3.8	Nil	Not passable and slippery	A lot of water that runs along the road during the rainy season.
3	Mangawo-Kisaseni- Ngasini	3.0	Nil	Not passable and slippery	A lot of water that runs along the road during the rainy season.
4	Matiko kwa Kishimbo- KwaGoodluck- Mharaeni	1.6	Nil	Not passable and slippery	A lot of water that runs along the road during the rainy season.
5	Ufundi-Kwa mrodi- Kombere	4.5	Nil	Not passable and slippery	A lot of water that runs along the road during the rainy season.
6	Nduweni-Mangoro	0.25	Nil	Not passable and slippery	A lot of water that runs along the road during the rainy season.
7	Mailunyi- Kilyambala	0.25	Nil	Not passable and slippery	A lot of water that runs along the road during the rainy season.



Road sections along Nduweni-Mangoro and Mailunyi –Kilyambala before change

4.0 OBJECTIVES

The major objective of the Kimochi Ward Community was to ensure the community acquires reliable feeder roads for efficient transportation, effectively access to social and economic services throughout the year and ultimately improve the living standards through Self-Help initiatives. Specifically the initiative intended;

- (i) To upgrade and maintain the feeder roads and make them passable throughout the year.
- (ii) To enhance transportation of the agricultural produce from the production areas to the market centers, Moshi Town in particular
- (iii) To guarantee smooth and efficient accessibility to Health, Education, Church and Market services.

5.0 IMPLEMENTATION STRATEGIES

The Kimochi Ward Community practiced Self Help Initiatives in Road Construction. These initiatives are extremely needed now in Tanzania due to budgetary deficiencies leading to non-completion of projects. Also the improved O&OD requires active communities that engage in self-help initiatives for their own development instead of communities that wait for the government to do everything. Also the reformed LGDG system provides incentives for communities that engage in self-help initiatives. This part intends to elaborate on the essence of Self Help initiative so that Tanzanian LGAs can adopt to stimulate community development.

Self-help initiatives refer to local-level or private initiatives by individuals, households or community groups to improve their own public amenities, without waiting for help from the Government or nongovernment organizations (NGOs). The individual, household or group provides the investment cost of the public amenity, either in cash or kind. While ownership may or may not be clear in law, there is no perception that Government or an NGO has either partial or total control of the source.

The self-help strategy connotes a programme of activities involving the concerted efforts of members of a given community aimed at providing some basic amenities in that community. It entails the development of the resources of the community by efforts of members of that community alone, instead of relying on outside initiatives or assistance. It is an inward-looking approach to self or group improvement, which relies solely on own efforts and largely for own benefits. To stimulate and sustain the self-help motive in rural development, it is necessary to mobilize and organize people in affected communities for effective project conception, selection and implementation. The self-help strategy therefore presupposes the existence of like-minded people with initiatives, integrity, and foresightedness; apart from capital and a favorable investment environment. It takes peaceful

coexistence as given, as well as the existence of a government that is readily responsive to the needs and aspirations of the governed. It also requires cultural traits that are development-friendly.

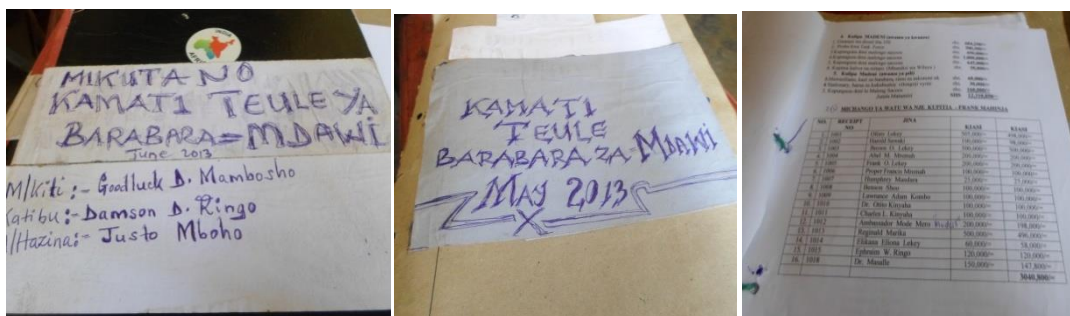
Provided they are demand-driven and environmentally friendly there is no limit to the range of projects that can be executed in rural areas through self-help. The only requirements are adequate institutional capacity, and/or willingness to build on, to support and manage the projects and thereafter sustain them. This alludes to the pivotal role of governments in providing the enabling environment and in moderating the forces of culture and ethnicity.

The principle of felt-need, on the other hand, assumes that within every community there exist certain needs, which are generally recognized and agreed upon by members of that community as posing a problem and therefore needing a solution. Associated with felt-need in providing an impetus for self-help efforts are: (i) The questioning of the status quo and the realization that something can possibly be done; (ii) An appreciation by the people of their enormous potential resources that could be harnessed to meet felt needs; (iii) Exposure to external factors, including education, urban life, the energizing role of migrants-indigenous and sons “abroad” which helps to suppress the debilitating options; (iv) Alienation and neglect (as experienced by rural communities); and (v) The understanding that resources are naturally scarce and that how they are used needs to be maximized through co-operation.

Self-Help initiatives elaborated above emanate from a common community felt need. The Kimochi Ward community got annoyed by the fact that the Arch – Bishop of ELCT church failed to reach and attend a funeral of one influential leader of the church in 2013. Having realized that the Centenary Jubilee was just a year ahead and Kimochi area (specifically Mdawi Village) being the first site to receive Christianity in Tanganyika (except Bagamoyo), few church leaders decided to strategically organize the community in order to upgrade the roads to facilitate the Jubilee and enhance road accessibility to the community.

To achieve this objective, the community of Mdawi Village got involved into various actions and strategies. Some of these are summarized below.

- (i) Lobbying for a Village Assembly meeting. The few church leaders convinced the village leaders to convene the meeting specifically to discuss on improvement of feeder roads in the village. Lobbying was necessary as Village leaderships in general terms feel uncomfortable to call village meetings avoiding queries about performance of the government in terms of plans and finances.
- (ii) Formation of a steering committee. The Village Assembly agreed with the idea of improving the feeder roads and nominated a steering committee of 3 people. (Chairperson, Secretary and Treasurer). The committee was assigned a task to prepare a proposal of maintenance of all feeder roads in the village including equipment hire and material costs.



Steering committee members and records

- (iii) Fund raising activities. The steering committee established construction costs that amounted to Tshs 21,000,000 and proposed that each household contributes Tshs 25,000 to cover the costs for equipment hire and construction materials. In order to get enough funds, the committee also proposed to invite financial remittances from Mdawi Village residents living outside the village (in diaspora). Ultimately the committee collected a total of Tshs 12,454,050 in which Tshs 2,894,000 was contributed by villagers and Tshs 9,560,050 by individuals and diaspora members especially those living in major cities in Tanzania.
- (iv) Community mobilization. The steering committee organized villagers in each Kitongoji to fully participate in road construction by clearing the sites, removing big stones to allow the grader works and digging drainage furrows (commonly nicknamed as **parking**). These community based activities were performed under Msaragambo practice (collective self-help activities in which all elder members of all households have to be represented).



Drainage furrow (parking)



Stones removed from the road

- (v) Hiring of machines for construction. The committee hired a motor grader and vibrating roller for the construction works and a lorry for carrying gravel.
- (vi) Construction works. This started with community members clearing the sites in all Kitongoji roads, removing big stones and digging drainage furrows. The paving of the roads was done by a hired motor grader for one week. The Council provided technical assistance through the Council Engineer, Technicians and Assistant Technicians specifically in preparations of drawings, strip maps, bills of quantities and culverts making.



Construction work

6.0 RESOURCES

Mdawi village under the umbrella of Kimochi Ward used various types of resources to achieve the objective of improved road for better transportation. The human resources that were used included all people (workforce) of Mdawi Village and its Vitongoji, Church leaders and Council staff from headquarters that included the Council Engineer, 2 Technicians and 2 Assistant Technicians. The village used financial resources as displayed in the table 2 below.

Table 2: Cash Contributions

No	Source of fund	Amount (Tshs)
1.	Mdawi community members(25,000/house hold)	2,894,000
2.	Individuals from Mdawi village	2,519,250
3.	Remittance from diaspora	3,040,800
4.	Loan from Church SACCOS	4,000,000
	TOTAL	12,454,050

7.0 RESULTS

Mdawi Village is one of important examples of villages that have practiced self-help initiative principles to come up with results that meet the community pre-felt needs. During the writing of this case Mdawi village had 19.6 Kms of feeder roads upgraded to gravel level and passable throughout the year. For people living in Kimochi area this is an overwhelming result and big step towards improved living standards. The feeder roads used to be muddy, slippery and stony making it impossible for any economic use are now improved.



The road surface has been improved from slippery earth to gravel

Easy transportation of agro-products to marketing centres particularly in Moshi town. The Mdawi village community and all inhabitants of Kimochi Ward are hard workers in their farms producing coffee, bananas, maize, beans and many types of vegetables and fruits. These are perishable farm produce that need reliable transport to markets. The improved roads have eliminated greatly the risks that confronted farm produce. The accessibility of the agro products to big markets such as Moshi Town and Arusha City has improved making farmers' income reliable and their living standards improved.

The Mdawi Village people are happier than before due to easy accessibility to social (health, church, and education) services. The Primary schools and Dispensaries in Mdawi Village used to experience difficulties in getting supplies for effective service provision. After the improvement of the feeder roads vehicles from the Council Headquarters can easily drop supplies in schools and dispensaries. Ambulances can easily reach the dispensary while religious leaders can easily reach churches and households to offer their spiritual services.



Mdawi and Ksaseni p/schools served by the roads

Due the self-help initiative the Community sense of ownership has been enhanced and is vivid through full participation during construction works and continued maintenance of the feeder roads through Msaragambo. The community has improved its bond and it can easily organize itself into performing other important improvements for the community. Self-management skills acquired help the community to identify its own needs, plan for solutions, solicit resources and eliminate the problem. In general Mdawi Village community is happy and motivated to engage in other developments leading to community peace and tranquillity which are necessary for community development.

8.0 SUSTAINABILITY STRATEGIES

Mdawi village has set several strategies to ensure sustainability of improved Kimochi Ward feeder roads. The strategies develop on the principles of self-help initiatives in which community challenges are pursued and solved by the community itself. The strategies include the following;

- (i) A well-functioning steering committee that ensures community mobilization for maintenance. To avoid conflicts and mismanagement the community has delegated the coordination of self-help initiatives to an adhoc committee rather than the village government and its committees. The community felt that the village government is structure oriented rather than service oriented while its performance is bound by rules and directives which make it inefficient.
- (ii) The Mdawi Village has also set an effective maintenance circle within which two days in a week are used by the Community to perform maintenance activities to ensure the roads are in perfect conditions (Msaragambo). The community shows its commitment by willingly attending the road maintenance sessions. It involves all grownup members of households, men and women, youth and old.



Mdawi village members on routine maintenance works

- (iii) Planting of trees and grasses alongside the roads to eliminate chances of erosion destroying the roads. The Mdawi village community has local knowledge about the importance of planting tree in relation to weather, erosion, land protection and maintenance of water sources. All the road sides have trees that are maintained by the community to ensure that the road gravel does not erode away. Harvesting of trees is done after planting new trees to protect land against erosion.
- (iv) Continued negotiation with the Council to build culverts and upgrade the roads to double surface dressing. The committee has lodged several request letters to the Council to set resources for upgrading of the roads in the village and the whole Kimochi Ward.
- (v) The sustainability of these roads and the self-help initiative is in safety as there is continued technical support by the Council engineer. The technicians from the District Engineer periodically visit the roads and provide technical support during weekly maintenance sessions by the villagers.

9.0 SECRETS OF SUCCESS

Self-help initiatives played a great developmental role during colonial and early years of independence in Tanzania and Kilimanjaro region in particular. However, Self-help initiatives have become uncommon in Tanzania due a change in attitudes that resulted from the Central Government attempt to make people believe that the government can do everything starting from the 1980s to 2000s. Recent politicians do not support self-help initiatives due to fear of becoming unpopular and lose elections. However, well-organized communities such as the Mdawi Village still rip the benefits of self-help initiatives due to many underlying secrets listed below.

- (i) The role played by religious institutions in propagating a responsible community and backing up development initiatives. The Mdawi village community is an honest, determined, self-organizing and responsible community. These qualities developed within this community due to its religious environment and history.



Mdawi church and Kitimbirihu prayer centre

- (ii) The village is endowed with people who indulge in creativity, integrity, self-help and commitment to their development which is part and parcel of their cultural heritage.
- (iii) The Mdawi village has a self-motivated and trustworthy leadership. This ensures proper, transparent and honest use of funds contributed by various stakeholders.



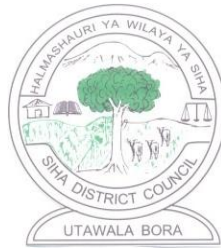
Mr. Justo Elias Mboho – Treasurer



Mr. Damson Ringo - Secretary

- (iv) The readiness and commitment of the Council to provide close technical assistance and staff during the implementation of the self-help initiatives.
- (v) Possession of the self-help initiative skills that involve joint identification, participatory planning and committed solicitation of resources to address a shared felt need of the community.
- (vi) Presence of a diaspora that well-wishes its original community. The people of Mdawi Village and the surrounding areas that have left the village keep on caring about their land and their ancestors hence ready to support development projects from wherever they are.

SIHA DISTRICT COUNCIL



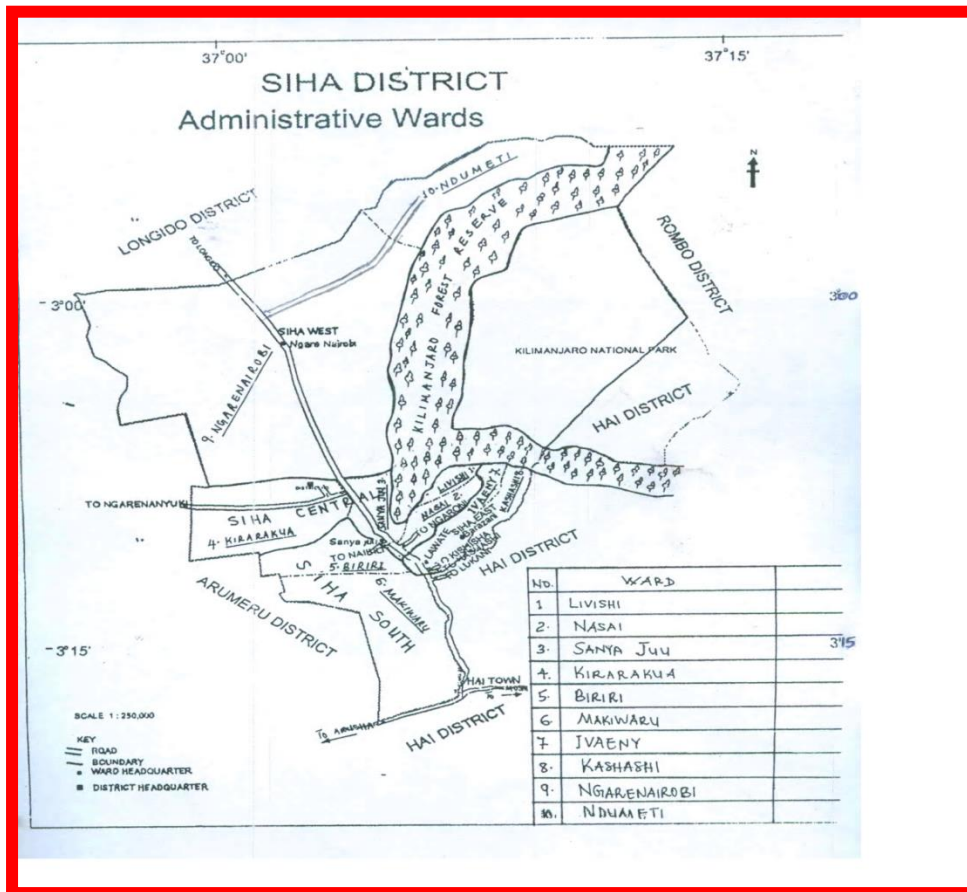
COMMUNITY BASED ENVIRONMENTAL SANITATION



Experience of Siha DC

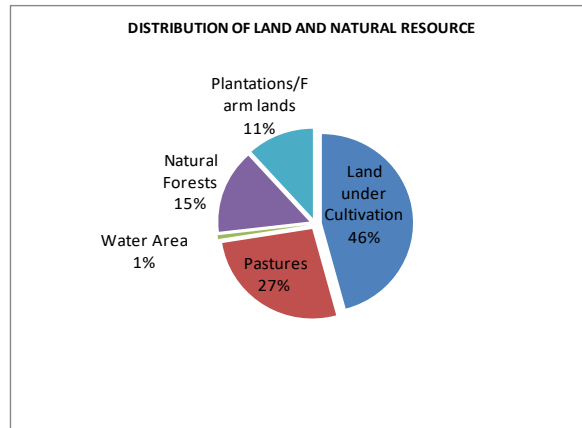
1.0 INTRODUCTION

Siha DC is among seven Councils of Kilimanjaro Region established in July, 2007. The Council is located at 37°3'-37°15' Longitudes East and 2°5'-3° Latitudes South. Siha DC has a total land area of 1158Km². The Council shares border with Hai DC to the South, Longido DC and Rombo DC to the North West, Meru DC and Hai DC to the South East while the Republic of Kenya also forms large part of the boarder to the North. The people living in the Council are mainly "Wachaga tribe". Other tribes are Wameru and Wamasai who are pastoralists. According to 2012 census the population of Siha DC is 116,313 people, out of which 56,500 are males and 59,813 are females with an average household size of 4.3 people. The Council is divided into 5 divisions namely i.e. Central Siha, East Siha, North Siha, South Siha and West Siha. The Council has 15 Wards, 60 Villages and 170 Vitongoji.



The Council is divided into three Agro ecological zones which identify socio-economic activities. The Highland belt is a mountainous area rising between 1200 - 1400 m above sea level, with an average annual rainfall of about 800 mm-1200 mm per annum. Most of the area is covered with forest and is used as water catchments where most of the streams originate. Main economic activities are agriculture and zero grazing livestock keeping. Crops grown in this area are coffee, banana, maize, beans, round potatoes, vegetables, fruits, wheat, barley, sunflower and safflower (Katam). The central belt lies between 900m - 1000m above sea level with average rainfall of 600 – 900mm annually. The main economic activities are agriculture and traditional livestock keeping of cattle, goats, sheep, pigs and donkeys. The lower belt lies between 700m and 960m above the sea level, with annual rainfall 400- 600

mm. Agriculture is an important economic activity, and major crops are maize, beans, banana, sweet potatoes, finger millet, pigeon peas, cassava and vegetables.



For centuries Siha DC has been dominated by Bantu speaking people who form about three quarters of the population. Indigenous Bantu are Wachagga from Siha category and Machame category, Maasai, and Wameru. Maasai are the only ones who lead a nomadic pastoralist life and are found all over the Council. The Wasiha and Wamachame who occupy the South part of Kilimanjaro Mountain and west part of Meru DC are mainly farmers. Other tribes living in Siha DC are Wasafwa, Wahaya, Wanyiramba, Wasukuma, Wapare, Wasambaa etc; the majority practicing mixed farming.

2.0 PROBLEM

Sanitation literally means measures necessary for improving and protecting health and wellbeing of the people. Sanitation is any system that promotes proper disposal of human and animal wastes, proper use of toilet and avoiding open space defaecation. Basic sanitation is described as having access to facilities for the safe disposal of human waste (faeces and urine), as well as having the ability to maintain hygienic conditions, through services such as garbage collection, industrial/hazardous waste management, and wastewater treatment and disposal. Sanitation is the hygienic means of promoting health through prevention of human contact with the hazards of wastes as well as the treatment and proper disposal of sewage or wastewater.

Human excreta have been implicated in the transmission of many infectious diseases including cholera, typhoid, infectious hepatitis, polio, cryptosporidiosis, and ascariasis. Under-nutrition, pneumonia, worm infestations, are also associated with unsafe water, poor sanitation and hygiene resulting in reduced physical growth, weakened physical fitness and impaired cognitive function, particularly for children under the age of five. Infectious agents are not the only health concerns associated with wastewater and excreta. Heavy metals, toxic organic and inorganic substances also can pose serious threats to human health and the environment – particularly when industrial wastes are added to the waste stream.

The conditions necessary for environmental sanitation include clean and safe water supply, clean and safe ambient air, efficient and safe animal, human, and industrial waste disposal, protection of food from biological and chemical contaminants and adequate housing in clean and safe surroundings, also called environmental hygiene.

