



**VAN HALL
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PART OF WAGENINGEN UR

THE WAY FOWARD TO SUSTAINABLE URBAN AGRICULTURAL PROJECTS

A Case of Urban Vegetable Promotion Project (UVPP) in Dar-es-Salaam-Tanzania



A Research Project submitted to Larenstein University of Applied Sciences in
Partial Fulfilment of the Requirements for the Degree of Master of Development,
Specialization Training, Rural Extension and Transformation

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DEDICATION

To my mother Lillian, Sister Veronica and my children Andrew and Lillian for their patience and perseverance during my stay away from home and while I was at home as I didn't spend much time with them. They missed me, but I believe that by Grace of God they will be delighted to share with me the joy of this academic achievement.

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ABBREVIATIONS

AIDA	American Indian Development Associates
ASDP	Agriculture Sector Development Project
ASMP	Agricultural Sector Management Project
BMZ	Ministry of Economic and Cooperation
CBO	Community Based Organisations
CDSW	Community Development and Social Welfare
CEO	Chief Executive Officer
CFGP	Cape Flats Greening Programme
DEO	District Extension Officer
DSM	Dar es Salaam
GDP	Gross Domestic Product
GTZ	German Technical Cooperation
IFAD	International Fund for Agriculture Development
IFPRI	International Food Policy Research Institute
IMC	Ilala Municipal Council
IPM	Integrated Pest Management
LFO	Livestock Field Officer
LGA	Local Government Authority
MAFC	Ministry of Agriculture, Food security and Cooperatives
MAFS	Ministry of agriculture and Food Security
MALDO	Municipal Agriculture and Livestock Officer
MLDF	Ministry of Livestock Development and Fisheries
NAEP II	National Agriculture Extension Project II
NARLEP	National Agricultural and Livestock Extension Rehabilitation Project
NGO	Non-Government Organisation
PADEP	Participatory Agriculture Development and Empowerment Project
RUAF	Resource centre on Urban Agriculture and Food security
SDP	Sustainable Dar es Salaam Project
SMS	Subject Matter Specialist

SUA	Sokoine University of Agriculture
TARP II	Second agricultural research project
TAZARA	Tanzania Zambia Railway Authority
UA	Urban Agriculture
UAP	Urban Agriculture Programme
UDSM	University of Dar es Salaam
UNDP	United Nations Development Programme
URT	United Republic of Tanzania
UVPP	Urban Vegetable Promotion Project
WEO	Ward Executive Officer
WB	World Bank

ABSTRACT

Although rural agriculture is considered to be the backbone of the Tanzanian economy and recognised by the decision makers on all levels its urban sister (urban agriculture) has more the “Cinderella” syndrome attached: held in low esteem, little support and considered an activity done in the wrong place at the wrong time. Despite a large part of the population being engaged in urban agriculture activities the official recognition of its contribution to the society is still in an infant stage.

The case of Urban Vegetable Promotion Project (UVPP) reflects this reality. UVPP aimed to assist urban farmers to improve food security or income of the household through improved production. However, after its completion UVPP under IMC became unsustainable. Using a case study methodology this research study was conducted to explore factors that contributed to the failure of Urban Vegetable Promotion Project (UVPP) in Ilala district-Dares Salaam, Tanzania. Empirical data was collected through interviews and focus group discussion with the UVPP former staffs, IMC staffs, and four groups of farmers from four different wards of Ilala District in Dares Salaam and various documents including UVPP reports. The data analyzed qualitatively. Analytic techniques used were through tabulation of the data and examining of the variable relationships.

This study found that, improper land planning, poor sources of water for urban agriculture activities, unused policies, inefficient extension services, poor planning of government project (design), weak organisational and management capacity, un-effective monitoring and evaluation procedure and lack of cooperation between various stakeholders are the major factors that contributed to un-sustainability of UVPP under IMC.