Siha DC used to experience frequent outbreaks of fecal borne diseases such as diarrhea, cholera, worm infestation and amoeba in ten villages (Ngarenairobi, Namwai, Matadi, Miti mirefu, Mawasiliano, Lekrumuni, Kandashi, Olkolili, Ormelili na Wiri) lying in the lower ecological zone and which is mainly occupied by the Maasai Community; settled pastoralists. The culture and the traditions of the Maasai Community living in this zone did not support environmental sanitation as the communities were not accustomed to using toilets and did not want to change towards using toilets. The Maasai people also had a general shared belief among the youth and women that male elders do not defecate at all. In these villages all residents used to defecate openly in the nearby bushes and plains. The problem was worsened by the fact that in this zone there is severe shortage of water especially during the dry season while the residents did not have the tendency to wash hands after defecating. All the above practices resulted into outbreaks of fecal borne diseases as tabulated in table 1 below.

Table1: Outbreak of Disease from 2008-2012

Year	Amoeba	Diarrhea	Cholera	Typhoid	Worms
2008	1751	150	0	11	830
2009	1604	120	0	9	301
2010	1894	103	0	0	156
2011	1669	80	0	13	132
2012	1430	65	0	12	123

3.0 OBJECTIVE

Siha DC made a firm decision that the Maasai community must change in order to address the environmental degradation challenge and eliminate the occurrences of the diseases resulting from poor sanitation. The major objective of the initiative was to eliminate outbreaks of fecal borne diseases in the most affected villages. The specific objectives include;

- (i) To change the mindsets, traditions and behavior of the Maasai people towards appreciating the fact that all human beings defecate and that there are healthy ways of defecating that do not distort dignity within the family and the community.
- (ii) To create awareness among the Maasai Community on fecal borne diseases and associated costs through massive sensitization programme on cleanliness, degraded environmental risks and positive effects of sanitation.
- (iii) To promote use of toilets in households, washing of hands after using the toilet and clean the households surroundings.
- (iv) To demonstrate different types of recommended toilets.
- (v) To ensure clean village and household environment.

4.0 IMPLEMENTATION STRATEGIES

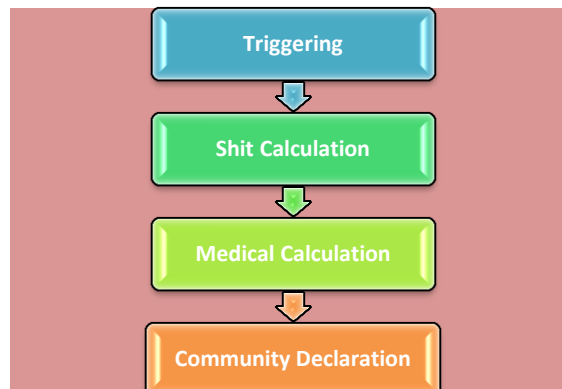
The Sanitation Campaign was first introduced in Siha DC in 2012/2013 by the Ministry of Health and Social Welfare under support of the World Bank. In implementing the National Sanitation Campaign and Community Led Total Sanitation (CLTS), the Council adopted Social Action Approach which was unavoidable as the community that needed to be changed was the rigid and closed cultured Maasai. CLTS focuses on "triggering" communities to improve their own sanitation systems and become "Open Defecation Free" (ODF). The initial "triggering" is done by holding training sessions, transect walks (looking for areas where faeces are found and tracing their path into food and water supplies), meetings and activities for children and students. The idea is to involve the whole community, instill a sense of disgust at the practice of open defecation and enable the community to develop an action plan to end it. After the initial triggering, the communities are left to construct their own latrines. No hardware or designs are provided, though advice and help in locating materials can be. After a while, external

evaluators return to inspect the village and confirm whether it is indeed ODF. If so, a certification ceremony is held and neighboring communities are invited to share good practice and put pressure on them to become ODF free as well. This sense of competition and collective pressure is also encouraged within villages, with neighbors encouraging each other to achieve the collective goal of ODF status. CLTS is a low-cost methodology requiring no hardware subsidy: the main input is good facilitation of the participatory process - the training of trainers and planning of programmes.

Triggering programmes that the Siha DC used in the ten villages are tailored to take account of local culture and customs. Typical activities include "transect walks" (tours of the village locating open defecation sites and tracing paths of contamination via water or animals), discussions, demonstrations of possible technologies, surveys (which can be carried out by local school children) and the formulation of an "action plan" to become defecation free. The idea is for the community to discover the ways in which OD is endangering their health and therefore to motivate them to change things.

The council staff used Participatory "Triggering" technique to change the community attitude towards using toilets. Triggering is the process of facilitating participatory exercises using different tools where a community realizes the effects of open defecation and decides to stop it through collective analysis of its own sanitation and hygiene profile. This is an integrated approach to achieving and sustaining open defecation free community. In this case triggering included shit calculation, medical calculation and community declaration.

Triggering Technique



The sanitation community based sanitation initiative involved several strategies that are listed in this section;

- (i) Training of 2 District facilitators as implementers of Sanitation Campaign in the Council. The training involved one Health officer and one community development officer.
- (ii) Conducting one day advocacy meeting on hygiene and sanitation campaign to solicit support of stakeholders such as the CMT, the CHMT, Councilors and influential people.
- (iii) Conducting a 2 days training of CMT Members, WEOs, VEOs and CDOs to capture baseline data to be used in sanitation register.
- (iv) Conducting survey to establish baseline data from 10 villages in 10 days for monitoring and measuring change purposes.

- (v) Conducting triggering exercise in 10 villages through social mapping, shit (fecal) calculation, medical expenses calculation, fecal-oral contamination route and declaration form.

ALTERNATIVE SHIT CALCULATION MODEL

Steps to take:

- *Gather community members for a public meeting. Be sure to include sanitation leaders like the village headman, health committee members, and natural leaders. An extension staff will facilitate the meeting, but the headman will choose the venue and time. Punctuality is important because it demonstrates the seriousness of the event.*
- *The extension staff then performs a demonstration/drama for the community. They pretend to use a pit latrine, using a leaf to wipe their shit after defecating. They demonstrate how easily the leaf can break; with shit getting on their hands (using charcoal or clay to symbolize shit on their hands is very effective). The facilitators do not wash their hands after leaving the latrine. This provides a visual demonstration of shit being left on the facilitators' hands.*
- *The facilitator then asks questions to the community during this process such as "What is left on my fingers? Do you use leaves? How many households have both soap and water?"*
- *The facilitator then shakes hands with an authority figure in the community, usually the elder, and then asks them to turn and greet their neighbour with the traditional hand shake. If there is charcoal or clay on the hands of the facilitator, this symbol of "shit" will be passed around from person to person during the handshakes.*
- *Pass food such as ground nuts to those who shook hands with the facilitator's shit. Encourage them to eat the food while the facilitator's shit is still on their hands. This sparks the understanding that shaking a neighbour's hand may lead to you eating their shit, and demonstrates the importance of washing your hands with soap.*
- *The facilitator also asks the community members to estimate how many hands they have shaken that day, the previous week, the previous month, etc., then asks "How many people's shit could you have possibly eaten this week?". This tool is similar to the shit calculation performed during CLTS triggering where people calculate the amount of shit in their village. This calculation can amount to 280 people's shit a week, and sparks the realization and understanding of hand washing benefits.*



Facilitators conduct triggering exercise involving shit calculation

- (vi) Training of community and primary schools pupils in ten villages (Ngarenairobi, Namwai, Matadi, Miti mirefu, Mawasiliano, Lekrumuni, Kandashi, Olkolili, Ormelili na Wiri) on the importance of having toilets and the best way of using them.



Use of drama and demonstrations on use of toilets and hand washing

- (vii) Conducting intra village Sanitation and Hygiene National competitions. Wiri village emerged the winner of the sanitation Campaign and was rewarded Tshs 600,000/= by the then MOHSW. In this competition Siha DC was the second winner nationally and was awarded two motor cycles; one for the Council and the other for Wiri Village.
- (viii) Establishment of 2 sanitation clubs as pressure groups and one mobilizer. These clubs engage in continued sensitization through cleanliness programmes, home visits and village meetings. The mobilizer reminds the households and the clubs on cleanliness and environmental sanitation and prepares reports on the improvements and submits them to the Council health department.
- (ix) Preparation of 70 campaign T-shirts with the motto “JENGA CHOO BORA UEPUKANE NA MARADHI” (construct improved toilet to free yourself from diseases) and “NAWA MIKONO KWA SABUNI” (wash your hands with soap). The T-shirts were distributed to health workers, village leaders, Councilors and stakeholders.
- (x) Conducting 2 days training to 20 Artisans on construction of cost effective types of Ventilated Improved Pit (VIP) latrines and hand washing practices.
- (xi) Identification of households with no toilets and areas used for open defecation. A total of 944 i.e.18% households out of 5307 had no toilets.
- (xii) Conducting transect walk that involved walking with community members across Vitongoji to observe sanitation conditions, locate the areas of open defecation and collect shit (fresh feaces) to draw attention of chicken and flies picking and eating the shit; modeling the transferring of shit from defecation sites to the households.
- (xiii) Conducting 3 days orientation to Village Health Workers on Community Led Total Sanitation (CLTS) using 4 District Facilitators. The CLTS training covered construction of improved toilets, proper use of toilets, washing hands with soap after using toilets, general sanitation and cleanliness around households.
- (xiv) Construction of demonstration toilets in two centers. UNICEF supported construction of 12 demonstration toilets in the villages of Ngarenairobi and Orkolili.



Demonstration Toilet

- (xv) Rehabilitation of toilets at Kilari and Mawasiliano Primary Schools through the National Sanitation Campaign.

5.0 RESOURCES

Siha DC used various types of resources to ensure the Community Led Total Sanitation initiative succeeds in the Maasai villages. Some of the financial resources used to implement the campaign are shown in table 2 below. The initiative also involved a number of human resources such as the Council health officers, community development officers, VEOs, WEOs and village health workers.

Table: 2 Financial Costs for CLTS

No.	Activities	Costs (Tshs)
1	Advocacy Meeting	2,726,997.40/=
2	Orientation Training for baseline survey in 10 Villages	2,208,970.00/=
3	Triggering exercise in 10 villages	8,920,226.00/=
4	National Sanitation and Hygiene Competition	2,990,000/=
5	Establishment of sanitation clubs and printing of T-shirts	4,956,300/=
6	Training to 20 Artisans	4,649,229/=
7	Transect Walk and Sanitation Mapping	3,066,278/=
8	Orientation of Village Health Workers	1080000/=
	TOTAL	31,198,500/=

6.0 RESULTS

The CLTS initiative has resulted into a major community change. The mindsets of Maasai communities have changed drastically from using bushes and plains for defecation to construction and use of improved toilets. This goes hand in hand with gradual disappearance of the unclean beliefs such as elders do not defecate. All members in households that constructed toilets now use toilets with confidence. This change is realistic as a total of 504 (9% of 5307) households have constructed improved toilets within five months of the campaign and construction exercise is on progress.



VIP toilet as seen from backyard

The second major result of the CLTS initiative is; every village has formulated and enforced a bylaw on toilet construction. The bylaws require every household to construct a toilet, use the toilet and ensure environmental cleanliness of all the surroundings of the household. The defaulters are subjected to pay fine of Tshs 20,000 to 50,000/= and are required to stop defaulting.

The third notable achievement is a significant decrease in the incidences of fecal borne diseases. The gastro-intestinal diseases such as typhoid, diarrhea and amoeba which used to be rampant are on the decline as the community is increasing the construction and the use of toilets. This has led to reduction of the deaths of the under-five infants who were mostly hit by the diseases. The construction and use of toilets has encouraged the growing tendency of pastoral community members to build permanent houses instead of wandering from one area to another. Since toilets are permanent the Maasai people are adopting a more settled life by constructing permanent modern houses. The villages also have achieved to have two toilet demonstration centers that are used for learning purposes by nearby villages and from other councils and countries. The CLTS initiative has also produced well trained 20 local artisans who assist construction of toilets at household level and are actively working in constructing more toilets as per the needs of the communities and the households.

7.0 SUSTAINABILITY STRATEGIES

The Council has set several strategies to ensure that the CLTS initiative results are permanent, the change in attitude and behavior achieved by the Maasai people in the ten villages and the construction of toilets is sustainable by strategizing on the following;

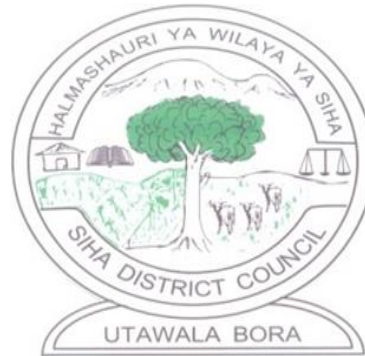
- (i) Continued awareness creation on environment cleanliness and sanitation by decentralizing the obligations to the Village Governments and the communities themselves.
- (ii) Continued follow up to ensure that all households construct and use toilets. The follow-ups involve appraisals, provision of rewards to well performing communities and continued encouragement of the sanitation groups and mobilizers.
- (iii) Continued sensitization to ensure that the Maasai community abandons completely open defecation practices using frequent meetings organized by the elders.
- (iv) Continued empowerment of women to fully participate in decision making forums and destroy completely the negative attitudes towards women and potentials.
- (v) Encourage the private sector to supply construction materials for improved housing and toilets by identifying the shops and advertising them in the community and village meetings.
- (vi) Introducing alternative technology of building toilets in sites with hard rocks.

8.0 SECRETS OF SUCCESS

Siha DC managed to use CLTS to change the behavior and attitudes of the most rigid and strong keepers of traditions and culture; the Masai. The CLTS has been used in many communities in Tanzania and in many other African countries without much success. This makes the Siha DC initiative in ten villages a case to note and learn. The secrets that can be learnt by other Councils in Tanzania and abroad include;

- (i) The flexibility of the Council to quickly adopt and apply the CLTS as practiced by the MoHSW and UNICEF in community led total sanitation campaign.
- (ii) Innovativeness of Council staff particularly health and community development officers, i.e. innovation to use voluntary social action approach instead of coercive approaches.
- (iii) The use of entertaining cultural groups to conduct sensational events towards effective change in people's behavior and attitudes.
- (iv) The use of sanitation competition among villages and provision of awards. These provide incentives but also compel other communities and villages to commit more efforts in toilet construction.
- (v) The Maasai community culture and traditions supported the CLTS initiative. The Maasai youth and women accept any idea or practice as long as the elders endorse it and they get committed into it. This happened with regard to stopping defecating on the plains and bushes, constructing toilets and using them effectively.

KILIMANJARO REGION



SUSTAINABLE LAND USE MANAGEMENT



Night Reservoir (Ndiva) Experience of Mwanga DC



Lawate River Catchment Environmental Conservation Experience of Siha DC

1.0 INTRODUCTION

Kilimanjaro Region is one of the 31 Regions in Tanzania; the home of Mount Kilimanjaro. The Region is bordered by the Republic of to North and East by, Tanga Region to the South, Manyara Region to the Southwest and Arusha Region to the West. The region covers an area of 13,209Km² or 1.4% of the area of the entire Tanzania Mainland. Administratively, the Region is divided into seven Councils namely Moshi MC, Moshi DC, Rombo DC, Mwanga DC, Same DC, Hai DC, and Siha DC. The Region has a total of 30 Divisions, 153 Wards and 472 Villages.



The two best practices in this publication come from Siha DC and Mwanga DC. Siha DC was established in July, 2007. The Council is located between latitudes 37°3' - 37°15' South of Equator; Longitudes 2°5' - 3° East of Greenwich. Siha DC has a total area of 1158Km². The Council shares border with Hai DC to the South, Longido DC and Rombo DC to the North West, Meru DC and Hai DC to the South East while the Republic of Kenya also forms large part of the boarder to the North. According to 2012 population census the population of Siha DC is 116,313 people (out of these 56,500 are males and 59,813 are females) and 23,799 households with an average household size of 4.3 people. The Council is divided into 5 divisions namely i.e. Central Siha, East Siha, North Siha, South Siha and West Siha. The Council has 15 wards, 60 villages and 170 Vitongoji.

Mwanga DC is one of the 7 Councils in the Kilimanjaro Region. It borders Same DC to the South, Moshi DC to the North, Simanjiro DC to the West and Republic of Kenya to the North East. The Council has a total area of about 2,641 km², with 5 Division, 20 Wards, 70 Villages and 24,326 Vitongoji. The land is divided into two distinct agro ecological zones; the highlands (Ugweno, part of Lembeni and Usangi divisions – about 808 km²) with an elevation of 1200 – 2000 meters above sea level and the lowlands covering an area of about 1833 km², between 700 – 800 meters above sea level. According to 2012 population and housing Census, the Council has a population of 131,442 people of which 63,199 males, and 68,243 females with an annual average growth rate of 1.2%. Average household size is 4.5.

2.0 PROBLEM

Between 1960s and 1970s the coffee industries faced a drastic drop in coffee prices in the world market and invasion of coffee berry disease (CBD). This situation forced farmers to look for alternative means of survival from the nature without considering its sustainability. As a result the Chagga home garden system which was effective in recycling nutrients collapsed as a result of new income generating activities. The activities included uprooting coffee trees for horticultural plants, cutting trees for timber, petty businesses, invasion of forest reserves for timber and other materials like fire wood.

Traditionally for Siha people, the system of land tenure and resource ownership is characterized by men controlling land and coffee while women control banana and milk. After decline of coffee industry, women became source of household livelihood leaving men in despair. Men who used to be responsible for land caring activities neglected their responsibilities leaving everything to women. Driven by the low returns from coffee, many farmers shifted from the agro forestry based home garden system into alternate means of raising household cash income, primarily encroachment into the forests for growing alternative crops (vegetables, maize and beans) and tree harvesting. Tree harvesting without replacing the tree based system with equivalent soil fertility management leaving bare soils for longer periods with consequent run-off and siltation worsened the situation.

With respect to Mwanga DC, the Council has been experiencing a high population growth, thus an increasing population pressure principally on the highlands. Increase in production activities such as agriculture, livestock keeping and timber making combined with practices such as cutting trees, burning forests, uncontrolled use of water and poor land use resulted into environmental dilapidation, decrease in annual rainfall and decrease of water for irrigation in lowlands which are famous for production of paddy, maize and vegetables. Due to poor agricultural practices upstream, Lake Jipe experienced an increase in silting and growth of water reeds affecting fish production potential and fishing activities.



Lake Jipe filled with silt and water reeds

Gullies formed as a result of non conserved land



Stunted growth of crops as a result of soil erosion

Inhabitants of Mwanga DC have been experiencing a sharp decline in Agricultural produce and hence decline in household income and per capita income in general. This also has resulted into several social problems such as increase in school dropouts, failure of parents to pay school fees, increase in diseases and mortality rates, lower household and per capita income and societal poverty in general.

3.0 OBJECTIVES

The general objective was to ensure Sustainable Land Management (SLM) providing the basis for economic development, food security, increased household incomes and sustainable improved livelihoods while restoring the ecological integrity of Kilimanjaro Region's ecosystems. Specifically, the initiative intended:

- To ensure sustainable land management and environmental conservation by terracing, tree planting, school greening and generally restoring Chagga/Pare home garden system.
- To promote effective river basin catchment conservation and management of irrigation water.
- To promote soil and water conservation by enforcing Soil and Water Conservation bylaws.
- To promote tree planting and forest conservation.
- To promote effective eco farming for increased productivity of major food and cash crops
- To introduce improved beekeeping practices as an alternative income generating activity that is environmental friendly.

4.0 IMPLEMENTATION STRATEGIES

The Government through the Kilimanjaro Regional Secretariat initiated a project on Sustainable Land Management funded by UNDP. The SLM project implementation concentrated at Lawate River catchment in Siha DC and Kwamboa area in Mwanga DC. The strategies used to achieve the objectives are elaborated below.

Awareness Creation through Participatory Approach: in Siha DC, selection of project implementation site was made through participatory approach. Lawate River basin was selected because it was the most affected area in terms of environmental degradation. The project commenced by creating awareness to Heads of Departments and Councillors. At the community level awareness creation was done to 3 Councillors of the Wards in the catchment area, 1 Divisional officer, 2 WEOs and 9 VEOs, 9 Village Chairpersons, 2 Ward education officers, 3 Heads of Secondary schools, Heads of 12 Primary schools and 2 religious leaders in the catchment area.