In order to enhance the implementation of upcoming urban agricultural projects in the city and to ensure sustainability of future projects, this research study recommends a concrete follow-up in the environmental needs assessment procedure by the government through involving participants from all essential stakeholders including a government official as a primary decision maker; changes on structure, mission, mode of operation and management of the institutions for the better sustainable development projects; continuously monitoring of safe water utilization for irrigation; formulate a concrete follow-up mechanism to check bylaws and punishment of people responsible for water pollution. Further research studies on water pollution and the possibility to recycle water sources for future use without affecting soil and vegetables are required. Finally, this is a call for all stakeholders involved in urban agriculture to work collaboratively to ensure that farmers understand policies, and are being assisted in whatever way possible to reach their goals. Urban agriculture is for real.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Agricultural production in urban areas of developing countries has become a common feature in the past decades. Thousands of urban people from various strata of the population have taken up food production as an important strategy to cope with household demands. It is estimated that roughly 800 million people are engaged in urban agriculture world-wide (Jacobi et al, 1999). In Dar es Salaam both private and public land, residential plots and industrial or institutional areas are under cultivation (Jacobi et al., 2001).

Urban agriculture is a direct response to social conditions, for instance, economic backwardness, poverty, massive growth of slum settlement, commonly observed in the urban areas in developing countries of the world, among which are East African countries. This response has culminated into enhanced involvement of the local populace to actively engage themselves in agricultural activities including horticulture, floriculture, forest, and aquaculture and livestock production in open areas available in towns and cities. Thus urban agriculture has become an important part of the informal sector and a strategy for survival of the unemployed, the low wage earners, and women without sufficient skills to secure well paid jobs in these countries. In this way urban farmers and their families in the cities amongst which, is Dar es Salaam, have been able to obtain income and food security.

Vegetable production is the most prominent agricultural activity in Dar es Salaam due to high demand for leafy vegetables especially for African spinach (*Amaranthus* spp.) which is used traditionally with the staple food. This type of vegetable can be grown almost ten months a year. Other types of vegetables grown are cowpea leaves, sweet potato leaves, cassava and pumpkin leaves, as well as Chinese cabbage. These vegetables have the advantage that they can be picked continuously, thus providing an ongoing supply for the family diet. This makes them an ideal choice for home gardening. Other vegetables like eggplant, okra, sweet and hot pepper, tomato as well as fruits like oranges, mangoes, banana, papaya and pineapple are produced in the peri-urban areas. Besides being an economic venture, vegetable farming is also important in contributing to the improvement of the urban microclimate, beautification of the city (urban greening) and prevention of illegal dump-sites and squatting, and in addition it offers a new potential for recycling of urban wastes through composting. Compost so produced can also be used to improve the fertility of soil for vegetable farming resulting in high crop yield. However, the quantity of vegetables produced in agriculture in these urbanised areas is still low because of various reasons including lack or insufficient agriculture extension services and insufficient capacity to buy and use agricultural inputs.

In Tanzania, efforts have been made to integrate urban agriculture into the urban land use system. Consequently in the city of Dar es Salaam, the government of Tanzania through the Ministry of Agriculture and Food Security (MAFS) with the support from the German Technical Cooperation (GTZ) financed by the Ministry of Economic and Cooperation (BMZ) initiated an Urban Vegetable Promotion Project (UVPP). The project aim was to improve vegetable production and/or raise income of the urban households in Dar es Salaam. There are number of indicators which prove success of UVPP. Increased number of household engaged in vegetable production, increased in farmers' income and increase of quantity in vegetable production and selling of the surplus was indicated by different authors. Another reported indicator was the increase of area for vegetable production and reduced incidence of pest and diseases. The UVPP shows success in its operations as they managed to train 90 extension workers as on-job training Rimoy F. & Amend J. (2001). Also training on compost making, about 100 farmer groups and 12 groups of garbage collectors were

trained, Mwaisango (2001). Other UVPP activities was farming system research as their first activity from 1993 -1995, awareness creation on the roles and potential of urban agriculture and lobbying on political level, direct advice to farmer's groups in technical aspects and capacity building/group strengthening/self organisation and finally linking with other actors to channel services to farmers. All of these activities was arranged by UVPP headquarter and financed by BMZ. The training like extension approach and group approach was organised and conducted by UVPP professional staffs and other borrowed facilitators in the required competence. The two weeks course on the technical topics on vegetable production was organised by UVPP and conducted at Horticulture Institute in Tengeru Arusha. The course was done in 4 cycles and last in nine months Rimoy F. & Amend J. (2001).