Formation of farmers groups: Through SLM initiative the Councils conducted sensitization on formation of farmers groups, raising funds and maintaining bank accounts, terracing, tree planting and use of fuel saving stoves. This also included making of group constitutions, establishing group leaderships and registration of groups through Community Development Department.

Preparation of terraces: In collaboration with village extension officers, village committee members and key farmers prepared and scaled terraces in the catchment area with a total length of 40,000m covering 1,000ha out 2,150ha in Siha DC. Similar exercise took place in Kwamboa area in Mwanga DC.



A farmer preparing terraces in Siha DC



Stable terraces in Kwamboa area Mwanga DC

Training of key stakeholders: Mwanga DC conducted training of farmers on improved irrigation systems using rehabilitated Kwamboa night reservoir (Ndiva) including irrigation water utilization schedule and establishment of water utilization regulations. In Siha DC 9 extension officers, 50 identified key farmers and 45 village environmental committee members were trained on different methods of soil conservation, use of line level in terrace measurements, riverbanks conservation, rain water harvesting and minimum tillage.



Training of village environmental committee members in Siha DC

Establishment of tree nurseries: The Councils established tree nurseries at homesteads and in Primary schools to ensure availability of seedlings for the catchment area. For example a total of 15,212 trees were planted in Mwanga DC. In Siha DC 18 farmers and 2 Primary Schools (Lokiri and Kirisha) were trained on establishment and management of tree nurseries. 12 farmers established tree nurseries at their homesteads and were assisted with garden working tools such as spades, hoes, rakes, watering cans, earth pans, sieves, wheelbarrows, start-up seeds, polythene tubes and fertilizers.



Tree nurseries at Chomvu Primary School and Usangi Mwero women group



Preparation of tree nurseries in Secondary schools Siha DC

Table 1: Mwanga DC, Tree Nurseries Established in 2013

Nursery	Place (Village)	Trees planted (type)	Total
Chomvu Primary School	Chomvu	Gravellier	3,400
		Cypress	1,300
		Cedrella	12
Mwero Women Group	Mbore	Gravellier	2,000
		<i>Mikoromaji</i>	200
		Pawpaw	1,000
Vijana Sports Usangi	Lomwe	Gravellier	1,500
Nzinyangwa Eliezeri	Vuchama Ndambwe	Gravellier	1,000
		<i>Mikoromaji</i>	1,500
Shighatini Primary School	Shighatini	Gravellier	1,500
Village Care Initiative	Mwanga	Gravellier	1,000
		<i>Mikoromaji</i>	800
TOTAL			15,212

Massive tree planting: Community implemented massive tree planting exercise for preservation of forests. From 2003/04 to 2012/13 a total of 2,857,415 trees were planted in Mwanga DC.

In Siha DC 10,000 tree seedlings were produced in the first year from community nurseries. Lokiri Primary School produced 3,000 seedlings from its nursery, planted 600 seedlings in the school and 2,000 distributed to the pupils (each given 5), 100 seedlings to neighbouring Primary Schools while 300 seedlings were given to Village governments for planting along village roads.



District officials distributing tree seedlings to farmers and community leaders, teachers and students planting trees

Introduction of income generating activities: The Councils introduced income generating activities such as beekeeping at Kigonigoni, Kambi ya Simba, Simbomu and Vuchama Ngofi Villages in Mwangi DC. In Siha DC survey was conducted to identify small income generating activities in Lawate River Basin catchment area. 72 entrepreneurs were identified. Four groups of beekeepers in the catchment area were identified namely Kyasama, Kyihowo, Ukyinsha and Kishisha. The groups were trained on soil conservation, beekeeping and given 89 improved beehives. About 30 farmers who adopted innovations on environmental conservation were trained on entrepreneurship, packaging and labelling of products.

Improvement of night reservoir: Following the request from Vuchama Ngofi CBO on improvement of Kwamboa Night reservoir (Ndiva) the Council conducted rehabilitation works under support of TIP (Traditional Irrigation and Environmental Development Organisation) Project. Construction works started from 2009 to 2011. The capacity of the night reservoir after rehabilitation is 200m³ intended to irrigate 30 Ha and serve 30 farmers who are engaged in production of coffee, banana, maize, beans and vegetables. Further improvement was made on night water reservoirs, to consolidate canal linings and water intakes.

Introduction of high value crops: Mwangi DC Introduced non-traditional, fast money earning crops such as vegetables, cardamom, pepper etc.



High value crops

Construction of feeder roads: The Councils in collaboration with communities constructed feeder roads to facilitate transportation of farm produce.



Newly opened feeder road

Establishment Farmer Field Schools: The Councils established Farmer Field Schools (FFS) for horizontal learning. In these FFS, farmers groups established drip irrigation systems by laying pipes, installing tanks and distribution pipes.



Ndiva, overhead water tank and drip irrigation pipes in Mwanga DC

Establishment of environmental clubs in schools: Environmental clubs were established in Kishisha and Siha Secondary schools in Siha DC.



Club members at Kishisha Secondary School Siha DC

Eco school initiative: Eco schools are the ones that embrace education for environmental sustainability. Most young people genuinely care about environmental issues and are inspired to make positive changes in the environment around them. Eco-Schools encourage children and youths to take an active role in learning about and taking action in their school community. They are designed to fit into the curriculum; it includes an award scheme to motivate active participation. The principle behind Eco-Schools is that the topics children are studying in their classroom should have an influence on how school environment operates. In many cases these are schools that succeed and do well. Eco Schools is a great way to make sustainable development a part of the school life.

Eco school initiative in Siha DC

- Sending two staff members to Sweden and South Africa to learn about Eco School Project.
- Designing a handbook for the project: 'A Handbook for Teachers and Students in Siha District Secondary Schools'.
- Introducing the project to several stake holders including Heads of Departments, Councillors, Teachers, Students and Surrounding Communities.
- Educating teachers and students on how to use the handbook.
- Establishing nurseries for tree seedlings.
- Establishing environmental groups and clubs at schools.
- Planting trees and flowers in schools' surroundings.
- Conducting competitions on environmental conservation among schools and motivates the winners with some gifts and awards.

Institutional Linkage: The Council linked the farmers groups with Savings and Credit Institutions (SACCOs and Mwanga Community Bank) in order to get agricultural credits.

5.0 RESOURCES

The SLM project was implemented using about Tshs 159 million as indicated below.

Table 3: Financial Resources Committed to SLM Project

Mwanga DC			Siha DC		
Activity	Amount (Tshs)	Source	Activity	Amount (Tshs)	Source
materials to construct canal lining and 3.6km pipes	32,000,000	UNDP	Capacity Building cost	21,950,400	UNDP
digging pipe trenches, collecting stones, sand and gravel	9,600,000	Community (in-kind)	Materials support cost	61,523,794	UNDP
supportive supervision	3,200,000	Council	Follow up and supervision	13,675,852	UNDP
-	-	-	Eco schools activities	2,000,000	Siha DC
-	-	-	Study tours for 2 staff to South Africa and 1 to Sweden	15,000,000	Swedish friends
Total	44,800,000	-	-	114,150,046	158,950,046

Human resources: Human resources included District irrigation engineers, irrigation technicians, students, community leaders and Ward extension officers. Community members were the beneficiaries hence they volunteered themselves in the implementation process.

6.0 RESULTS

The SLM project in Mwanga and Siha DCs brought remarkable results; tangible and non-tangible. The results are explained below.

Availability of irrigation water. After improvement of night reservoirs, construction of pipelines and introduction of drip irrigation, efficiency has increased. Water sources which had disappeared due to environmental degradation have been restored. For example Shighatini water source had dried and became a playing ground for children but after the initiative there is plenty water for domestic and irrigation purposes.



Demarcation of water source at Shighatini Village Sign board at demarcated area Shighatini Village

Adoption of new skills: Table 4 indicate that farmers have adopted new skills in use of terraces for control of soil erosion, use of farm yard manure and mulching for soil and water conservation in farms. Most farms are terraced using landscaping scales and techniques.

Table 4. Terrace Farming under SLM in Mwanga DC

Village	Terraces				Crop grown	Crop yield (kg)	
	Target distance (m)	Achieved distance (m)	Area (ha) under terraces	Total area protected (ha)		Before	After
Vuchama Ngofi	120,000	33,800	33.8	43.8	Coffee/banana , Maize/beans & horticultural crops	Maize 90 kgs /.75 acre Beans 40kgs/0.75 acre Vegetables nil	maize 450 Kgs/.75 Acre beans 200Kgs/0.75 Acre Vegetables Tshs. 483,100/= per 0.5 Acre
Shighatini	110,000	32,000	32	38	Banana,maize/beans		
Ndanda	100,000	20,000	20	30	Banana,maize/beans		
Mbore	130,000	35,000	35	50	Banana,maize/beans Horticultural crops	Maize 90 kgs /acre Beans 40kgs/ acre Vegetables nil	maize 400 Kgs/.Acre beans 200Kgs/Acre Vegetables Tshs. 480,000/= per 0.5 Acre
Chomvu	125,000	40,000	40	52	Banana/ coffee ,maize/beans	Coffee 50 kgs / acre. Banana 50 bunches per acre	Coffee 250 -300 Kgs /Acre. Banana 200 Bunches per Acre
Ndorwe	128,000	34,000	34	44	Banana/ coffee ,maize/beans	Coffee 50 kgs / acre. Banana 45 bunches per acre	Coffee 250 -300 kgs /acre. Banana 150 bunches per acre

Kighare	90,000	12,000	12	20	Banana,maize/ beans		
Kirongaya	120,000	18,000	18	27	Banana,maize/ beans Horticultural crops		
Kimbale	25,000	7,000	7	10	Banana ,maize/beans Horticultural crops	Tomatoes nil	Tomatoes Tshs 580,000/= per 0.2 Acre

Agroforestry culture revitalized: Farmers have revitalized agroforestry culture in which they maximize land utilization, crop productivity while maintaining ecological soundness of the surroundings. Natural vegetation has been restored in soil erosion affected areas. In Siha DC, the Chagga home garden system have been restored.



Maize and banana farm after Intervention in Siha DC

Reduced siltation in Lake Jipe: Ecology at Lake Jipe has improved as a result of reduced siltation and increased water flowing into the Lake resulting into increased fish breeding.



Environment of Lake Jipe restored

Adoption of high value crops: Farmers have adopted production of high value crops such as, improved banana (Jamaica spp.), cardamom, garlic, pepper and dairy cattle keeping for milk and farm yard manure.



Garlic farm

Improve Banana (Jamaica spp.)

Adoption of new income generating activities: In Siha DC, farmers have adopted new income generating activities in particular beekeeping and honey processing with notable active participation of women after supplying them with honey harvesting gears (protective gears) and putting the beehives on racks or hang them at lower levels instead of hanging them high in trees.



Siha DC women group involved in bee keeping

Increased productivity: Productivity per unit land area has increased significantly as indicated under Table 5. This is because with irrigation farmers can grow several rounds of various crops per year.

Table 5: Siha DC-Production Status before and after intervention

Crop	Unit	Amount in 2012	Amount in 2015
Coffee	ton/ha	0.25	0.5
Banana	ton/ha	10	30
Maize	ton/ha	1	4
Honey	Litres/hive	1(stingless bees) 3(sting bees)	2(stingless bees) 6(sting bees)

Market opportunities: The contribution of Councils in improving roads has opened up market for agriculture produce and forestry friendly products. In both Councils, communities are accustomed to opening roads in difficult areas. The role of Councils is to pave the roads, install bridges and culverts.

Increased income: As a result of above factors, household income has increased, Table 6. For example, for Vuchama Ngofi group with 60 members with 0.5 Acre each, average incomes have increased from Tshs 300,000 to Tshs 3,600,000 per annum. An innovative farmer Mr. Juma Mbwambo with 0.25 acre gets 580,000/= per harvest.

Table 6: Mwanga DC – Annual revenue of Vuchama Ngofi Group

No.	Crop	Total Sales
1.	Egg Plant	218,500/=
2.	Onions	73,600/=
3.	Chinese Cabbage	68,700/=
4.	Carrots	24,900/=
5.	Green Pepper	53,600/=
6.	Kale	43,800/=
Total		483,100/=

Improved Livelihoods: Life standards of the community members have improved in terms of good housing, electrification and improved nutrition.

Stronger Social cohesion: Social bonds have been strengthened. The financial capacity of women has improved leading to lesser dependency on men hence improved family relationships. Farmers groups have grown strong, credible and trustworthy to secure loans from various financial institutions.

Eco-schools established: In Siha DC, school environments and community roadsides are beautified by trees, flowers and gardens adding up to sustainable environmental conservation.



Siha DC- green school environment

Secondary School students and Primary School pupils have developed positive attitudes toward tree planting and care for surrounding environment. Faith based Organisations are contributing to tree planting initiative. For example the Lutheran church requires pupils who aspire for initiation into Christian rites to plant 5 trees around the church premises and five trees at home. This has increased the number of planted trees and promote the culture of tree planting.

7.0 STRATEGIES FOR SUSTAINABILITY

Green environment: In order to sustain the initiative, there is continued tree planting, terracing and improved eco agriculture. Community will continue involving the youths in tree planting and environmental conservation by strengthening established students’ environmental clubs in Secondary Schools.

Fostering famer groups’ activities: Sensitization of farmers on joining forces in groups and effective use of financial institutions, continued awareness creation to farmers on environmental conservation. Emphasis is made on use of farm yard manure and drip irrigation, income generating activities such as beekeeping, homestead nurseries and Primary and Secondary School nurseries.

Mainstreaming of conservation initiatives: Environmental conservation activities have been incorporated into the Council plans. In this way there will be continuous construction and improvement of irrigation infrastructures such as night water reservoirs.

8.0 SECRET OF SUCCESS

Local leadership: Visionary local leadership was instrumental in success of Kilimanjaro. The role of the Regional Administrative Secretary (RAS), Council Directors and the CMT was to forge partnerships with politicians to make farming community focus on sustainable land management. There was good relationship between politicians and LGA staff which motivated creativity and commitment to work as a team. This was possible due to effective CMT under dynamic Council Directors.

Respect to Community initiatives: The Councils respected the community initiatives and priorities. Environmental problems were touching on the felt needs and people's priorities. In so doing they had to undertake serious community mobilization campaigns to promote sustainable land management.

Effective collaboration with various stakeholders: There was effective collaboration between UNDP, Evangelical Lutheran Church of Tanzania (ELCT) Northern Diocese, Secondary and Primary Schools administrations, Village leaders, group members and Eco school clubs. In collaboration with SARI Tengeru, Mlingano and SUA, the Councils made effective use of modern technology and research methods. Moreover, environmental conservation is a common agenda for disseminating SLM messages.

Highly committed people: The inhabitants of Kilimanjaro Region are hardworking and self-motivated towards income generating activities as well as in conserving the environment. This is further attributed to small land size and long term developed entrepreneurial attitude.

NGORONGORO DISTRICT COUNCIL



PROMOTION OF CULTURAL TOURISM AND PARTICIPATORY FOREST CONSERVATION



Experience of Ngorongoro DC

1.0 INTRODUCTION

Ngorongoro DC is among the seven Councils in Arusha Region. The Council covers an area of 14,036Km² of which about 59% is under the Ngorongoro Conservation Area Authority (NCAA). The remaining land which carries about 41% is under the Loliondo and Lake Natron game controlled areas which constitute forest reserves, wetland reserves, agricultural areas, grazing land and Village settlements. Ngorongoro area is a slope that slowly falls down towards the Rift Valley. The Council lies between 1,535 and 1,320 meters above sea level with the highest peak being 1,675 meters. Scattered hills are found in the West and South of Ngorongoro DC. The Council borders the Republic of Kenya to the North, Longido DC and Monduli DC to the East, Karatu DC to the South and Itilima, Meatu and Serengeti DCs to the West.

Ngorongoro DC has 3 Divisions namely, Sale, Loliondo and Ngorongoro; 25 Wards, 72 Villages and 243 Vitongoji. According to 2012 census, the Council has a population of 174,278 people of which 82,610 are men and 91,668 are women. It has an annual population growth rate of 2.9% and population density of 12.4. The main socio-economic activities include livestock keeping (about 80%), agriculture (13%) and tourism.



Pastoralism, agriculture and Tourism are among the socio-economic activities in Loliondo DC

2.0 PROBLEM

People living adjacent to Loliondo forests are culturally connected to their forests and make use of them for cultural and spiritual practices. Although traditional ecological knowledge is being used by Maasai community in Loliondo to conserve forests/natural resources, there is a grave risk that traditional practices of conserving forests are now disappearing among the young generations and this increased destruction of natural resources as well as illegal activities like timber harvesting, establishment of new crop farms by clearing forest and firewood trade that was not experienced before.

Illegal activities have increased deforestation as well as pollution of water sources. All three community forests (Loliondo 1, Seriani and Enguserosambu) cover an area of 112.05km². As of 2005, about 2000 Ha of the forest were destroyed. In recent three years (2012-2014) a total of 122 bags of charcoal and approximately 7 tons of timber were apprehended and confiscated. Some initiatives were taken by the Council management to stop these illegal activities, where by in the year 2014 about 13 cases of illegal logging were filed in the court. The photos below show the area adjacent to Loliondo 1 forest that have been encroached by people for the aim of establishing crop farms.



Illegal activities in conserved forests

In 2005 the NCAA prohibited crop farming in the conservation area covering the entire Ngorongoro Division. This situation led to extreme poverty to households that depended on crop farming as major source of income forcing them to seek for alternative means of livelihood. Fortunately Ngorongoro Division is famous in terms of wildlife concentration and diversity attracting different photographic and hunting companies. As an alternative livelihood activity, cultural tourism was initiated by youths in local communities which were dominated by Maasai youth dancing along the roadsides to attract tourists and women selling souvenirs. Since both youths and women were not formally organized they ended up losing in terms of earnings. Hence, the community decided to seek assistance from the Council and the Ngorongoro Conservation Area Management on the establishment of Community Based Tourism Approach known as “*Cultural Bomas*” in which the local communities could directly display their products and benefit from tourism activities.

2.0 OBJECTIVES

The major objective of these initiatives was to improve community livelihood through income generating activities while conserving the environment. The specific objectives include:

- i. To ensure sustainable management of the Loliondo 1, Seriani and Enguserosambu forest reserves.
- ii. To protect water sources in the existing catchment areas.
- iii. To cultivate community ownership of natural resources.
- iv. To improve community livelihoods through organized and sustainable cultural tourism.

3.0 IMPLEMENTATION STRATEGIES

Participatory forest management: This involved transfer of management of Loliondo 1, Serian and Enguserosambu forests to surrounding Villages. The logic behind is that these Villages are beneficiaries of forests. Benefits of the forests to community will motivate them to conserve the forests.

Awareness creation: The Council organized awareness creation campaign on sustainable forest management and protection of existing water sources in the catchment areas. Photos below show the interaction of political and traditional leaders during sensitization meetings.



District Commissioner and one of the traditional leaders (Oloiboni) during community sensitization on environmental conservation

Establishment of Village Natural Resources Committees: The Villages surrounding these forests established Village Natural Resource Committees (VNRCs) responsible for natural resource utilization and management. Subsequently, the District Council conducted training of 425 members of VNRCs focusing on forests conservation.

Demarcation of forest boundaries. The Council in collaboration with different stakeholders re-demarcated forest boundaries of Loliondo 1, Seriani and Enguserosambu community forests to reduce possibilities of encroachment.

Formation of Forest Scout Groups: Forest Scout Groups were formed for monitoring and providing security services in the forests. This was followed by training of 15 Village Forest and Game Scouts on management of natural resources at Likuyu Sekamaganga College. This training was financed by Frankfurt Zoological Society and TAWIRI. The photo below shows a group of trained Forest Scouts.



Trained Scouts

Conducting of study visits: The Council organized study visits involving 56 (VNRC) members to Longido and Babati DCs. The VNRC members learned various mechanisms used in management of natural resources as well as benefits sharing among community members.

Establishment of forest conservation micro-projects: The surrounding communities established forest-friendly micro-projects such as beekeeping and introduction of energy saving stoves. A total of 22 families were provided with 34 beehives in Oloirien and Enguserosambu Villages. In reducing the problem of forest destruction, 40 community members were provided with energy saving stoves in Magaiduru and Enguserosambu Villages.



Improved beekeeping

Establishment of Board of Trustee: Board of Trustee was established for Enguserosambu Community Forest. The board comprises of 10 members from five Villages of Enguserosambu, Naan, Ng'arwa, Tinaga and Orkiu. The Board is responsible for the entire management of the forest on behalf of the communities. The community members prepared Forest management bylaws in Villages adjacent the forest reserves to guide management of the forests.

Sustainable cultural tourism: To ensure sustainable cultural tourism the following strategies were pursued: Dialogue and consultation with the NCAA through the Pastoralists Council on organized cultural tourism activities, followed by training of community members on tourism issues. A total 627 community members from 14 villages (Ololosokwan, Engaresero, Sukenya, Pinyinyi, Arash, Losoito, Soitsambu, Piyaya, Oloipiri, Irkeepusi, Oloirobi, Misigiyo, Olbalbal, Endulen,) were trained.

Identification of Tourism sites and beneficiaries: Ten cultural sites were identified and beneficiaries were selected based on vulnerability. This was followed by allocation of land for cultural tourism and construction of 16 cultural Bomas. Cultural tourism was strengthened by establishment of organisation and management of Cultural Bomas. Members of one Cultural Boma came from each Kitongoji of the Village where the Boma is located. On rotational basis, every two years each Kitongoji appoints four youths and four women based on degree of vulnerability to stay in the Cultural Boma. The members of the Boma elect leadership that comprises Chairperson, Secretary, Treasures and a Public relations officer. The youths in the Boma engage in traditional Maasai dancing while women make and sell Maasai souvenirs. The Boma income is totally dependent on entry fee of Tshs 20,000 per vehicle of tourists visiting the Boma. Members of the Boma are paid Tshs 20,000 while leaders are paid Tshs 45,000 per month.



A Cultural Boma

4.0 RESOURCES

Financial resources: The forest conservation initiative costs amounted to Tshs 65, 000,000. These were contributions from various stakeholders as follows

Table 1: Financial Resources

Source	Amounts (Tshs)
Ngorongoro District Council	28, 000,000
Ministry of Natural resources and Tourism	10, 000,000
Frankfurt Zoological Society	18, 200,000
GIZ	8, 800,000
Total	65,000,000

Human resources: Various human resources have been engaged in these initiatives namely: Forest Officers, Forest Scouts, Tourism Officers, VEOs, WEOs and members of Village Councils.

5.0 RESULTS

The forests conservation initiative has realized several achievements as follows: Community ownership and management of forest resources has been strengthened, Properly functioning village committees and boards for forest conservation are in place and Forest conservation groups have been strengthened through income generating activities, beekeeping in particular.



Beekeeping at Sariani Forest Reserve

Sustainable harvesting of forest products: Thick forests with diverse natural resources provide products which are harvested in controlled arrangements. These forests also influence microclimate of villages surrounding Enguserosambu forest providing reliable source of water (springs) and rivers feeding Lake Natron. A total of 15 trained Forest Scouts are in place and provided with GPS gadgets and cameras serving villages surrounding the three forest reserves in collaboration with the Council, Frankfurt Zoological Society and TAWIRI.



Enguserosambu Forest Reserve

With respect to cultural tourism, a total of 16 Cultural Bomas were established and are included in Village Development Plans and District Development Plans.



Souvenirs display, Maasai women walking near Irkeepusi Cultural Boma, tourists visiting Cultural Boma

Increased tourism attractions through 16 Cultural Bomas established since 2002. There is an increase in the number of tourists visiting cultural Bomas from 1537 in the year 2012 to 3700 in 2014. Through cultural Bomas the communities got the opportunity of selling their hand crafts (Souvenir) and traditional dancing. Once impressed by dancers, the tourists motivate them financially.

Improved community livelihood through income generated from tourism activities like selling of traditional handcrafts and Maasai dancing. A few Boma members manage to accumulate sufficient cash to buy their own livestock. Some of the Cultural Bomas have accumulated assets in terms of cattle, goats and sheep which serve for milk and food. When necessary some livestock units are sold in order to get cash to purchase of water and other needs to Boma members. As social cooperate responsibility; each Cultural Boma contributes 2% of revenue obtained annually for sponsoring Secondary school pupils from poor households. Through this initiative, Cultural Bomas have succeeded to retain youths in the communities instead of migrating to urban centres looking for petty businesses and employment.

7.0 SUSTAINABILITY STRATEGIES

In order to sustain these initiatives, there is continuous sensitization, awareness creation and capacity building on forest management in all Villages surrounding Forest Reserves. The Council in collaboration with stakeholders is improving the income generating activities by providing microcredits with minimum interest. There are efforts to improve relations among local communities and the Council on forest management through stakeholders meetings conducted twice a year for the purpose of discussing forest conservation and development issues among the communities.



Stakeholders meetings

The Council has continued to allocate budget for forest management activities. Furthermore there is continuous mobilization of communities to engage in micro projects in the forest reserves such as beekeeping. There is budget allocated for purchasing improved bee hives. The Council has established trees nurseries in all Villages surrounding the forest reserves. The Council is also undertaking sensitization, awareness creation and capacity building on cultural tourism activities, through supportive supervision by Tourism Officers on continuous basis.

There are efforts to increase the number of Cultural Bomas in collaboration with NCCA and Pastoralists Council. These efforts go hand in hand with capacity building on effective management of Bomas. Through lobbying and advocacy, the Cultural Bomas are determined to seek for more funds from government and private sectors. Cultural Bomas are promoted through sign boards, posters and brochures.

8.0 SECRET OF SUCCESS

Reverence of the forests as sacred resources: The secrets of success include Maasai community's reverence of the forests as sacred resources where rituals and various ceremonies are held. Because of this culture, all members of community do respect forest and forest products. Burning and unnecessary tree cutting are rare among Masaai community.

Co-existence of human beings, livestock and wildlife: Another secret is the Co-existence of human beings, livestock and wildlife in Ngorongoro crater and its conserved areas. The presence of Forest Management bylaws and strict enforcement in Villages surrounding the forest reserves helps to minimize encroachments and illegal activities. There is effective leadership including traditional and Council leaders, technical staffs and community in forest conservation.

Unique historical sites: Presence of unique historical sites that are found nowhere else in the world except in Ngorongoro, high diversity of wildlife species and the uniqueness of Maasai culture are added advantage. The sites include shifting sand, Oldupai Gorge, the famous Ngorongoro crater, Loliondo hunting block, Oldonyo Lengai active volcano, wildebeest migrating corridor route to Serengeti National Park etc. These attraction points ensure continued flow of tourists to Cultural Bomas and motivate the community to conserve the environment.

Multi stakeholder engagement: The Council has engaged various stakeholders in the Management of Natural resources. For instance, the Council is collaborating with Frankfurt Zoological Society, TAWIRI and GIZ to improve the management of forest reserves. Also, there are regular stakeholders meetings on forest conservation.

Chapter Four:

Local Economic Development

Chapter five has five best practice cases related to local economic development efforts in relation to newly introduced One Village One Product movement. It is focused on endogenous development theory by means of promoting and branding unique products. The One Village One Product (OVOP) movement originated from Oita Prefecture Japan in the late 1970s, and aimed to vitalize the prefecture's rural economy. The original concept of OVOP was to encourage Villages in Oita each to select a product distinctive to the region and to develop it up to a nationally and globally accepted standard.

The OVOP concept is targeted to achieve social and economic development of the regions through voluntary capacity building of the people from grassroots level. Prior to the introduction of the OVOP movement in Oita, the founders of this movement had to consolidate social capital through softball tournament and an overseas sister city relationship. These strategies were aimed at building bonding and/or bridging social capital, impacting upon community capacity development, knowledge creation and sharing. The subsequent introduction of higher value-added community policy, supportive structures, new or unique produce, agricultural processing techniques, tourism and ways of conceptualizing community were other strategies.

The OVOP development is seen as a way of enhancing local communities' entrepreneurial skills by utilizing local resources, knowledge and experience; creating value adding activities through branding of local products; and building human resources in the local economy. In particular, the use of knowledge and local resources without jeopardizing environmental soundness is a critical element of OVOP development, which also can be associated with endogenous development theory. In OVOP movement, there are popular phrases such as "think globally but act locally".

The chapter presents five best practices. Iringa DC best practice elaborates on promotion of food security at household level in Pawaga Division. Pawaga inhabitants used to experience painful and endless food insecurity. To eliminate this problem the Council engaged in intensive community mobilization through O&OD, identification of traditional irrigation schemes, project proposal writing, construction of modern paddy irrigation scheme, establishment of warehouse system and formation of strong SACCOS and AMCOS. The initiative has guaranteed Pawaga Division with food security and surplus for household development.

Korogwe DC best practice is about irrigation for reliable paddy production in Mombo Division. The best practice shows how the Council improved production of paddy and community wellbeing through modernization and rehabilitation of traditional irrigation schemes, formation of strong cooperative unions, survey of irrigable land, application of irrigation permits, training of farmers, purchase of agricultural inputs and equipment and establishment of communication and information sharing mechanisms.

Tanga Region has best practices from Tanga CC, Mkinga DC and Pangani DC which are similar, all narrating on small holder dairy farming. The best practices show the change in Tanga Communities from fishing and peasant farming to dairy producers linked with the private sector. The strategies to achieve this include establishment of Tanga Fresh Milk Processing Factory, community sensitization, introducing

heifer in trust credit, forming community and a regional cooperative union, construction of milk collection centres and improving marketing of milk products.

Meru DC best practice elaborates on effective organization of stakeholders in dairy value chain which uses a Trinity Model of stakeholders to produce, process and market milk products with substantial value addition. This is achieved through formation of Meru Dairy Farmers Association, purchase of land for milk collection centres, increasing extension services, improving feeder roads and promoting public private partnerships.

Hai DC best practice titled Community Based Dairy Value Chain shows how the Nronga Women Group collaborates with the Council to add value to milk production. This long surviving initiative has been changing strategies for its survival and improvement over the years. Some of these strategies include formation of the women group in the 1950s, adoption of improved dairy breeds and practices, purchase of milk separators, organizing milk marketing group, value addition to the collected milk, effective training of women and formation of strong women's SACCOS.

Salient features emerging from cases presented under this chapter are:

OVOP is not a top down approach, therefore in order for Councils to succeed in local economic development there must be concrete efforts by LGA experts and leaders to undertake sufficient social preparation. Social preparation can be done by way of critical sensitization of community on existing opportunities, setting and strengthening of producer organizations, establishing rules and regulations guiding producers, and networking the producer groups to markets and financial institutions. This should be part of nurturing process until producer groups are considered to graduate.

Product markets and marketing of local product is a main challenge of all LGAs. When there are reliable markets, supply side will respond to demand created. It is the role of extension workers to keep the farmers well informed and linked to input and product markets.

Effective facilitation is the engine to success of entire OVOP movement. Facilitators are the links of producers to various institutions, such as research for technology, universities for specialized knowledge, market for marketing information, financial institutions for financial services, consumers for consumer preference and exchange visits for experience sharing. Qualities of facilitators will determine their performance, therefore the Council must provide series of trainings to facilitators to sharpen their knowledge, skills, and shape their attitudes towards local economic development. Therefore quality and number of facilitators is very crucial to success of OVOP.

Visionary leadership is another key to success of OVOP. It is imperative that once a Council Director or someone else has initiated an OVOP somewhere in our LGAs, he or she must be given sufficient time of stay in the Council to guide and realize outcome. This is because there is no assurance that the successor will have the same interest. Unless there is continuity there is tendency to frustrate the farmers from realizing their final outcomes.

It should be the goal of stakeholders to add value to all the products; introduce appealing packages, and attractive labels in accordance to international standards. Producers should refrain from selling raw materials, hence the stakeholders are duty bound to support producer groups in value chain.

Value addition and value chain is the answer to farmers' problem of low productivity and food insecurity. Value chain should be well coordinated to add value at each stage. OVOP should be a market

led approach responding to local, national and international consumer demand. Moreover, it should not be restricted to crops. There are so many natural resources, waterfalls, caves, hot springs (maji moto) unique stones, trees, local foods, local houses to capitalize upon hence “The best for Tanzania is yet to come”.

IRINGA DISTRICT COUNCIL



PROMOTION OF FOOD SECURITY AT HOUSEHOLD LEVEL IN PAWAGA DIVISION



Experience of Iringa DC

1.0 INTRODUCTION

Iringa District Council is located between Latitudes $7^{\circ} - 8^{\circ} 30'$ South of Equator and Longitudes $34^{\circ} - 37^{\circ}$ East. It shares border with Mpwapwa DC (Dodoma Region) to the North; Kilolo DC to the East, Mufindi DC to the South; Chunya DC (Mbeya Region) to the West and Manyoni DC (Singida Region) to the North West. The Council has a total area of $20,576\text{Km}^2$ of which only $9,857.5\text{Km}^2$ are habitable and the rest are national parks, forests, rocky-mountains and water bodies. The Council has 480,158ha of arable land however, only 34.1% is fully utilized for agricultural activities.

According to 2012 census, the Council has 254,032 people of which 123,243 are men and 130,789 are women. The population density is about 25 people per Km^2 . Administratively, the Council comprises of 6 Divisions namely; Kalenga, Kiponzelo, Idodi, Pawaga, Mlolo and Ismani with 28 Wards, 133 Villages and 718 Vitongoji with 68,578 households. Agriculture is the mainstay of the Council's economy providing about 80 percent of employment. Agricultural activities contribute about 21 percent of the Regional gross domestic product (GDP) of Tshs 1,447,270 Million (RAS-Iringa, 2008).

2.0 PROBLEM

Pawaga Division is located at the Northern part of Iringa DC, bordering Dodoma Region. Pawaga Division is in on the leeward side of rift valley and characterized by dry weather and unreliable rainfall leading to low crop production. As a result of drought, the Division experienced severe famine, i.e. food shortage almost every year hence relying on food aids. Only drought resistant crops such as sorghum could reach maturity but prices for sorghum were too low to sustain household food supply throughout the year. This food situation prompted Iringa DC to conduct annual food assessment at household level before requesting food aids from the Prime Minister's Office. The food received through aid was distributed to the affected people with a condition that every food recipient should pay Tshs. 50/= per kilogram of maize grain received. Recurrence of famine events and distribution of food relief to those affected villagers is what came to be known locally as '*mbochelo*'; meaning free food aid. The problem of food insecurity in Pawaga Division was a painful and endless experience to the people and Iringa DC. This would be solved through promoting food security at household level through construction of irrigation schemes.

Comment from Hon. Councillor for Magozi village on the problem

Ilolo Mpya Ward Councillor (in Yellow): "Magozi was considered food-insecure and the poorest village in Iringa District Council by all standards"



.....I have been the Councillor for Ilolo Mpya Ward since 1994. I can recall that Magozi Village is the youngest village in Ilolo mpya Ward and Pawaga Division. The Village was established in 1980 after relocation of citizens from Ruaha National Park to provide room for expansion of the park. The village falls within the leeward side of rift valley hence, it is prone to severe drought and continuous famine. Drought resistant crops such as sorghum and pearl millet could sometimes reach maturity, but the prices for these crops were extremely low and Magozi community members were not used to consumption of these crops. Consequently, for 27 years consecutively the residents of Magozi Village suffered food insecurity and we survived on food-aids from government, and charity organisations i.e. WFP, Concern and Anglican Church. As a coping strategy, the community members had to work as casual labourers in other villages in Pawaga Division which had already established irrigation schemes using water from Little Ruaha River and were happily growing paddy. As casual laborers, Magozi people were humiliated and referred to as "tractors from Magozi". This is because we were providing cheap labour to our neighbours who were served by Mlenge, Mkombelo and Luganga irrigation schemes. We had little time to attend our own development initiatives at the Village as we were pre-occupied seeking for food. The life for Magozi community was extremely difficult. The community lived in shabby muddy roofed houses (popularly known as *tembe*), Village office was housed in muddy hut, there were no shops, and no health facilities nearby, no recreation facilities, no milling machines; our toilet facilities were poor, community's nutritional status and hygiene were at jeopardy. As such, before 2008 Magozi was considered the poorest village by all standards not only in Iringa DC but in Tanzania.....

3.0 OBJECTIVES

The main objective of this initiative was to promote food production to enhance food security and household income in Pawaga Division. Specific objectives were:

- i. To increase food production per acre through improved farming methods.
- ii. To facilitate construction of four irrigation schemes.
- iii. To facilitate rehabilitation of one traditional irrigation scheme.
- iv. To facilitate increased income for households in the Division.
- v. To promote paddy as alternative food and cash crop.
- vi. To promote planned and efficient use of water resource.

Comment from Hon. Councillor for Magozi village on Context Analysis

“..we were determined to do away from food insecurity and humiliation..”

.....After suffering for many years, the Magozi community was awakened by what was taking place in the neighboring Villages which had already established irrigation facilities. With facilitation from the Council staff and Participatory Agricultural Development and Empowerment Project (PADEP), context analysis was carried out by assessing the prevailing situation, and setting priorities using Opportunities and Obstacles to Development (O&OD) process. In this exercise, it was realized that food insecurity was a challenge number one and the most important opportunity that was the Little-Ruaha River for irrigation and paddy as alternative commercial and food crop. Objective was set to offset food insecurity by establishing irrigation schemes and adoption of improved agronomic package for paddy value-chain at Magozi Village. Participatory feasibility studies were carried out and the initial budget for the scheme was TSh 243 million. Implementation of the project was carried out in collaboration with various stakeholders namely: WFP, UNICEF, Anglican Church (TShs 70 million), Iringa DC(Tshs 40 million) and community Tsh 28 million in kind by providing labour and mobilizing construction materials. Rufiji Basin Authority was consulted to issue a quota and permit to utilize water from Little Ruaha River for irrigation. We were determined to do away from food insecurity and humiliation.....

4.0 IMPLEMENTATION STRATEGIES

To ensure food security Iringa DC implemented the following strategies:

Community mobilization: Community was mobilized using the O & OD process. In this process the community carried out problem identification, decision making, implementation, monitoring and evaluation of the development of the irrigation schemes in order to do away with dependency on external food aid. The photo below shows villagers at Magozi Village, Ilolo Mpya Ward, in one of O & OD sessions.

O&OD Meeting at Magozi village



Identification of existing traditional irrigation schemes: Community members participated in identification of traditional irrigation schemes to form the foundation for improved of irrigation canals.

Project proposal writing: The community members in collaboration with District facilitators wrote the proposal for funding of four irrigation schemes at (Mlenge, Luganga, Magozi and Mkombozi).

Construction and Rehabilitation of traditional schemes: Construction and rehabilitation of irrigation schemes was done by the community members in collaboration with District facilitators (District Irrigation Engineer in particular). In order to create ownership and sustainability, Water User Associations (WUA) for all four schemes were formed and trained on how to manage the irrigation schemes harmoniously. The photo below shows the main water-intake for Mlenge scheme.

Intake for Mlengi Irr. Scheme Pawaga



Establishing warehouse system: Three warehouses were constructed at Kimande, Igodikafu and Itunundu Villages. These would serve as storage facilities for enhanced collective bargaining for paddy in a warehouse arrangement until the prices are considered beneficial to farmers. In this way the warehouses served as crop banks to allow farmers to enjoy better prices during offseason.

Acquisition of farm inputs: The District facilitators carried out facilitation of farmers' groups and linked them to input markets to acquire farm implements namely 126 power tillers, 9 tractors and 3 paddy processing machines for value addition.

Formation of two SACCOS and AMCOs: The community members organized themselves and established two Savings and Credit Cooperative Societies and one Agricultural Marketing Cooperative Society to address financial and marketing functions. Training: The facilitators carried out training of farmers on packaging, labelling and promoting rice products to realize reliable markets.

Farmers training at Mlengi Irr. Scheme



Linking farmers to financial services: Facilitators exposed and linked paddy farmers to financial institutions in order to acquire capital for running their irrigation schemes. Construction of three market centres: three market centres were constructed at Luganga, Ilolompya and Itunundu Villages. These centres are also used as agricultural market information centres.

Conflict resolution: Community members established a mechanism for resolving the conflicts between farmers and pastoralists through formation of village mediation committee comprised of farmers and pastoralists to settle conflicts amicably.

Introduction of land use plans: The community introduced the land use plan to optimize the land potentials and minimize land related conflicts under supervision of the Council Irrigation Engineer.

Awareness creation on environment: District facilitators conducted awareness creation campaigns to community, focused on environmental conservation and effective water utilization.

Establishment of Village game scouts: The community in collaboration with the Ruaha National Park Established Village Game Scouts (VGSs) in villages surrounding Ruaha National Park to attend to wild animals invading farms.

Strengthening collaboration with key stakeholders: Community strengthened collaboration with key stakeholders namely: Rufiji Basin Water Office, Mufindi DC, Iringa MC and Kilolo DC in taking conservation measures to address problems of farming along the Little Ruaha River. They enforced Environmental Conservation Act of 2004 to control brick making and tree cutting along the river banks.

Comment from Hon. Councillor for Magozi village on implementation

.. “Don’t give us more food-aids but facilitate us to produce our own food using our precious resource, the Little Ruaha river”..