Various studies have shown that the UVPP was a successful. Dongus (2001) wrote that the land area under urban agriculture was increased from 518 to 641 ha between 1992 and 1999. On the other hand, Jacobi (1998) estimated an increase in cultivated area from 400 to 500 ha of open spaces in Dar es Salaam. Moreover Jacobi reported on the increasing income under UVPP as it was projected that 500 m² of intensive African spinach (*Amaranthus* spp) production was comparable to a basic government salary (about US\$ 60 or 45,000) Tanzanian shillings per month (Jacobi, 1996). The other study by Dongus (2000), point out that approximately 4000 farmers are engaged in full time vegetable production. On the other hand, Jacobi (1997) was estimated on the increase of vegetable produce around 50,000 – 60,000 tons of leafy vegetables per year in urban areas.

The project was handed over to the Ilala Municipal Council (IMC) in 2002 after the GTZ funding ceased. During their handing over IMC was supposed to continue with group formation/strengthening, farmers' advice on technical aspects of vegetable production in compost making, plant protection techniques, and linking farmers groups with other actors and creating awareness on importance of urban agriculture to other actors. But unfortunately, after handing over most of the operations stopped as it will be indicated in the result chapter. In another words it seems the project proved to be unsustainable.

1.2 Justification of the study

UVPP was aimed to assist urban farmers to improve food security and incomes of the households in the city of Dar es Salaam through improved vegetable production. Like any development project, the success of UVPP should have been based on the planned activities which had to be carried out using a defined budget, human resources and other inputs. In addition, the project progress had to be progressively measured through defined project indicators.

The UVPP under IMC was different as the number of operations which was supposed to be taken over by IMC stopped. This is further shown by the IMC annual reports under Agriculture and Livestock section that, there is reduced number of UVPP operations and existence of its benefits is lacking in urban areas, (Annual agriculture and livestock report, 2006). Therefore, it was important to carry out research to identify reasons which have caused the un-sustainability of the urban vegetable promotion project (UVPP).

1.3 Problem statement

Although the importance of urban agriculture in Dar es Salaam was realised, still the project dealing with urban vegetable promotion in the city experienced failure after its completion and handing over to IMC. Although, during handing over agreement, UVPP and IMC agreed on taking over the project activities in the urban areas but the experience show that most of the activities were stopped. All of the working instruments such as computers and cars were

not in proper working condition. Also the agreements made during handing over could not be honoured.

This is why the need arose to find out reasons which led to a failure of UVPP. It is on basis of the differences in outcomes of the UVPP before handed over to IMC and UVPP under IMC that researcher aimed to explore the factors that led to failure of UVPP.

1.4 Research objective

The aim of this research was to examine the causes of un-sustainability of Urban Vegetable Promotion Project (UVPP) in IMC and give recommendations to the IMC and the Government for enhancing sustainability of future agricultural projects in Ilala, Dar es Salaam, Tanzania.

1.5 Research questions

1.5.1 Main research question

What are the causes of failure of Urban Vegetable Promotion Project (UVPP) after project lifetime in Ilala district-Dar es Salaam, Tanzania?

Sub questions for UVPP 1993 – 2001

1. What were the main characteristics UVPP?
2. What were the UVPP activities and what was achieved?
3. What was done by UVPP and other stakeholder to ensure its sustainability?

Sub questions for IMC 2002 – 2010

4. What were the main characteristics of the IMC?
5. What were the UVPP activities under IMC and which of these are still operational? What was achieved?
6. What challenges did IMC face in implementing UVPP activities?
7. What was done by IMC and other stakeholder to ensure sustainability of UVPP and what was realised?

CHAPTER TWO: LITERATURE REVIEW

This chapter describes the general concepts of agricultural projects in Tanzania, factors that influencing their success and reasons for failure of such projects. Also included is the description of urban agriculture in a broader sense in the way it has been used in this research, some aspects of urban agriculture in East Africa and South Africa, particularly its operations, benefits, and possible causes of un-sustainability are also described. In addition, the description of concepts in project sustainability and indicators used to measure project sustainability.