.....Implementation of the project was carried out in collaboration with various stakeholders namely TASAF (Tshs 105 million), WFP, UNICEF, Anglican Church (TShs 70 million) and Iringa District Council (Tshs 40 million) and community members of three benefiting villages of Iloilo, Mkombilenge and Magozi popularly known as (MKILIMA) contributing (Tsh 28 million) in kind by providing labour and mobilizing construction materials. In 2006 the construction work started by constructing water intake control - gate serving the three Villages; and the main canals (9 km to Magozi, 12 km to Iloilo and 18 km to Mkombilenge Village). In 2007/08 season, the irrigated paddy growing started with strong support from District Irrigation Development Fund (DIDF). Out of 1300 Ha, 750 Ha are served with irrigation facility in Magozi Village alone, hence there is high potential for expansion. As a scheme, we are organized as a Water User Association with our own constitution and leadership.....

5.0 RESOURCES

Financial Resources: Financial allocation was based on funds received from DADPs, DIDF and from Council’s own sources as indicated in the table below:

Table 1: Financial Resources from 2009 – 2013/14

Year	Amount Received
2009/10	2,533,655,000
2010/11	1,850,000,000
2011/12	2,120,000,000
2012/13	0
2013/14	1,831,000,000
2014/15	128,329,610
TOTAL	8,462,984,610

Human Resources: A total of seven Field Agriculture Officers (FAOs) are stationed at Iloilo-mpya, Itunundu and Mlenge Wards in Pawaga Division and regularly supported by District Agriculture and Irrigation Officers (DAIOs).

Physical Resources: The little Ruaha river basin in Pawaga is virtually suitable for irrigation purposes. Four irrigation schemes were constructed in Pawaga Division with a land of 18,300ha suitable for irrigation although irrigated area is 7,350ha.



Irrigation canals

6.0 RESULTS

The strategies narrated above led to the following results:

Adoption of improved agronomic package; Among the tangible results is that farmers have adopted improved agronomic package i.e. improved seeds namely Zambia, AFA Mwanza, Fire dume; use of power tillers and tractors instead of hand hoe; application of herbicides instead of hand weeding; use of combine harvesters, improved threshers.



Nursery with improved seeds, power tiller on action and thresher.

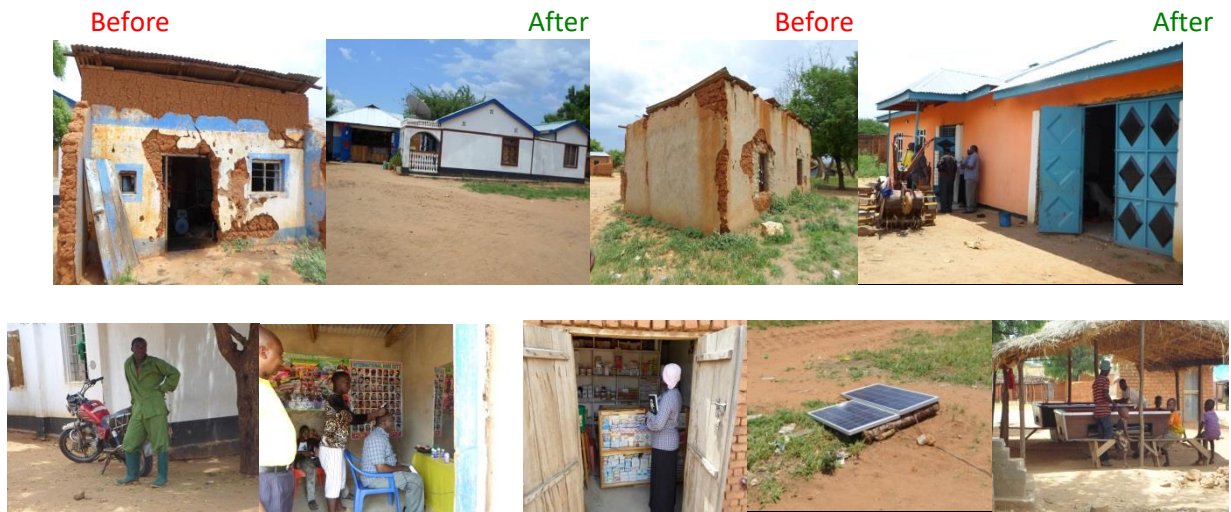
Improved productivity per unit area and total production: Production of paddy has increased from 0.6 tons in 2004 to 1.6 tons per acre by 2013 leading to increased total production from 12,192 tons in 2004 to 58,370 tons in 2013.



Magozi Irrigation scheme paddy field

Other results include; (i) household food sufficiency, there is reliable and sufficient food supply at household level to the extent that families are able to take three meals per day. This was not possible

before the intervention. (ii) Increased household income, there is an increased disposable income at household level hence households can now address other needs which requires cash income like paying school fees for their children, medical expenses and other services. (iii) Improved livelihood of the community; there is a tremendous improvement on the livelihoods of the Magozi community. This is demonstrated by construction of modern houses, adoption of solar power technology for lighting and charging mobile phones, procurement of modern games like pool tables, use of smart phones, establishment of modern shops, adoption of mobile phone-based financial services (M-pesa, Tigo pesa and Airtel money). Others are beauty salons for men and women, transport facilities particularly motorcycles (*bodaboda*). Photos below indicate improved livelihood.



Other remarkable achievements include reliable market for Pawaga rice brand. Farmers have secured markets through attractive labelling and packaging of their produce the 'PAWAGA RICE' brand. The Division has also experienced increased employment; the irrigated paddy farming has increased self-employment and creation of employment for community members. Moreover it has promoted youth retention in Villages. The initiative has increased Council revenue; revenue collections for Iringa DC have increased through crop Cess from Tshs 8 million in 2011 to Tshs 36 million in 2014 as a result of the intervention in Pawaga Division.

Comment from Hon. Councilor for Magozi village on results

....."the last becomes the first"

Currently community in Magozi scheme ranks the first in Pawaga Division in terms of performance. After embarking on irrigated farming and adoption of improved farm practices, the average acreage per household has increased from 0.25 to 5 acres. The use of power tillers has improved dramatically, the use of hand-hoe is minimized to (only 10%), use herbicides increased as opposed to hand weeding, use of combine harvesters as opposed to hand harvesting. Uptake and use of improved varieties namely Zambia, Afaa-Mwanza, Faya-dume and SRA-5 has improved resulting to increase average productivity (18-20) bags/acre that is (3.888 -4.32 tonnes/ha). Although SARO-5 can yield up to 4.6 tonnes/ha, the first three varieties have higher preference because of quality attributes i.e. taste, aroma and marketability. As an intermediate impact of irrigation intervention, food-aid is now a history in Magozi Village , reception of food- aid is considered as shameful acts to Magozi community. The community livelihoods has improved significantly and the lucrative paddy business has attracted and retained the youths in the Village; encouraged immigration of people from outside the village to seek for various opportunities both on-farm and off-farm i.e. casual labour, rice milling business, carpentry and masonry hence creating various employment opportunities. Capacity of community members to contribute for development projects improved to average of Tshs 360,000/household per year. Community has constructed modern Village office. Individual community members especially youths are building modern houses with self-contained rooms and improved toilets. Although we are not connected to national grid, community members have adopted solar energy as an appropriate technology enhancing communication and information sharing through mobile phone services, internet connectivity, mobile money transfer services i.e. M-Pesa. Local entrepreneurs have initiated services such as pharmacies; beauty salon, shops, restaurants and recreational facility i.e. solar powered television for watching football matches are available in the village. In fact, we were late to flourish compared to our neighbors, but the changes in our community are comparatively very impressive. As a community, we are proud of our progress and looking forward to perform even better. Some of our local entrepreneurs have invested revenue from rice by constructing houses in Iringa urban centre. Motorbike services are very common, most of youths in the Village owns at least a motorcycle and systematically we are embarking on Toyota-Noah as appropriate transport. We are considering adopting double-season planting per year to maximize the use of irrigation facility hence double harvesting annually. We are looking forward to improve quality of our produce, by acquiring modern plant for rice processing and grading so that we sale quality rice instead of unprocessed paddy, Our youths are busy looking for rice markets, and JICA our development partners through Policy and Human Resource Development (PHRD) fund is supporting our marketing initiatives. Magozi is one of the 14 beneficiary schemes under the Tanzania Agricultural Sector Development Project.....

7.0 SUSTAINABILITY STRATEGIES

There are efforts to strengthen water irrigation scheme associations whose members have agreed to contribute 5% of their incomes towards operation and maintenance (O & M) of the schemes. Farmers are continuously being trained on crop husbandry, financial and scheme management skills. The Council will provide continuous supportive supervision and technical support to farmers in all matters related to paddy value chain. The community will continue negotiating with Rufiji Basin Development Authority to secure more allocation of water to meet the irrigation needs tailored for double harvest per year. Youth groups will reinforce their efforts to scout for rice marketing opportunities.

8.0 SECRETS OF SUCCESS

The secrets of success include: (i) Participation of community members directly in the whole process of identification, planning, implementation and monitoring of their schemes. (ii) The use multidisciplinary and multi-stakeholder approach in the project implementation (including Irrigation and Agricultural Field Officers; UNICEF, WFP, Anglican Church, Uyole Research Institute). (iii) Strong support from politicians (Councillors) to project. (iv) Effective Village/Ward leadership resulting into strongly bound local community which is necessary for collective initiative. (v) Presence of abundant fertile soils in

Pawaga Division. (vi) Effective use of public private partnership (PPP) in resources mobilization. (vii) High commitment of Council staff; for instance District Agricultural Irrigation Engineer was highly committed on day to day operations of the schemes.

KOROGWE DISTRICT COUNCIL



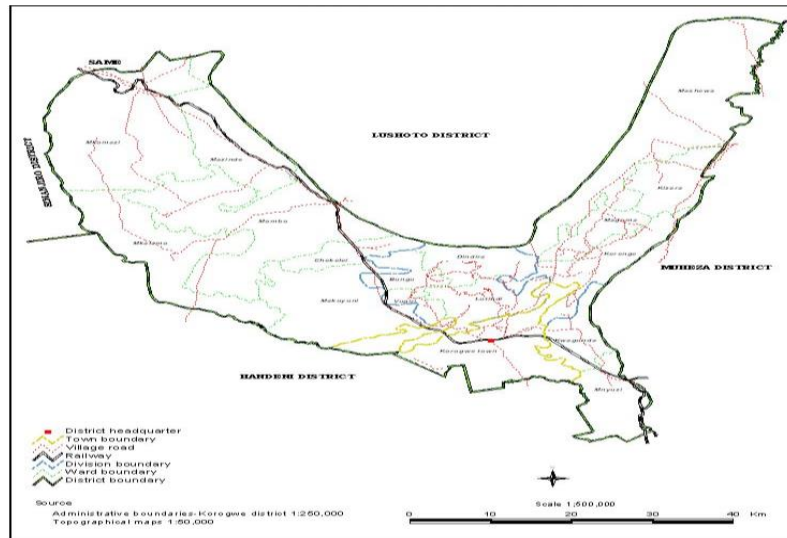
IRRIGATION FOR RELIABLE PADDY PRODUCTION



Experience of Korogwe DC

1.0 INTRODUCTION

Korogwe DC is located at Latitude 4°15' and 5°15' South, Longitude 38°0' and 38°45' East. The Council covers an area of 3,544Km². According to 2012 Census the Council has a population of 247,363 people in which 121,152 males and 126,211 females. Administratively Korogwe DC has 4 Division, 20 Wards, 122 registered Villages and 610 Vitongoji.



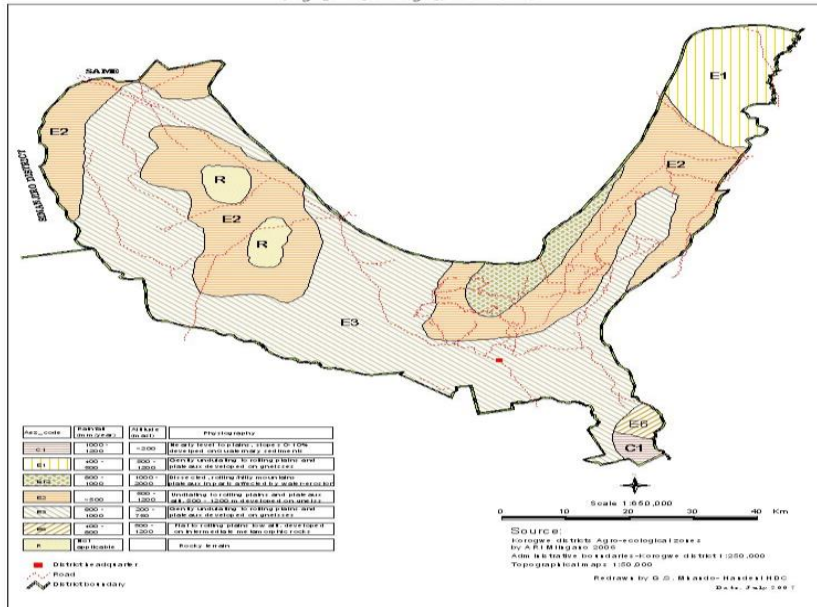
Korogwe DC Administrative Map

The major economic activities in the Council are agriculture and livestock keeping, utilization of natural resources, commerce and small scale manufacturing industries. Agricultural activities make up the backbone of the economy of the Council since about 90% of the population depends on agriculture and livestock keeping. There are 133,397Ha of arable land which is suitable for a variety of crops. Small scale production consists of small holding farmers who form the majority and large scale production is practiced in estates owned by private enterprises.

The variations in the topography and climate provide different cropping possibilities which can be defined into three major agro-ecological zones. These zones are the mountainous zone, low wetlands zone, and semi-arid zone. Irrigation areas can be found along the major rivers. Most of the land has loamy, sandy and clay soils while the natural vegetation is predominantly of the tropical type. Each zone has more less similar topography, climate and cropping possibilities. The mountainous zone occupies about 25% of the land area and lies between 900-1500 meters above sea level. The Low wetland zone occupies about 35% of the land area and lies between 600-800 meters above sea level is hot-humid, and has an average rainfall between 800-1000mm per annum. Several rivers, including the Pangani, Soni and Lwengera, drain this area to provide irrigation potentials. The main food crops grown are maize, paddy, beans, cassava and potatoes while the cash crops cultivated include cashew nuts, cotton, sisal and tropical fruits like mangoes, oranges and tangerines. Livestock include (exotic and indigenous) cattle, goats, sheep, poultry reared for milk and meat. The Low wetland zone covers Korogwe (Ngombezi ward), some of Magoma Divisions and Mombo Division (Makuyuni Ward). This case is based on Mombo Division.

The irrigation zone extends through parts of the Low Wetland and Semi-Arid zones which are drained by the major rivers. The Council has a total of 18,000Ha of land suitable for irrigation but currently the area

under irrigation is only 6,000Ha which is 33.3% of land suitable for irrigation. Paddy is the main crop in these river valleys and cultivation depends on drawing water from the rivers. Irrigation is also practiced in depressions found along the mountainous zone where vegetables like tomatoes, onions and cabbage are commonly grown.



Agro-ecological zones of Korogwe DC

The Semi-Arid Zone occupies about 40% of the land area and lies between 400-700 meters above sea level and has less than 600mm of mean annual rainfall.

2.0 PROBLEM

Korogwe DC has been experiencing rapid population growth, increasing population pressure especially on the upland and middle plateaus, environmental degradation, decrease in annual rainfall, poor water management leading to decrease in water for irrigation in lowland semi-arid areas which are famous for production of paddy and vegetables. Since 1967 to 1978, Mombo farmers engaged in traditional irrigation farming characterized by poor water management, low productivity (2tons per Ha), use of low yielding paddy varieties, frequent floods and droughts, individualistic farming, single season harvest, frequent water related conflicts among farmers and lack of value addition initiatives. All these problems led to low productivity of farm produce, extreme poverty and low living standards of the inhabitants of Mombo Division.



Traditional irrigation canal

3.0 OBJECTIVE

The major objective of this initiative was to effectively use land and water resources, increase productivity per land area, increase incomes and reduce poverty among the inhabitants of Korogwe DC. The specific objectives were:

- i. To survey the irrigable land and reallocate the fields to accommodate more farmers.
- ii. To construct new and improve the traditional irrigation infrastructure.
- iii. To make sustainable use of water resource as provided in the water permit.
- iv. To promote adoption of improved agronomic package to increase productivity, farmer income and improve the availability of food in household level.
- v. To find out and establish the reliable markets for Korogwe rice within Tanzania and outside the country.
- vi. To organize farmers into producer groups and ultimately a cooperative society.

4.0 IMPLEMENTATION STRATEGIES

The Mombo scheme started as traditional irrigation scheme in 1967 comprised of 40 farmers. The scheme has undergone improvement and has been modernized for intensive paddy production. To attain the above objectives Korogwe DC implemented a number of strategies that are described below;

Initial rehabilitation of the Scheme; in 1979 the scheme was rehabilitated by constructing new water intake with a system of open channels from the intake to farm level. The “night water reservoir” was also constructed to meet water demand at field level. Rehabilitation work was financially supported by Germany Development Organisation (GTZ). The second strategy was survey of 360 Ha and reallocation of irrigable land; the irrigated land comprised of 360Ha was surveyed and land was voluntarily re-allocated to members and each member was allocated 0.5Ha. This means there are members who lost some of their land. Of the 360Ha of surveyed land, the current irrigated land is only 220Ha divided into 16 blocks. Thirdly, Korogwe DC assisted farmer to apply for a permit to use water from Pangani River Basin Authority. The Leadership of Mombo scheme cooperative society applied for water use permit from Pangani River basin Authority. The Ownership Certificate No. 2508 was issued and is in place.

Formation and registration of a Cooperative Union: In 1979 the Council assisted farmers in Mombo irrigation scheme to form and register their Cooperative Union (Registration No. 2207). Mombo Cooperative Union was composed of 350 members (135 Females and 115 Males). Formation of Mombo Cooperative Union ensured that paddy growers could conduct democratic elections, conduct constitutional meetings, adhere to meetings procedures and engage in productive relations with technical staff of the Cooperative Society and the Council.

Second rehabilitation of the Mombo Scheme; in 2000 the Council solicited funds from the World Bank to rehabilitate the scheme. The activities of the second rehabilitation included construction of flood protection bund, de-silting of night water reservoir, construction/rehabilitation of water distribution structures/canals and improvement of farm access roads. The photos below show improvement of traditional canals, water gates/distribution points and night reservoir dam.



Improved irrigation canals, water gates, night reservoir

Training of Farmers; agricultural extension officers and irrigation technicians carried out training aimed at sensitizing paddy growers on forming cooperative and producer groups, effective management and use of water and land resources, application of organic fertilizers, choice and adoption of improved seeds, preparation of nurseries, sowing methods and transplanting. The District Agricultural extension officers promoted adoption of improved varieties by distributing improved, high yielding, early maturing, and diseases resistant paddy varieties. The officers also organized farmers to make contributions in order to procure a rice processing plant and construction of warehouse. The photos below show farmer field school plot, displaying paddy nursery, adoption of improved high yielding varieties and row planting for optima plant density.



A Paddy Nursery and Farmer Field School

In collaboration with the Council Marketing officers, agricultural officers and politicians the paddy growers conducted market survey for rice produced at Mombo irrigation scheme. From the survey it was realized that there are attractive markets within and outside Tanga Region. The best markets were found to be in Dar es Salaam, Moshi and Arusha. To strengthen the network a mechanism for communication and information sharing among paddy growers, cooperatives and various partners (PPP), the Council and the Central Government was established. This network facilitated access to information on markets, technology, financial institutions and effective networking with other paddy producers.

5.0 RESOURCES

Korogwe DC committed about Tshs 1.4billion for various activities from 1979 to 2014 as listed in Table 1 below.

Table 1: Resources Used for Mombo Irrigation Scheme

Activity	Resources used (Tshs)	Source of funding
Rehabilitation of the scheme in 1979	14,000,000	GTz
Survey of 360 Ha and reallocation of irrigable land in 1979	10,000,000	Council
Second rehabilitation of scheme in 2000	336,000,000	World Bank
Training of farmers	15,000,000	Council
Distribution of improved, high yielding, early maturing, and diseases resistant paddy varieties	10,000,000	DADPs
Continuous construction and improvement of irrigation infrastructure	22,000,000	DADPs
Purchase of farm implements (thresher, combine harvester, milling plant) and construction of machine building and ware house.	1000,000,000	PHDR – Policy for HR development project
Total	1,407,000,000	

5.0 RESULTS

Korogwe DC has made several achievements in the promotion of Paddy Production and processing. The Council has sustained the scheme for more than 40 years. Number of paddy growers in the scheme has increased from 40 farmers to 429 farmers (196 men, 233 women). Farmers are well organized into a Cooperative Society with a Savings and Credit Facility (SACCOS). Furthermore, paddy growers have managed to construct a modern office for the SACCOS.



SACCOS Office

There is adequate ownership of the scheme making farmers to organize themselves for maintenance, cleaning and distribution of water. All famers participate fully and voluntarily in cleaning the irrigation canals through *Msaragambo*. There is a clear schedule which guides farmer groups to participate in *Msaragambo* works and guide irrigation water distribution.



Working Schedule and Msaragambo Works

The paddy growers have witnessed an increase of yield per Ha from 2t/ha to 8t/ha and from one harvest to three harvests per year through irrigation. This increase in yield has capacitated farmers to contribute funds for expansion of the main canal (287meters).



Improved main irrigation canal

Life standards of the farmers have improved. A significant change in household incomes and standard of living of paddy growers in Korogwe DC has enabled farmers to construct modern houses, using locally made burnt bricks and roofed with corrugated iron sheets. Ten years before many farmers in Mombo Village used to live in traditional, poorly constructed and grass roofed houses.



Traditional Houses



Modern Houses

Brick making and burning has also become another opportunity for the youths living in the surrounding community to generate incomes since there is market. The bricks they make are easily bought by paddy growers who have cash and prefer to construct modern houses using burnt bricks. Farmers also own transport facilities such as motorcycles, communication and information gadgets such as mobile phones, radios receivers, and television sets. Paddy farmers use motorcycles to transport farm inputs, farm produce, the sick and grasses for dairy cattle under zero grazing system.



A farmer ferrying grass using a motorcycle

Paddy growers and the surrounding community have assurance of household food security since they can harvest up to three times a year. Women have been empowered due to ownership of paddy plots, participation in decision making in the cooperative, increased incomes to the extent that they outnumber men in terms of plot ownership and contributions to the cooperative society. The photos below are an evidence of women empowerment, participation in decision making and ownership of better housing facilities.



Empowered women in decision making meeting and a modern house owned by a woman

There is an increase in enrolments to secondary schools and a decrease in dropouts resulting from increased ability of the parents to pay school fees and other expenses as a result of increased incomes. One farmer had this comment on paddy production.

“....irrigation has given us pride, we had problems in this village, our children could not go to school because we could not afford school fee; boys used to migrate to towns to find jobs, we lived in poor houses but as I am speaking to you now, look at my good house, my kids are not here, they are in schools, one is in a boarding school in Arusha . I can pay for their school fees because I have paddy bags in my house, I get cash everyday...”

Increase in incomes of paddy growers has increased enrolment to the Community Health Fund (CHF) due to guaranteed household incomes. As a result, farmers are assured of access to health services cementing improvement in living standards and wellbeing.

Mombo irrigation scheme has become a learning Centre for other schemes in the Council such as Chekelei scheme visited for learning purposes. Also farmers received visitors from LGAs such as Makete DC, Njombe DC, Arumeru DC, Babati DC, Hai DC and Same DC, Mtwara DC and Lindi DC. Other visitors from East African countries i.e. Uganda, Kenya and South Sudan also made visits for learning purposes.



Visitors from Uganda on study tour

Owing to strong cooperative society and its organisation, farmers have secured trust from donors. Development partners have supported Mombo Irrigation Scheme by funding purchases of paddy combine harvester, shredder, heavy duty milling machine and construction of a warehouse worth Tshs 1 billion. The photos below show the combine harvester, shredder and ware house and milling machine secured through donor funds.



Combine harvester



Thresher



Milling plant building

7.0 STRATEGIES FOR SUSTAINABILITY

Korogwe DC is committed towards promotion of paddy production as an alternative cash crop and to create sustainability of the scheme as described in the following strategies. Korogwe DC is striving to maintain good relationship with the neighbouring Bumbuli DC located up-stream on sustainable use of water from Soni river which feeds the Mombo Irrigation Scheme. There are plans to construct big dam along Soni River to be used by Mombo farmers and neighbouring scheme (Kwemkumbo) to supply water for many farmers. Currently the studies are ongoing, the dam site point has been identified and

topographical survey has been done. There are efforts to develop other irrigation schemes in the Council to increase the incomes of farmers. These schemes include Kwemazandu, Makorora, Chekelei, Mafuleta, Madumu, Chepete, Mkomazi, Mswaha, Mandra, Magoma, Kerenge, Mapangoni, Madala, Kizara and Kwemkumbo. De-silting of existing night storage reservoir is on progress. Korogwe DC through DADPs funds supported the farmers by providing them with Tshs 22,000,000.

Farmers are encouraged to maintain their contributions for the purpose of purchasing modern farming tools and maintaining irrigation infrastructure. The Council will continue providing training to farmers and surrounding communities on conservation of water sources and catchments. Farmers are strongly encouraged to collaborate with agro-processors and marketing agencies to create a value chain from production to marketing. Korogwe DC is linking farmers to marketing and processing entities. Also the Council is facilitating farmers' network within and outside Korogwe DC in order to have progressive relationships that will enable them exchange ideas on market strategies and improved agricultural technologies hence high productivity. Moreover, Korogwe DC is strengthening Rural Financial systems (SACCOs) to help farmers have access to low interest credits, to commercialize smallholder agriculture and accelerate its growth rate to increase agricultural production.

8.0 SECRETS FOR SUCCESS

Korogwe DC achieved the results elaborated above due to several underlying reasons. The secret for success of Mombo Irrigation Scheme is ascribed to readiness of farmers in adopting new agronomic packages that include land reallocation, irrigation and new paddy varieties. Also active participation of farmers in all stages of paddy production was the engine of the entire process. Strong cooperative society that is professionally managed under principles of good governance such as transparency, joint decision making, and involvement of women and effective financial management cultivated trust of members as well donors.

Effective and strategic utilization of Central Government programs and support from DADPs, ASDP, and research institution for initial support of producers. These were effectively used by Korogwe DC to create farmer field Schools, distribution of improve seeds and sensitize the private sector to invest in paddy seed production and processing.

Highly committed and strong CMT under the strong leadership of Council Director who promoted team work in all development activities in the Council and presence of several Committees in monitoring the Scheme. Irrigation Engineers and Technicians were placed within the scheme premises to support farmers on continuous basis.

Finally, the paddy growers in Mombo Irrigation Scheme are united by a common catch word/slogan or motto: *"UMWAGILIAJI-KILIMO CHA UHAKIKA, KILIMO CHA UHAKIKA-UMWAGILIAJI"*. This slogan implies that irrigation means reliable farming and for reliable farming, farmers should go for irrigation. This motto is highly appealing and has been effectively used to express and consolidate farmers that irrigation is best in achieving household food security and poverty alleviation.

TANGA REGION



SMALL HOLDER DAIRY FARMING INITIATIVE



Experience of Tanga CC, Mkinga DC and Pangani DC

1.0 INTRODUCTION

Tanga Region is located on the North Eastern part of Tanzania and along the Indian Ocean Coastline. It is bordered by Kenya and Kilimanjaro Region to the North, Manyara Region to the West, Morogoro and Pwani Regions to the South. Its Eastern border is formed by the Indian Ocean. According 2012 census, the region has a population of 2, 045, 2015 (URT, 2012). The Region has 11 Councils.

Evolution of smallholder dairy production in Tanga Region based on the Dairy Policy of 1983. Dairy development in the Region started in the mid-1970s when the major emphasis and focus was on large farms owned by the Tanzania Sisal Authority (TSA) and a Government farm; Tanga Dairy. With support from Netherlands, Tanga Smallholder Dairy Extension Programme (SDEP) was initiated in 1985 starting with seven pilot dairy farmers. The number of dairy farmers had increased to 900 in 1992. The SDEP strategy and approach was to reach both rural and urban dairy farmers. Following this initiative in Tanga region, three LGAs have come up with best practices in terms of dairy value chain development. These are Tanga CC, Mkinga DC and Pangani DC. These best practices are relevant examples on how can dairy farmers cooperatives collaborate with private sector to develop and efficient dairy market chain. They also show importance of prolonged community facilitation in order to change their mind set so that they can adopt alternative options to transform their livelihoods.

Tanga CC is located between Longitude 38°53' and 39°10' East and lies within Latitudes 5° and 5°16' South of Equator. The City borders Muheza DC to the South and West, Mkinga DC to the North and Indian Ocean to the East. The City covers a total of 600Km² mainland and 62km² of the Indian Ocean. The City lies between 0 - 17 meters above sea level. The weather is characterized by warm temperatures ranging from 24^o – 33^o CC. According to 2012 census, the City has a total of 273,332 people of which 130,920 are male and 142,412 are female and an average growth rate of 1.2% per annum. About 52% of the total population forms the City labour force. About 19.1% of the population lives in the suburbs of the City engaged in fishing, agriculture and livestock keeping. In Tanga CC, Pingoni Ward is famous for dairy farming. With support from various stakeholders young dairy farmers of Pingoni have transformed deserted sisal estates into vibrant small holder dairy farms.

Mkinga DC was officially established on 1st July 2006 splitting from Muheza DC. It has two Divisions, 21 Wards, 85 Villages and 335 Vitongoji. It borders the Republic of Kenya to the North and East, Muheza DC, Tanga CC, Korogwe DC and Lushoto DC to the West. The total area of Mkinga DC is 2,948 Km² involving agricultural land, pastures and Uмба Game reserve. According to 2012 Census the Council has 118,065 people of which 57,760 are male and 60,305 are female with an average growth rate of 1.27% per annum. The Council is situated at an altitude of 1,600 meters above sea level and gets between 500mm and 1,200mm of rainfall per annum. The Council has a coastal belt suitable for agriculture (sisal, citrus, cashew nuts, cassava, coconut and horticultural crops). In Mkinga DC, Maramba Ward is famous for dairy farming. Maramba Ward is on transition zone and through a dairy cooperative society. The famers have transformed their livelihoods by switching to dairy farming from casual labourers in Sisal Plantations.

Pangani DC is found 47 km South of Tanga city. It borders the Indian Ocean to the East, Handeni DC to the West, Muheza DC to the North and Bagamoyo DC to the South. The Council has an area of 1,830.8Km². A large part of the Council lies along the coast of Indian Ocean. Administratively, the Council has 13 Wards, 33 Villages and 94 Vitongoji. According to 2012 census the population of Pangani DC is 54,025 (26,870 male and 27,155 female) with 13,177 households. Historically, Pangani

communities are fishermen, coconut farmers and small scale business traders. Only small proportions of the community members are keeping indigenous chicken, goat and cattle.

2.0 PROBLEM

Following Cessation of SDEP in 1994 the Tanga Small Holder Dairy Development Project (TSDDP) was introduced in the Region covering only Pangani DC. Few farmers were involved in the project especially those with sufficient capital to meet the costs of dairy cattle farming. The project phased out in 2004 with little impact. The Tanga residents heavily depended on selling labour to sisal plantations, fishing and peasant farming. The collapse of the sisal industry during 1980s caused mass unemployment leading into income poverty.

The structural adjustment programs (SAPs) in the late 1980s led to collapse of many factories in the Tanga City worsening the unemployment problem in the region. In 2002 there were marked decline in coconut production due to coconut lethal disease, draught and effects of climate change. The effect of climate change also affected fish catches. The dwindling market of cashew nut was also a big challenge to farmers. These factors limited community's purchasing power and household economy. Although the Region has arable land with plenty of pastures that could support dairy cattle farming, unfortunately majority of community members were not conversant with dairy cattle farming and they had negative attitude towards dairy cow keeping especially zero grazing system. Moreover, farmers were not organized, there was no sustainable milk market and people had no enough capital to purchase improved dairy cattle. All these compounded into low income, poor living standards hence the need for intervention.

3.0 OBJECTIVES

The main objective of the Tanga Region dairy cattle farming initiative was to improve standards of living and per capital income by establishing dairy farming. Specifically the initiative intended:

- (i) To change residents' behaviour from fishing and small scale agriculture to alternative dairy cattle keeping.
- (ii) To create employment opportunities through investment in dairy cattle keeping.
- (iii) To increase milk quality and quantity from 2.5litres/cow/day to 8/litres/cow/day.
- (iv) To introduce improved dairy husbandry including high yielding dairy breeds
- (v) To increase availability of farm yard manure for crop production and promote biogas technology.
- (vi) To promote dairy value addition and establish dairy value chain.
- (vii) To raise household income as well as nutrition status.

4.0 IMPLEMENTATION STRATEGIES

Establishment of TANGA FRESH Milk processing and marketing company in 1994. TANGA FRESH Milk Processing and Marketing Company based in Tanga City started operations in 1996 to cater for a rapid expanding smallholder dairy production sub-sector in Tanga region and an unsatisfied demand for milk and milk products in urban and peri-urban areas. Owing to increasing dairy herd in the region, surplus milk had to find access to a market for dairy development to be successful and sustainable. Tanga Fresh is the main Dairy processor in Tanzania, co-owned by Tanzania Dairy Cooperative Union (TDCU) and private investor. Over 6,000 small-holder dairy farmers are guaranteed that their milk will be bought by Tanga Fresh. For that sake, Tanga Fresh has built and improved the cold chain of milk from the Tanga Region production area to the Dar es Salaam market.

Sensitization: In 1994, the Extension Officers from the Councils in collaboration with the government of the Netherlands conducted a continuous community awareness creation on dairy cattle keeping, its advantages and as an alternative, reliable and sustainable source income for fishermen and coconut farmers.



Sensitization meeting

Cooperative officers and Extension Officers from the Councils facilitated farmers to organize themselves into groups and ultimately formation of primary Dairy Cooperative Societies. (a) In Tanga CC young farmers organized themselves into “Umoja wa Vijana Wafugaji Pingoni” (UWIWAPI) -SACCOs, (b) Mkinga DC dairy farmers established 15 dairy farmer groups with average of 20 people per group.



Mrs. Chiwanga - Chairperson of UWIWAPI SACCOs



MADAFCO Sign board

This was followed by establishment of dairy farmers network (*Mtandao wa Vikundi vya Wafugaji wa Ng'ombe wa Maziwa Maramba - MTAVIWAMA*). In 1990 MTAVIWAMA established Maramba Division Dairy Farmers Cooperative Society (MADAFCO) covering entire Division with 455 members and it was officially registered in 1994. By the time of publication of this best practice, MADAFCO members had reached 3,000. (c) In Pangani DC, farmers established a dairy cattle farmers network “*Mtandao wa Wafugaji wa Pangani*” (MWAPA) and a Cooperative Society *Wafugaji Wadogo wa ng'ombe wa Maziwa Pangani* (WAWAPA) through training of farmers and groups networking. WAWAPA as a cooperative society collects milk as a marketing Centre for farmers. It is a milk hub that connects all milk stakeholders. Also WAWAPA provide extension services and soft loans to farmers.

Formation of Regional Dairy Tanga cooperative Union. With facilitation from regional and LGA livestock development officers, the primary dairy societies joined together to form Tanga Dairy Cooperative Union (TDCU). The main function of TDCU was collective marketing of dairy products. TDCU owns 42% shares of TANGA FRESH Milk processing and marketing company based in Tanga City. MADAFCO in Mkinga DC, WAWAPA in Pangani DC and UVIWAPI in Tanga CC are members of TDCU. This type of public-private vertical coordination system is important in responding to consumer demand for food quality and safety Swinnen *et al.* (2007). On the other hand, it assures dairy farmers on availability of milk market hence sustainability of dairy value chain.

Land acquisition: In Tanga City the Council in collaboration with the government of the Netherlands purchased the land at Pingoni from Sisal Estate (1,026 ha) and allocated it to 375 youth farmers; four acres each. Each farmer was required to pay 20,000/acre in order to acquire the land. Through heifer-in trust scheme, each farmer was given an in-calf heifer as a capital.

Introducing Artificial Insemination (AI) programme: Four lead farmers from each Council were trained at Arusha National Artificial Insemination Centre (NAIC). AI was an alternative means of improving Dairy cattle breeds (genetic characteristics that increase milk production). AI practitioners are responsible for providing services to their fellow dairy cattle farmers in the Council.



A trained farmer on AI at Pingoni– Mr. Chiwanga AI practitioner attending the cow in Pangani DC

Construction/Rehabilitation of milk collection Centres. MADAFCO constructed a milk collection Centre at Maramba using own source and TDCU provided a milk cooling tank with capacity to store 6,000 litres in Mkinga DC. Four milk collection centres were constructed in Pangani DC; Cooling tanks were supplied by Tanga fresh. Also Tanga Fresh supplied a milk cooling tank with a capacity of 6,500litres at Pingoni-Tanga CC. Each primary cooperative operates the milk collection Centre independently. If a local market exists, the milk collection Centre also sells to consumers directly. The apex organisation TDCU takes the responsibility to market all surplus milk.



Tricycle for milk transport Milk Collection Centre and cooling tank at Maramba

Tanga CC in collaboration with various stakeholders made efforts to improve a number of structures with the aim to improve dairy production and living standards. For example construction of improved houses at Pingoni in which UN habitat facilitated a loan for construction of improved houses for 15 dairy farmers at Pingoni each costing Tshs 2,300,000/= . Construction of biogas plants; the Council collaborated with TPBP, a biogas programme took initiative to facilitate the construction of biogas plants within households of dairy farmers. The Council using DADPS funds also constructed a water dam for livestock at Pingoni area.



A Charco-Dam at Pingoni Area

Promotion of dairy farming through heifer in trust credit scheme “*kopa ng’ome lipa ng’ombe*”: The Councils using DADPS funds purchased in-calf heifers and distributed them to farmers on special arrangement. Each farmer was required to construct a cow shed. Farmers in specific ward/village formed groups of more than 10 members, among them 2-5 members were given an in-calf heifer whose first female calf had to be raised until it is an in-calf Heifer and handed over to another member of the group to maintain the network.



In-calf heifers received by farmers in Tanga CC and Pangani DC

The Councils conducted various trainings to dairy farmers including improved dairy farming practices, entrepreneurship and management of groups and cooperatives. For example Tanga CC trained 514 dairy farmers.

5.0 RESOURCES

The dairy farming initiative among communities which were not accustomed to livestock keeping was an expensive and time consuming task. It involved physical, financial and human resources, in total Tshs 3,364,876,736/= were spent in this initiative. For instance, in Maramba Division, the Council through various stakeholders distributed 681 heifers and 23 bulls to farmer groups. Tanga CC distributed 50 heifers to Pingoni dairy farmers and Pangani DC distributed 549 heifers to farmer groups. Detailed financial resources are presented under Table 1, Table 2 and Table 3 below:

Table 1: Financial Resources Used in Pingoni Ward Tanga CC

Activity	Stakeholder's Contribution				Total
	Donors	Central Govt	City Council	Community	
Purchase of land and Heifers, improvement of infrastructure and rehabilitation of milk collection Centre	327,900,000	36,000,000		56,300,000	442,000,000
Construction of improved houses	34,500,000			34,500,000	69,000,000
Construction of biogas systems	45,000,000			22,800,000	67,000,000
Construction of water dam	40,371,000			8,074,200	
Purchase of 50 Heifers	26,000,000	54,306,000			80,306,000
Rehabilitation of two bridges	5,000,000	4,200,000	8,700,000	12,500,000	
TOTAL	478,771,000	94,506,000	8,700,000	134,174,200	658,306,000

Table 2: Financial Resources Used in Maramba Division Mkinga DC

Stakeholder Contribution	Year	Price Per Unit	Total Fund Used
DADPs contributed 75 heifers and 5 bulls	2008-2013	Heifer 900,000/= Bull 600,000	678,000,000/=
TASAF projects contributed 45 heifers and 8 bulls.	2010 -2012	Heifer 750,000/= Bull 500,000/=	37,750,000/=
ABBORT Fund provided 342 heifers and 10 bulls.	2011 -2015	Heifer 1,000,000/= Bull 700,000/=	349,000,000/=
Tanga Fresh through "Kopa Ng'ombe Lipa Maziwa" contributed 219 heifers.	2002 -2013	Heifer 850,000/=	186,150,000/=
The community contribution was in construction of Cow sheds where 581 cattle sheds were built.	2008- 2015	500,000/=	290,500,000/=
LAND "O" LAKES and DADPS project provided 5 Artificial Insemination Tool in order to improve milk production per cattle.	2013 2014	2,500,000/=	12,500,000/=
LAND "O" LAKES as stakeholder provided 70 set of milking cane and 1 set of milk testing kit.	2013	105,000/=	7,350,000/=
LAND "O" LAKES provided one motor cycle for Artificial Insemination monitoring.	2014	8,750,000/=	8,750,000/=
TOTAL			1,570,000,000/=

Table 3: Financial Resources Used in Pangani DC

Activity/item	Fund (Tshs)	Fund source
Construction of 4 milk collection Centres	112,085,736/=	ASDP
Purchasing 90 dairy cattle	45,000,000/=	TADAT
Purchasing 199 dairy cattle	199,000,000/=	ASDP
Construction of ward resource Centres for AI services	175,000,000/=	ASDP
Monitoring/supervision	5,000,000/=	District council
Construction 549 dairy cattle sheds	160,400,000/=	Farmers

Purchasing 4 milk cooling tanks	137,360,000/=	Tanga fresh
Purchasing 4 generators	46,000,000/=	Tanga fresh
Contribution for construction 1 milk collection Centre	5,000,000/=	RC church
Purchasing 20 dairy cattle	16,000,000/=	Constituency development catalyst (CDCF)
Purchasing 240 dairy cattle for kopa ng'ombe lipa ng'ombe	216,000,000/=	WAWAPA
Purchasing 75 milking can and 75 buckets	4,725,000/=	Land O Lakes
Purchasing 4 liquid Nitrogen tanks for AI services	15,000,000/=	Land O Lakes
Total	1,136,570,736/=	

A number of technical staff in the fields of agriculture, livestock keeping and cooperatives were continuously engaged in this initiative. For instance, a total of 15 Livestock Extension Officers were recruited and deployed strategically in dairy farming Wards at Maramba Division. These were responsible to provide training to the farmers on dairy cattle husbandry, milking procedures, hygiene, collection and transportation to the milk collection points. Five Community Development Officers (CDOs) were involved in community sensitization in order to change their attitude towards dairy farming. Experts from Tanga Fresh Company provided training to farmers on various activities to be considered in milk hub to ensure quality milk from the milking stage, milk collection, transportation to the processing plant and hence quality products to the consumers. After prolonged sensitization community members (beneficiaries) were willingly participating in the dairy farming activities.