2.1 Agricultural projects in Tanzania

Agriculture is a major occupation for most developing countries including Tanzania. The sector employs directly about 80% of Tanzanians, the majority of which live in rural areas. Generally, the majority of Tanzanians depend directly or indirectly on agriculture for their livelihoods. Mostly important is that, the agricultural sector accounts for over 40% of GDP in the country. However, agriculture in Tanzania is still underdeveloped because most people are still engaged in subsistence farming. The dependency on subsistence farming, explains why 50% of Tanzanians earn an income of less than one US dollar per day (Leeuwis 2004; (URT/WB, 2002) and hence live in poverty. The widespread poverty, has forced urban and peri-urban populations to depend on agriculture for their livelihoods. However, agricultural production in these urbanised areas is still low because of various reasons including lack or insufficient agricultural extension services and insufficient capacity to buy and use agricultural inputs.

For the government to tackle the problem of low production in agriculture, interventions have been made using different approaches in different agricultural projects. The agricultural projects initiated are funded by World Bank and International agencies through credits and basket funding. These projects are monitored by the Ministry of Agriculture, Food Security and Cooperatives (MAFC) together with Ministry of Livestock Development and Fisheries (MLDF) and implemented through liaison organisations under Local Government Authority for the aim of increasing food production and poverty alleviation. Up to this time, many projects have already been implemented and others are still in progress. Some of the projects which have already been phased out are National Agricultural and Livestock Extension Rehabilitation Project (NALERP) 1989-1999, National Agricultural Extension Project II (NAEP II) 1996-2003, Second Agricultural Research Project II (TARP II) 1998-2004, Agricultural Sector Management Project (ASMP) 1993-2001, (World Bank, 2007) and Urban Vegetable Promotion Production (UVPP) 1992-1999. In all of these projects sustainability has remained to be the biggest concern in the agricultural sector interventions. Other ongoing projects are Participatory Agricultural Development and Empowerment Project (PADEP) 2003 and Agricultural Sector Development Project (ASDP) 2006. According to the ASDP report, PADEP is expected to generate the following benefits, higher farm productivity and incomes, greater farmer voice in decision making and more cost effective public expenditure. Also the programme will provide participating communities with new skills and technologies that best respond to local obstacles and opportunities for growth in agricultural productivity. Nevertheless, there is a high possibility that the programme may be affected by external risks which can lead to un-sustainability of the project at the end. These risks include; government commitment to the sector reform policies, unsupportive legal frame work, weak Local Government Authority (LGA) accountability mechanisms, poor technical capacity of LGAs, poor incentive packages and non-conducive working environment for extension workers, and malnutrition and food insecurity in substantial number of households. Although the risks are external but they affect most LGAs which are the implementing organisations. This may lead the PADEP outcome to appear questionable.

2.1.1 Factors influencing success of agricultural projects in Tanzania

In the study which was carried by World Bank (2007 pp 1-3) in Tanzania, factors that influence success of agricultural projects in Tanzania were outlined as follows;

- **Natural factors:** These include climatic conditions such as rainfall availability and temperature as most of the farmers depend on rain for crop production and favourable temperature for crop production. Due to variable rains there may be as many as a million families who barely meet basic food requirements due to failure of getting good crop yield when rains are scarce. Thus, the success of many agricultural projects has to depend on reliable rainfall.
- **Land accessibility:** In Tanzania the total land area is about 95 million hectares with about 44 million arable land and 50 million as range land. The land used for crop production is about 9.5 million hectares which is about 22% of the arable land. According to this data, there are large areas of spare land for use in agriculture but accessibility is poor. Increasing land utilisation for agricultural activities could be useful for projects which are aimed at increasing crop production.
- **Access to credit:** Wide usage and accessibility of credits to farmers can enhance the success of agricultural projects. This could be achieved through increased farmers' ability to purchase farm implements thus reducing farm work load and at the same time enhance productivity.
- **Access to market:** Access to market of farm produce is another factor which contributes to success of agricultural projects. Farmers' accessibility to markets will increase income through crop sales thus motivating them to produce more crops, hence make the projects successful.
- **Land tenure:** The majority of subsistence farmers hold land under the "deemed" right of occupancy and operate within a customary tenure system. This system was criticized in that it gives insufficient land security. A number of studies have suggested that, the system is secure enough as an incentive for investment and can be held in perpetuity. For this reason, it will enhance project success because farmers will be assured of land occupancy for utilisation in agricultural activities.

2.1.2 Factors influencing un-sustainability of agriculture projects

In a study carried out by the International Fund for Agricultural Development (IFAD, 2005), when evaluating its funded projects, the following factors that can influence un-sustainability of agricultural projects were established;

- **Design elements:** In their study they found that, the objectives set for the project appear to have been over-ambitious. This resulted on overlooking of some of the constraints to the project. For example the assumptions that land would be available for small scale farmers proved to be misplaced. This may be due to the fact that appropriate authorities on land utilization were not effectively consulted. Or there was only limited consultation with targeted beneficiaries during design stage. This led to delays or failure of some project activities.
- **Institutional Capabilities:** There are other cases where by the project was not based on realistic assessment of the capacity of the institutions involved in implementation. The organisations may have carried out adequate planning but neither have technical skills nor the political and administrative support required to implement the project effectively. Therefore it would appear that the rationale of placing of such projects in particular organizations are not valid.
- **Imposition of technical solutions:** There is a tendency that several technical activities carried out under particular projects fail because of not being tested at a pilot scale or for not being based on proven agricultural techniques. The farmers own techniques can work better most of the time than those imposed by outsiders. Any

need for the new technical solutions should be tested under local conditions prior to being adapting to the beneficiaries, in this case farmers, for application.

- **Monitoring and Evaluation:** Ineffective M&E system to assess changes in social-economic indicators at the level of beneficiaries may lead to failure of project sustainability. Data on project performance should be available at any needed time. Inaccessibility to the data will lead to inefficiency in project management, complexity of approach or poor identification of criteria to be monitored in assessing project impact. In addition, M & E processes are highly dependent on the institutional set-up of a project. In case of any reformulation in the institutional arrangement consideration should be made in the arrangement of the project in place.
- **Reformulation:** In case the project was subjected to a fast changing social and economic situation of its targeted group, it requires a rapid change from project management that was built into the project from the start. The project reformulation which rely too much on the capacity and willingness of the government authorities to cooperate and subsequent restructuring of the government services should be followed by an adjustment in the appraisal and monitoring arrangements. In most cases, improved disbursement records after project reformulation have led to the belief that the particular project is performing satisfactorily even though there is no verification that project funds targeted towards the intended group were economically used to support the viable projects.

Other factors that can contribute to the agricultural project un-sustainability in particular at small scale farming in the poor rural areas as indicated by International Food Policy Research Institute (IFPRI) 2009 include;

- The absence of markets caused by low purchasing power in the domestic market and poor access to global markets.
- Production and sales cycles that are long by the standards of other small businesses (exacerbated by climate, pest, prices and transaction risks, leading to significant seasonality in cash flow, food availability, prices, and risks) thus affecting whole communities and their economies.
- Insufficient allocation of labour time to their own land during labour peaks for some farmers because of poverty, forgoing valuable increases in their harvest, as shortage of food drive them to work for others.
- Technical choices that involve discontinuations, switches between technologies and crops, with threshold prices and level of performance in certain activities that are not profitable or viable.
- Need for seasonal financing of farmers' input purchases, raising issues of how such purchases can be financed and how the risks of such finance to poor farmers can be mitigated.
- Use of significant share of outputs for subsistence, generating welfare but not cash, so that sales of outputs often fail to fully cover purchased inputs and labour costs.
- Land tenure arrangements that affect farmers' ability to borrow, expand, or exit because land market transactions also influence incentives for land improvement.

2.2 Different concepts of urban agriculture

The Resource centre on Urban Agriculture and Food security (RUAF), defines urban agriculture as the growing of plants and the raising of animals within and around cities (RUAF, 2010). RUAF (2010) distinguishes Urban Agriculture from rural agriculture, in that UA is integrated into the urban economic and ecological system. It is an integral part of the urban system. It is explained by RUAF (2010) that, urban agriculture is embedded in – and interacts with the urban ecosystem in many ways. Such linkages include the use of urban resources, for instance organic waste as compost and urban waste water for irrigation. Being

part of the food system, urban agriculture is directly linked with urban consumers and has direct impact on urban ecology. Urban agriculture also competes for land with other urban functions and in many ways being influenced by urban policies and plans. The RUAF (2010) study further explains that the existence of urban agriculture is not a relic of the past which is expected to fade away (urban agriculture increases as the city grows); nor is brought to the city by rural immigrants who are expected to lose their rural habits over time

Another definition from a working group on UA of the Sustainable Dar Es Salaam Project (SDP), defines Urban agriculture as the process of carrying out farming activities in the built up areas where open space is available, as well as keeping animals/livestock (dairy cattle, goats, pig, sheep, and fowl) in the built up areas and in the peri-urban areas (UA, 2001). The concern on this definition is that, there are other activities which can be practiced as urban agriculture without considering space, for example growing flowers in a container inside a house in the urban areas is an activity of urban agriculture.