A field Officer administering a drug to a bull

6.0 RESULTS

The implementation of Tanga regional dairy initiative has resulted into several positive results. Maramba, Pingoni and Pangani residents have adopted Dairy cow keeping as alternative source of income and livelihood. These communities have reduced over dependence on the crops production and fishery as the only source of income. Coastal entrepreneurs have entered into the dairy value chain by diversifying and improving production and marketing of dairy goods and services for local market.



Zero grazing dairy production in coastal area

Improved self-organizing capabilities: Coastal farmers have organized themselves into producer groups and SACCOs that extend microcredits to purchase veterinary drugs, school fees, installation of biogas, installation of solar panels, health issues etc. In Pangani for instance, there is a strong dairy cattle cooperative society in place (WAWAPA). Members of this cooperative society increased from 64 in the year 2005 to 400 in the year 2013. The strength and survival of this cooperative society depends on the calibre of dynamic, strong and committed leaders. The WAWAPA cooperative society also provides extension services to farmers including the use of proper feeds, acaricides and veterinary drugs. Also there is an increase in number of producer groups. For instance the number of dairy cattle farmers groups in Pangani DC has increased from 10 in 2005 to 57 in 2014.

Employment opportunities: More than 375 farmers are fully employed in the dairy cattle farming at Pingoni area. Many more employment opportunities were created in Mkinga DC and Pangani DC.

Another remarkable achievement is adoption of improved dairy husbandry; farmers have adopted improved dairy husbandry including appropriate breeds, cow shades, dipping, hay feeding, vaccination and presence of Artificial Insemination knowledge and skills among dairy farmers. The four trained farmers from each Council provide reliable AI services within Pingoni area, Maramba Division and Pangani DC.

The numbers of dairy cows has increased from 375 in 2000 to 814 in 2014 leading to increased milk production. In Maramba Division there is a notable increase in milk production from 3litres per cow per day in 2007/08 to an average of 10 liters per cow per day in 2014/15. In Pangani DC, milk productivity per cow increased from an average of 2.5litres/cow/day to 8litres/cow/day. The amount of milk collected from Pangani Centres has increased from 200lt/day in 2005 to 7,900lt/day in 2015. In Pingoni Ward Centres, milk collection has increased from 700liters per day in 2001 to 2000liters per day in 2014.



Improved dairy farming

Increased number of milk collection centres: In Pangani DC, number of milk collection Centres increased from 1 in 2005 to 5 in 2013.



Old and new milk collection Centre for Pangani town and surrounding villages

Increased milk prices: Farmers have realized better prices i.e. in Pangani DC 1litre of milk is sold at Tshs 680.00 at milk collection Centre. Farmers are paid twice in a month (on 15th and 30th day). On retail farmers sell their milk Tshs 1000/liter which has raised income to an average of Tshs 312,000 per month. This provides sustainable employment to farmers and reliable economic activity. TDCU ha the role of negotiating for better prices. Resulting from this increase, household incomes have improved. The household income in Pingoni Ward has improved from Tshs. 30,000/= per month in 2001 to Tshs.350,000/= per month in 2014. In Mkinga DC from Tshs 240,000/= in 2011/12 to Tshs 753,794/= in 2013/14.

Dividends from Tanga Fresh shareholding have contributed to household income through shares in Tanga Fresh Company. For example MADAFCO received annual dividends ranging from Tshs 9m in 2010 to Tshs 14m in 2014 which was distributed to individual farmers depending on the volume of milk supplied to Tanga Fresh. This has improved capacity to contribute in community projects. The ability of the community members to contribute (cash) in various services and community-based development projects such as health, education and water has increased. Also the living standards of the farmers have improved in terms of good housing, use of biogas, paying for education and health services and improved transport facilities such as motorcycles. Pangani DC, which was once a backward area, farmers' living standards have improved as they have built modern houses, purchase motorcycles, install solar panels, pay school fees to their children etc.



Improved housing, transport and alternative energy (Biogas and solar power)

Increased milk consumption: Dairy farming has improved food security and nutrition. Through dairy initiative Individual milk consumption of the people at household level has increased resulting into improved nutrition. For example, in Pangani DC, Malnutrition among under-five year children decreased from 1.8% in 2009 to 0.1% in 2013. This is because a proportion of produced milk is mandatorily left for household consumption. Likewise, income obtained from milk sales may be used in improving diet by buying protein foods such as meat and fish.



A shop of milk products

Adoption of biogas plants for women empowerment: The use of biogas for domestic purposes is on the increase among Maramba, Pingoni and Pangani dairy farmers. Women are highly empowered and appreciate the biogas technology. In Pangani DC seven biogas plants have been installed to farmers through CARMATEC and SIMGAS expertise.



Biogas plant and kitchen equipped with biogas stove

Improved Council revenue: Tanga CC for example, has realized Tshs 3.4m per month from dairy industry collected from TANGA FRESH Company. This has facilitated the City Council to improve services in terms of infrastructure rehabilitation, purchase of drugs, and construction of markets, classrooms and dispensaries as well as allocating 10% of own source revenue to provide loan to women and youth.

Reliable market at Tanga Fresh Company: The factory collects all milk produced on daily basis. The milk is processed and marketed by TANGA FRESH factory. This ensures guaranteed risk free, daily market for milk produced by farmers, hence sustainable milk market.

Ownership of dairy cattle as guarantee to credit: Dairy cattle ownership provides sufficient guarantee for receiving credits from financial institutions. These credits helps in improvement of living standards, nutrition, housing and transport facilities such as motorbikes.



Facilities acquired through microcredits

The dairy farming initiative has attracted other Wards to engage in dairy farming e.g. Experience of Maramba Ward has attracted members of Mapatano, Daluni and Duga Wards. Their Councillors requested for the project to be introduced in their Wards. Palungu Ward has received 15 heifers, Mayomboni Ward 10 heifers, Duga Ward 25 heifers. They have established a milk collection cooperative society. The initiative has resulted into retention of youths in the villages. More youths are joining dairy cattle farming rather than migrating to urban areas. Some of them are spontaneously buying their own cows instead of waiting for heifer in trust credit scheme.

The WAWAPA Cooperative in Pangani has initiated milk in-trust credit scheme “kopa ng’ombe lipa maziwa” whereas 199 farmers benefited by getting heifer credit to be repaid through milk delivery. Repayment of heifer in trust through milk delivery is cheaper and takes shorter time.

7.0 STRATEGIES FOR SUSTAINABILITY

The initiative has experienced a number of challenges including high demand of heifers compared to supply, shortage of grazing land, shortage of improved bulls, prevalence of animal diseases, limited veterinary laboratory services, poor knowledge of artificial insemination for new members and low milk price. However, the Council, TDCU in collaboration with the farmers have set several strategies for sustainability as elaborated below:

Strengthening of cooperative societies: To sustain the initiative Regional Livestock Development Office played major role in the formation of Primary Dairy Cooperatives and TDCU. However, in order to guarantee the strength desired continuous advice on management of their cooperative societies in line with cooperative principles is made.

Councils, TDCU and Primary cooperative societies will continue to strengthen agriculture and livestock services through employment of more front line workers to provide extension services. Formal requests have been made to the PO-PSM for permits to employ sufficient number of livestock field officers. Also, there is continuous provision of training to Para Vets (community animal health workers in each group) on basic veterinary service, artificial insemination, dairy cattle husbandry and milk value addition skills.

Provisions of motorcycles to livestock extension officers to enable them reach all dairy farmers within time notice especially those requesting AI services is another strategy. Extension work requires dedication and should be a full-time occupation. Therefore, a proper incentive scheme is important, e.g. provision of protective gears, regular/timely promotion and regular and reliable means of transport.

Construction of Agricultural Resource Centres: These are important venue for conducting regular training of the recent production techniques at community level. Also the centres will serve for continuous product quality control through adherence to sanitation principles and milk testing, training farmers on ensuring quality in milk production, milk processing, animal feeds production, processing, and storage and preservation for later use.

Advocacy and networking: TDCU on behalf of dairy farmers will continue negotiating with Tanga Fresh Company on periodical raising milk prices so as to cover production costs and profit margin. TDCU will also continue negotiating with the Council, Sisal Estates, the Military bases on unutilized land so that more land can be allocated to dairy farmers. The dairy farmers will maintain the existing network which involves extension staffs, the farmers, donors and Tanga fresh company.

Infrastructure maintenance: Routine maintenance of infrastructure (feeder roads, water dams) to ensure easy transportation of milk to the processing plant and water supply. The dairy farmers will construct dip tanks and spray-race in order to control animal parasites and diseases.



A bridge maintained by dairy farmers

Heifer in trust credit scheme: Primary cooperative societies and dairy farmers' network will strengthen heifer in trust credit scheme (heifer repaid by heifer) "Kopa Ng'ombe -Lipa Ng'ombe" or heifer repaid by milk "Kopa Ng'ombe Lipa Maziwa" depending on famers' preference.

8.0 SECRET OF SUCESS

Innovative approaches were used to change the attitudes of former fishermen in Pangani DC, sisal labourers, redundant factory workers in Tanga CC and coconut famers in Mkinga DC into dairy entrepreneurs. It was a long process requiring patience and close follow-ups from early 1990s and tangible results are being realized in 2015. The success factors are discussed below.

Continuous Awareness creation and Farmers' readiness: Success of this initiative was basically contributed by effective facilitation by extension staff to transform famers into entrepreneurial endeavours. It took time before late adopters could learn and copy from early adopters. Slowly, farmers developed readiness, risk taking behaviour and commitment to engage into new venture of dairy farming.

Practical facilitation: Effective facilitation by Livestock Officers, Community Development Officers and Cooperative Officers was crucial in awareness creation, planning and implementation of dairy activities. In Pangani DC for instance, A Livestock Extension Officer personally had to keep two dairy cows under zero grazing system to demonstrate to community members that it is a feasible economic activity. He used this as farmer's field school where neighbours could come and observe the process and benefits. Through these experiences, farmers realized that if a government officer can keep one or two dairy cows under zero grazing and gain a series of benefits, then why not the farmers. Exchange visits, study tours and training of para-vets facilitated horizontal learning among dairy farmers. Adult learners tend to learn better when they see and do things practically from fellow farmers.

Strong dairy farmers' Organisational capabilities: Another factor of success is formation of cooperatives and adherence to cooperative principles such as democracy and transparency in decision making in MADAFCO, WAWAPA, MVIWAPA and TDCU which makes them effective in addressing members felt needs. Primary cooperative societies are providing livestock feeds, drugs, milk collection and storage facilities. Through the SACCOs, cooperatives are providing loans to members. This motivates farmers to engage in dairy production activities.

Multi-stakeholder approach: The overall achievement is the result of full cooperation among the stakeholders from grass root to higher level (dairy farmers, extension workers, primary cooperative societies, TDCU, UN-Habitat and Tanga Fresh Ltd). For example, Tanga CC in collaboration with the government of The Netherlands, Regional Commissioner's office, TDCU, Tanga Fresh Company and UN-Habitat facilitated the Organisation of youth groups, provided them with land and heifers in-trust credit and improved their infrastructure for dairy farming.

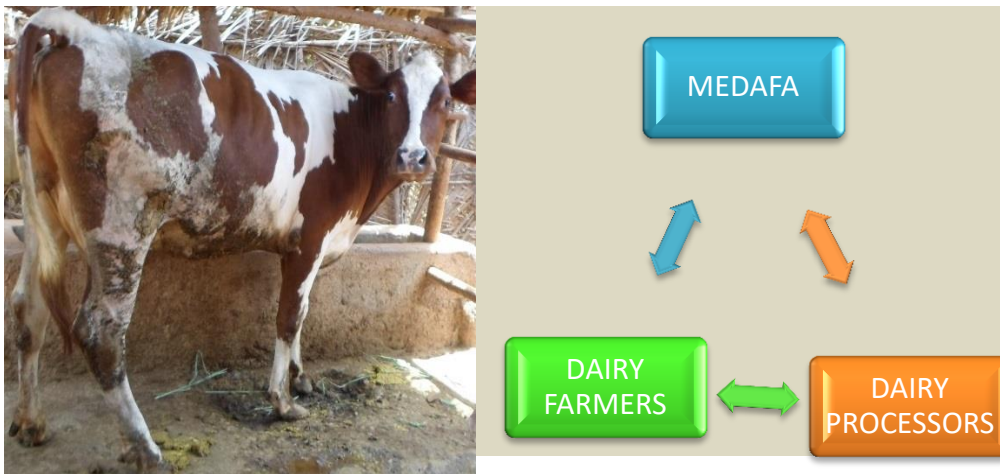
Assured market: Tanga Fresh Limited Company provides a guaranteed milk market for farmers and payments are effected in two instalments every month to keep the initiative functional. Co-ownership of the Tanga Fresh Limited Company through TDCU, owning 42% shares provide a check and balance mechanism between profit oriented private sector and public sector.

Institutional networking: The success of this initiative is partly attributed to good relationship and networking between livestock keepers, TDCU, Tanga Fresh, NAIC, Development partners and Councils. In this way, various stakeholders including Government of the Netherlands supported heifer in-trust scheme "*Kopa Ng'ombe Lipa Ng'ombe*". Through networking, farmers received professional and technical support required for improving the dairy cattle subsector.

MERU DISTRICT COUNCIL



EFFECTIVE ORGANISATION OF STAKEHOLDERS IN DAIRY VALUE CHAIN



A Trinity Model of Songoro Ward in Meru DC

1.0 INTRODUCTION

Meru DC is among the seven Councils of Arusha Region composed of three Divisions, 16 Wards, 71 Villages, nine Mitaa and a Township Authority (Usa – River). The Council covers a land area of 1,268Km². According to 2012 Census, the Council has 268,144 people. Geographically the Council is divided into three farming system zones namely: Highland zone, Middle land zone and Lowland zone. The highland and middle land zones favour dairy farming due to favourable weather and vegetation.

Before 1980 Meru DC was vibrant in coffee farming. After decline of coffee economy large horticultural farms emerged that bring in most of the money in the Council but small holder farmers resorted to dairy farming as alternative source of income. Traditionally, Meru DC residents practice mixed farming in which land requires farm yard manure for field crops and horticultural production while plant residues and grass serve as livestock feeds. The local farmers are accustomed to zero grazing system. Meru DC is one of giant dairy cattle keepers in the country housing a total of 83,000 dairy cattle and production of milk is about 2.7million litres per year. Apart from climate, presence of National Artificial Insemination Centre (NAIC) in Meru DC has been an added advantage to dairy farming since artificial insemination services are cheap and easily accessible.

2.0 PROBLEM

Before 1989, the Songoro Ward dairy cattle keepers in Meru DC experienced the following problems. After improvements in dairy husbandry, milk production increased beyond consumption of local community. Meru DC experienced lack of reliable milk market that also forced farmers to travel for long distances (more than 25km) to Usa River and Arusha town seeking for milk buyers. Low prices were offered by milk hawkers (about Tshs 180per litre) and sometimes farmers were not paid cash for their milk leading into unstable incomes. There was wastage of milk due to lack of cooling facilities within the Ward (particularly for milk produced during late evenings). Poor infrastructure particularly feeder roads hindered smooth transport of animal feeds and milk. Farmers were not organized into a structure that could guarantee a profitable dairy value chain. This was due to failure of the former Meru Cooperative Society to protect farmers' interests.

3.0 OBJECTIVES

The overall objective of this initiative in Meru DC was to create a strong dairy value chain and increase incomes of farmers in Songoro Ward. Specifically the initiative intended to:

- i. Organize farmers into a strong Dairy Producers Association.
- ii. Increase milk production through genetic improvement of existing stock using artificial insemination.
- iii. Add value by processing milk into various dairy products such as, butter, ghee, cultured milk, cheese, yoghurt etc.
- iv. Guarantee a reliable market of milk and milk products.
- v. Improve infrastructure for collecting, cooling, bulking and easy transportation of milk and milk products to end consumers.

4.0 IMPLEMENTATION STRATEGIES

Formation of Meru Dairy Farmers' Association: In 1998 Meru Dairy Farmers' Association (MEDAFA) was formed and registered with RG Number 9570. The aim of the association was to unite dairy farmers and protect their interest in dairy value chain. Organisations are crucial in enabling milk producers to benefit fully from dairy production and can contribute to poverty reduction through advocacy and economic empowerment. The activities of milk producer Organisations include milk marketing, milk collection,

milk processing, facilitating access to services (e.g., health, breeding, financial), and managing the provision of inputs (e.g., feed and credit). Producer Organisations are the key to success for small-scale dairy farming because they enable numerous benefits, such as improved access to urban markets for producers, the sharing of production risks and resources, and improved communication and knowledge sharing.

Purchase of land for construction of Milk Collection Centre: The dairy farmers through their association, purchased land and constructed a Milk Collection Centre. Construction work was financed by USAID through LAND O' LAKES.



MEDAFA milk collection centre

Installation of milk cooling tank: The absence of means for preserving milk is a key constraint to establishing or expanding a dairy operation. The association installed a milk cooling tank with capacity of 1,200 litres. Procurement of milk cooling tank was financed by LAND O' LAKES. Cooling facilities are expensive for small-scale producers in developing countries and can usually be afforded by only large-scale dairy enterprises. However, in areas with high concentrations of small-scale dairy operations, milk cooling Centres can represent a valid solution for cooperatives of small-scale producers.

Training of Extension Officers: Meru District Council in collaboration with MEDAFA organized training for Extension Officers on artificial insemination skills at National Artificial Insemination Centre (NAIC). Artificial insemination (AI) is one of the most effective tools available to cattle producers to improve productivity and profitability of their dairy farming business. The Council created a pool of well-trained AI technicians who could accurately undertake oestrus detection and insemination. AI technicians were supplied with adequate working facilities. Advantages of AI includes: acquisition of superior genetic merit, improving production traits in cattle operation and reducing the number of herd bulls needed in cattle operation.

Purchase of motorcycles for AI activities: Meru District Council in collaboration with MEDAFA purchased two motorcycles for Ward Extension Officers to facilitate Artificial Insemination services.



Livestock officer with motorbike and AI kit

Organizing study visits: The Council in collaboration with MEDAFA conducted study visits for farmers to NAIC to learn about AI technique, Tanga Region, Kenya (KCC), Tengeru-LITI and Nronga Women group in Kilimanjaro Region. These visits were intended to expose farmers and impart skills on improved dairy husbandry.

Improvement of feeder roads and procurement of power tiller: The Council in collaboration with MEDAFA made improvement of feeder roads (three kilometers) and a constructed a drift to facilitate transportation of milk. The major means of transport is motorcycle and power tiller to transport milk and animal feeds. Purchase of power tiller was co-financed by the MEDAFA and the Council. This enhances transportation of bulk milk from satellite collection Centres to processing point.



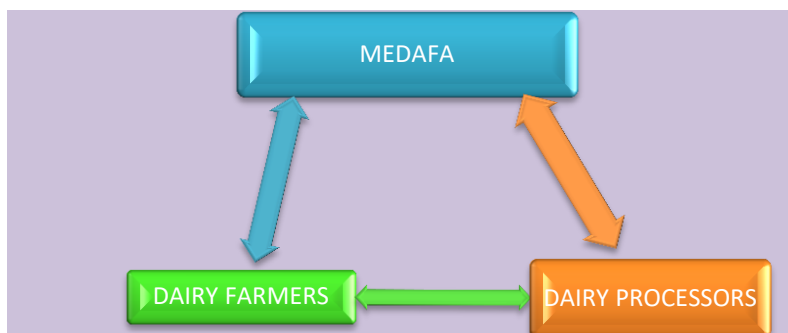
Improved feeder roads and power tiller

Construction of milk collection Centres and procurement of stand-by generator: Meru DC in collaboration with MEDAFA constructed two satellite milk collection Centres. They also secured a stand-by generator financed through DADPs.

Participation in national and international exhibitions: Every year, the Council facilitates farmers to participate in *NaneNane* exhibitions. Through exhibitions farmers are able to promote their dairy products. There are two small scale milk processors working and linking with MEDAFA. This partnerships stimulated milk production in the area. The two processors thrived under technical and financial support by CARMATEC which was promoting Bio gas by then. One of the processors, the “Mountain Green” prepared a project proposal for construction of a milk processing plant and presented the proposal at the Great Horn of Africa Round Table Initiative in 1989 which had the aim of “*eliminating famine through dairy value chain*”. Later, the processor was supported by USAID to establish a medium scale

processing plant. At this juncture, the importance of collaboration between the farmers, farmers' Organisation (MEDAFA) and the private processors was inevitable (Public Private Partnership -PPP).

This best practice has employed a vertical coordination (a tripartite model) comprised of three parties (Dairy farmers, MEDAFA and Processors) as indicated in the figure below. Each of the three players has a role to play efficiently in the dairy value chain.



Dairy farmers are members of MEDAFA. The role dairy farmers is to produce quality milk by adhering to improved dairy husbandry and are duty bound to sell milk to MEDAFA (at least 80%). The farmers are also obliged to buy goods and services from the MEDAFA (dairy inputs) and processors (milk processed product) in order to sustain the model. The role of MEDAFA as an association of dairy farmers is to coordinate milk production activities. MEDAFA is responsible for bulking and transport of milk to processors, to negotiate and control the prices, buffering of farmers against market risks, promptly payment to farmers twice a month and linking farmers with the processors. The role of processors is to process milk into dairy products according to market demand, market surveillance and marketing. Processors are also members of MEDAFA, hence they have stake to MEDAFA. Processor is also mandated to supply inputs such as (food supplements and veterinary drugs, biogas equipment) to farmers on credit basis. Farmers will pay for input purchases through milk sales. In these transactions, MEDAFA acts as a guarantor and all payments are made through MEDAFA. This unique model ensures vertical coordination of dairy value chain where every chain player has role to play and there is a room for expansion in pursue of economy of scale.

5.0 RESOURCES

The following are financial resources that were used to realize the initiative according to objectives of the Meru District Council and MEDAFA.

Table 1: Financial Resources Used in Songoro Ward

Activity	Amount of funds(Tshs)	Source of funds
Purchase of land for construction of milk collection Centres	4,500,000	MEDAFA
Purchase of equipment for collection Centres and processing plant	25,000,000	Land O' Lakes
Training, study visits, exhibitions, purchase of motorcycles, power tiller and feeder road construction	59,975,000	DADPs

The initiative also involved human resource, i.e. Ward and Village Extension staff and private veterinary doctors.

6.0 RESULTS

The average milk production has increased from 100 to 1,200 litres per day (collected by MEDAFA). Average productivity stands at five litres per cow per day. There is an increase in price of milk from Tshs 180 to 810 per litre at MEDAFA collection Centres. There is one milk collection Centre and two satellite Centres constructed within MEDAFA owned land. There are facilities to support collection and bulking i.e. cooling tank, power tiller and milk quality control equipment. The feeder roads have been improved and are passable throughout the year. Most of dairy farmers have installed and use biogas.

Mountain Green processing plant ensures reliable market for milk produced by farmers. The plant produces various milk products (cheese, butter, yogurt, cultured milk, whipping cream, ghee) sold in Meru DC, Arusha MC and other markets.



Various dairy products produced by Mountain Green processor

There is a well-designed strong dairy farmers association (MEDAFA) safeguarding the interests of farmers and linked to the processors. MEDAFA also provide guarantee to its members to secure microcredits for dairy farming purposes. Currently farmers are price makers and not price takers as it used to be in the past. Individual farmers are risk-free as they are buffered by both MEDAFA and the processor (price fluctuations at the market do not affect the farmer directly).

Farmer's incomes have increased to Tshs 120,000 per month (one cow owner), a minimum of 260,000 per month for two cows owner leading to improved living standards in terms of housing, purchasing power, ownership of transportation facilities and purchase of various services.



Good housing and transport facility

There is a direct and indirect employment in milk production, collection and processing. For example MEDAFA serves 42 members and 150 (non-member) farmers but all dairy farmers creates other

employment opportunities such as, dairy cow attendants, milk collection Centre attendants, milk transporters, processors at the factory and grass cutters and transporters.



Animal feed transporters

In Meru DC there are heifer dealers. These are spontaneous youth groups buying the surplus heifers from the dairy farmers and selling them to potential buyers at a profit. This is an important component of income generation, in-calf heifers are sold at TShs 1.2 million to TShs 1.5 million (2015 prices).

Finally, there is a unique tripartite relation between farmers, MEDAFA and the processors leading to efficient service delivery, motivation to producers and competitive Organisation in dairy value chain. This relationship has advantages in terms of managerial capacity, technical aspects, product marketing financial security and purchasing of inputs.

7.0 STRATEGIES FOR SUSTAINABILITY

The Council in collaboration with MEDAFA will continue with awareness building on benefits of Dairy Farmers Association and improved dairy husbandry. Extension services will be strengthened; feeder and major roads will be maintained. More efforts will be focused in solicitation of market for milk and milk products and sensitization of milk drinking in schools.

8.0 SECRETS OF SUCCESS

Dairy keeping Culture: Meru residents' have prominent culture of valuing dairy cattle. They practice interdependent mixed farming between dairy farming and crop farming. Also Meru people do observe a culture of supporting the poor households by providing them with a dairy cow on condition of keeping them, getting milk and farm yard manure. Through this practice, number of dairy cattle keepers as well as milk production has increased. Eventually poor families can afford buying their own dairy cows through selling milk and hence reduce household poverty in the area.

Trinity organisational model: The unique trinity model in Songoro Ward ensures efficiency in service delivery as each of the three parties specialises in a certain function. It provides a vertical coordination of the value chain, where producers are informed of market requirements and are assured of input and output market. Also farmers are protected from market shocks. Processors are assured of bulk milk supply and market for dairy inputs. MEDAFA as an organisation has won trust of processors, farmers and other stakeholders.

Loyalty to famers association: Members are loyal and committed to their Association. The trinity relationship between farmers, association and the processor has cultivated a mutual trust among the

three parties. Since famers and processors are members of MEDAFA, there is a “check and balance” mechanism.

There is a close supportive supervision by the Council experts. Presence of various stakeholders, NAIC, USAID, Land O’ Lakes, Research and Training Institutes, CARMATEC etc. to provide technical and financial support is another secret.

HAI DISTRICT COUNCIL



COMMUNITY-BASED DAIRY VALUE CHAIN



Experience of Nronga Women Group

1.0 INTRODUCTION

Hai DC is one of the seven councils of Kilimanjaro Region. It borders Arusha Region to the South-West, Siha DC to the West, Republic of Kenya to the North; Moshi DC and Rombo DC to the East. The Council covers an area of 1,011 Km². According to 2012 Census, the population of Hai DC is 210,533 people. Administratively the Council has three Divisions, 10 Wards, 55 Villages and 260 Vitongoji. The Council has three major ecological zones, the lower zone that ranges between 600 – 900 meters above sea level and receives rain of about 700mm per annum. The second zone lies between 900 – 1660 meters above sea level and receives rain between 750 – 1,250mm per annum. The third ecological zone lies above 1,700 meters above sea level and receives rain between 1,250 – 1,750mm per annum. About 46,590Ha (46%) are used for agriculture, 14,154Ha (14%) are covered by forest, while 13,143Ha (13%) is covered by rocks. About 27,297Ha (27%) are used for livestock keeping.

2.0 PROBLEM

The major part of Hai DC falls within coffee-banana-dairy cattle farming system. From 1960s up to 1970s farmers in Hai DC enjoyed good price of coffee while keeping indigenous cattle as a subsidiary enterprise. From 1970s there was a decline of coffee prices in the world market. In 1983, economic hardships were worsened by the world oil crisis which resulted into: Declining household incomes, farmers started neglecting coffee and in some cases uprooting of coffee trees since coffee was no longer a reliable cash crop. Women started to experience hardship as a result of declines in household incomes. The alternative activity was keeping of indigenous cattle (Zebu) characterized by low yields of milk. Zero grazing of local cattle was practiced mainly by women and the milk was for household consumption. In case of milk surplus, this was sold locally at very low prices as milk marketing opportunities were limited.

3.0 OBJECTIVE

A broader objective was creation of a dairy value chain. Specifically, Nronga women intended:

- i. To own and keep improved dairy breeds for increasing milk yields.
- ii. To adopt improved dairy husbandry.
- iii. To search and secure markets for fresh milk particularly in Moshi town.
- iv. To add value by processing milk into other dairy products.

4.0 IMPLEMENTATION STRATEGIES

From 1950s, Nronga women were organized into a social group under the auspices of the Lutheran Church christened "SAA" meaning "LIGHT". The group members engaged themselves in community development activities such as sewing, cooking, housekeeping etc. The economic crisis of 1980s was accompanied with shortage of household commodities. In response to economic crisis, Nronga women decided to start using surplus milk to process ghee and butter locally and sell to households during the Sunday's church auction. Later, this initiative was supported by UWT (*Umoja wa Wanawake Tanzania*) a women wing of the ruling party (CCM) which linked Nronga Women group with milk stakeholders.

Adoption of improved dairy breeds and Artificial Insemination: During late 1970s, Nronga community started keeping improved dairy breeds (Friesian, Ayrshire, Jersey, Guernsey, Mpwapwa breed, cross breeds) with expectation to increase yields of milk and ultimately increase household incomes. The improved breeds were brought from the Republic of Kenya, Mpwapwa Research Institute, West Kilimanjaro and through cross breeding programme. In addition, farmers adopted artificial insemination (AI) as alternative way of improving their dairy animals. These efforts resulted into high yields of milk hence the need for expanded markets and dairy processing technology.

Purchase of milk separators: In 1983, Nronga women contributed a total of Tshs 21,000 to purchase three milk separators (Tshs 7,000 each). Milk separators were necessary for milk processing. The processing of milk to produce ghee and butter created another product, the skimmed milk. Processing of ghee and butter did not promise to increase household incomes hence women opted to selling fresh milk in Moshi town. By volume, liquid milk is the most consumed dairy product throughout the developing world. Traditionally, demand is high for fresh milk in urban Centres and yoghurt in rural areas, but processed products are becoming increasingly important in many countries especially during the peak of tourism season.

Organized milk marketing group: Dairy cattle farmers in general were women who decided to organize themselves into production groups. In 1987, Nronga women organized themselves into a group of 6 members with an intention of collecting milk from farmers and sell at Moshi town. In 1988, the number of members increased to 75 women. This attracted support from FAO and DANIDA who donated a three ton truck for transporting milk early morning to Moshi. For the first day 200 litres of milk were collected, transported and sold at Moshi town. In 1990, Nronga women group purchased another 3 ton truck. The Presidential Trust Fund assisted the group to acquire the vehicle under duty free arrangements. At this end, many women were motivated to produce and sell milk to the group which resulted into more supply than the demand of milk in Moshi town.



*Why donation from FAO & DANIDA?
FAO and DANIDA felt sympathy for women who used to send children to sell milk across the river to other villages which was very risky business. In fact one day Nronga River had flooded and 3 children who were crossing after selling milk were swept and drowned. This catastrophic event prompted FAO and DANIDA to donate a 3 ton truck for collecting and transporting milk.*

A three ton truck donated by FAO & DANIDA

But why women not men?

.....When we started, our men could not appreciate at all that we could manage the dairy business. But after we received support of a three ton truck and later bought our own, they appreciated and said women are strong!.....

Hellen Ussiri the Nronga Women Group Manager.

Registration and re-organisation: In 1994, Nronga women group was officially registered as a Cooperative Society with registration number KLR 476. In 1996, a Cooperative Board was established (at present, there is a fourth board). The group has also formally employed staff working under a Cooperative Society Manager.

Decision to engage into milk value addition: Following an increase in dairy cattle resulting into increased milk production within Nronga Village and competition for market in Moshi town, the group categorically decided to stop selling fresh milk in Moshi town and start processing milk into other dairy

products (yoghurt, butter, ghee, cheese and skimmed milk). Processing of dairy products gives small-scale dairy producers higher cash incomes than selling raw milk and offers better opportunities to reach regional and urban markets. Milk processing can also help to deal with seasonal fluctuations in milk supply. The transformation of raw milk into processed milk and products can benefit entire communities by generating off-farm jobs in milk collection, transportation, processing and marketing.

Construction of cooperative office and milk processing factory: In 1991, the group secured loan from Presidential Trust Fund a total of Tshs 750,000. The money was used to build an office and a small factory within church land offered for free to the group (Nronga KKKT church). Within the office a room was set aside for milk processing activities.



Nronga women group office and factory

Training. All dairy farmers were trained on improved dairy husbandry in collaboration with Hai DC, Tengeru Livestock Training Institute and National Artificial Insemination Centre (NAIC). Training on dairy value addition was conducted to some group members who attended various value addition trainings supported by the Council, SIDO, ADF and Tengeru Livestock Training Institute between 1980s – 2000.

Technical support: In 1997, the African Development Fund (ADF) decided to support the group with one dairy processing expert for nine months. The aim was to capacitate Nronga Women Group to develop more skills in designing products and undertake necessary trainings. Later, Nronga women group decided to employ the expert on permanent terms.

School feeding programme: In 2001, Nronga women group started a school feeding programme involving three schools in Arusha DC and three schools in Hai DC. This was another initiative to capture a wider market. Milk is served to children twice a week under cost sharing arrangements between the parents (50%) and Nronga women group (50%). This encourages local milk consumption and improved nutrition.

Scaling up of group activities: Nronga Women Group has been a mentor to many successful dairy groups within and outside the country. However, the group did not expand significantly to tap the benefits of economies of scale. In 2012, having realized the limitations of the current organisation, size of milk processing plant, its low capacity and difficulties involved in transporting milk products, the group decided to plan for a new site and a wider production capacity. To implement this initiative, the government of Australia through Mr. Steve Pitch extended support for purchasing a larger scale milk processing plant with capacity to process 2,000 to 10,000liters a day. Hai DC offered a piece of land at BomaNg'ombe Township and the group constructed the building to install the new milk processing plant.



Nronga milk processing factory at Bomang'ombe

Establishment of a Savings and Credit Cooperative Society (SACCOs): This was established to serve members with microcredits for improving dairy keeping, payments of school fees, medical charges and improvement of housing. The group also allows members to organize themselves into Village Community Bank (VICOBA) for further credit services.

Market solicitation: After success in processing, the group solicited milk and milk products markets in Kilimanjaro Region, Arusha Region and Dar es Salaam Region. The marketing strategy involves direct selling in shops and supermarkets, selling through identified agents and through group shops within and outside Nronga Village. This strategy focuses on maximizing place and form utility.

5.0 RESOURCES

The group used various financial resources. Some are shown in the table below.

Table 1: Financial Resources by Nronga Women Group

Activity	Amount (Tshs)	Source of funding
Purchase of 3 milk separators	21,000	Nronga women group
Purchase of 3ton canter	9,200,000	Nronga women group
Building of office and processing plant	750,000	Loan from PTF
Training of women group members	-	SIDO, ADF and Tengeru Livestock Training Institute.
Construction of a new building for processing plant	-	Nronga women group/Hai District Council
Purchase of a large scale processing plant	-	Government of Australia

6.0 RESULTS

Increased Group membership: Group membership has increased from 75 in 1994 to 462 in 2015. The capital of the cooperative has expanded significantly through increased membership. The group is autonomous in terms of leadership, transport, office and this is the essence of local autonomy. This is a women initiative, driven by women hence it has resulted into women empowerment. The group has created permanent jobs for women through dairy keeping, 12 direct employment opportunities and thousands of indirect jobs in terms of cattle attendants, grass cutters, and dairy feed processors and distributors etc.

Improved Livelihoods: Livelihoods of the members and Nronga community at large have drastically improved, i.e. they have constructed modern houses and improved nutrition. All group members own modern houses, are supplied with electricity, piped water and have improved toilet facilities.



Modern houses for Nronga Women Group members

Adoption of Bio-gas Technology: Dairy farmers have installed bio-gas plants and are enjoying low cost lighting and kitchen fuel. By the time of publication of this best practice, 42 members had installed biogas plants in their premises. The photos below show one of group members feeding the biogas-plant and her kitchen-stove fuelled by bio-gas that is generated using cattle wastes.



Dairy shade linked to biogas plant that supply energy to the kitchen

Adoption of improved dairy package: So far, all group members are keeping improved dairy breeds which are high yielding, have constructed modern shades, have adopted better feeding regime and are using veterinary services.



Modern shades and improved cattle breed

Increased Household income: Average household income ranges from Tshs 200 000 to 400,000 per month. Due to increased incomes and improved nutrition, all children in the village are attending primary schools, and all of standard seven leavers attend secondary schools. About 85% of form four leavers go to high schools and about 40% of high school students attain higher learning education.

Improved community services: Five group members have managed to buy their own transport (vehicles) while more of them own motorcycle which is very flexible means of transport. Due to improved incomes, Nronga Community has managed to contribute funds to upgrade a 10 km feeder road to gravel level at a cost Tshs.123 million.



A feeder road upgraded by Nronga women group own efforts

Nronga Women Group as a Learning Forum: Nronga women group has grown to a strong cooperative society of its type popularly known within and outside the country, providing a learning forum for other groups and cooperatives including a well-functioning SACCOS and VICOBA. The group has a well-established network with PTF, Techno serve, TDA, TBS, TFDA, Land O-Lakes, milk processors in Nairobi, SUA, and group members are highly exposed through various agricultural exhibitions.

Diversity of dairy products: The group has increased number of products from one to four i.e. fresh milk, yoghurt, butter and cheese.



Dairy products produced by Nronga Women Group Cooperative Society

Improved social relation: As result of rising women status, raised income, social relations, the bond between wives and husbands has improved significantly.

7.0 STRATEGIES FOR SUSTAINABILITY

The major challenge ahead of this group is that expansion of group has been limited to Nronga Community. All activities in the dairy value chain (input supply, milk production, bulking, processing, transport, whole sales, and retail sales) are done by the same entity, Nronga Women Group (horizontal coordination). In response to this challenge, the group is on the process of amalgamation, to link with other 16 women groups in Hai DC under one strong umbrella in order to strengthen the dairy business. There are continued efforts to search for markets of milk products. In addition, there are efforts to

foster collaboration with research institutes for improving quality of the milk products. The group plans to establish a centre for selling veterinary drugs and feeds for farmers.

8.0 SECRETS OF SUCESES

The secret behind success of this group to great extent is from moral and physical support from the faith based organisation (FBO) namely Lutheran Church, Nronga Parish. The Church provided the land space for constructing the office and milk processing factory. Apart from moral support, another secret of success is observed in the strong commitment of women and readiness to adopt improved dairy technology. Women in Hai DC are renowned for their prudence and entrepreneurial attitude. Moreover Nronga women embraced transparent and democratic decision making process.



Nronga Women Group Manager in one of decision making meetings

Nronga women group has strong desire and strive for collective development among group members. In addition they have cultivated strong information seeking culture among group members. They seek information from dairy stakeholders such as NAIC, SUA, Tengeru LITI etc. Also they have cultivated strong culture of sharing information, skills, experience and educating others. This aspect has been a key to their success and it was the window for inviting external supports. Above all, there is self-help tradition which is strongly developed in the community over time.

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