According to United Nations Development Programme (UNDP), urban agriculture is an activity that produces, processes, and markets food and other products, on land and water in urban and peri-urban areas, applying intensive production methods, and (re)using natural resources and urban wastes, to yield a diversity of crops and livestock (UNDP 1996). The contention in this case is that, even the farmers that are only producing in urban areas without processing are practising urban agriculture.

Based on these definitions, in this study the definition from RUAF is used as it implies the growing of plants and raising of animals which can practiced anywhere around the cities even inside the house for own consumption and/or marketing.

2.2.1 Urban agriculture in East and Southern Africa

It is well documented that, as the world becomes increasingly urbanized, the pressures of rapid urbanisation are undermining rural resource bases (Sawio, 1993). Although the global rural population may stabilize between 2020 and 2025 (UNDP, 1991), the majority of the world's poor will still be living in cities (Sawio, 1993). Several problems intensify as a result of feeding these people, and maintaining liveable environments is a challenge of immense proportions to governments, researchers, planners, decision makers and funding agents all over the world. However, recent researches have shown that urban agriculture is being perceived as a potential partial solution to this problem (Sawio, 1993).

Urban agricultural studies show that, urban agriculture is becoming almost a permanent future (Sanyal 1984, 1986; Smith and Nasr 1992). It is innovative response of urban dwellers to the deteriorating national political economy and it has been fostered by the availability of unused open space (Mosha 1991; Maxwell and Zziwa 1992) and it makes use of resources in urban ecosystem which would otherwise go to waste (Sawio, 1993).

Field studies of urban agriculture are relatively few in number, yet available studies in Eastern and Southern Africa give the picture of its wide spread practice (Sawio, 1993). Current research show that urban farming in the eastern and Southern African regions is not new; it began many years ago (Winters 1983; O'Connor, 1983; Sanyal, 1984, 1986; Rakodi 1987; Freeman 1991; Maxwell and Zziwa 1992; Rogerson, 1993). There also exist several studies which have been done in Eastern and Southern Africa in the late 1980s indicating expansion of urban farming in this area.

In Kenya, the study which was conducted by Mazingira Institute in 1985, show that, 62% of the households surveyed grew part of their food, 29% grew it in the urban areas where they

lived, and 17% kept livestock within the city (Lee-Smith et al., 1987). According to Lee-Smith, et al. (1987), the poorer households used land which they never owned and which they farmed as squatters. In his studies, Freeman, (1991) developed a typology which resembles the open spaces from other African countries, based on the type of land use and the location of the plots. The location types of sample plots are; backyard farmers who use private residential land, riverside farmers who use land on river flood plains, roadside farmers and squatter farmers who use public land e.g. railways and parklands. According to Freeman the main constraints facing urban farmers in Kenya are environmental; that is, natural disaster such as; drought, land degradation (particularly soil erosion) and flooding, as well as crop loss due to pests.

In Uganda according to Mwesigwa, the urban farming is one of the major four urban informal sector activities. But analysis of the sector is lacking, this is attributed to cultural and economic causes and to lack of enforcement of zoning regulations and municipal by-laws when participating in urban agriculture in Kampala. The study by Maxwell and Zziwa (1992), show that urban agriculture in Kampala is undertaken by different strata of high income earners, middle income and bulk of them is low-income people. Also more studies in Kampala have revealed that urban farming tend to be a livelihood strategy of the urban poor to supplement their inadequate incomes by producing food on any available land (Maxwell and Zziwa, 1992). The researchers concluded that there was little use of urban waste, which was still a major problem in towns and cities.

In Tanzania, a survey conducted in Dar es Salaam Buguruni and Manzese wards show that 40% of people in the formal employment practice urban farming Tripp, (1990). Other studies conducted by researchers from Sokoine University of Agriculture (SUA), Morogoro, prove that urban agriculture constitute economic enterprises with lucrative returns (Sawio, 1993). The researchers observed that urban agriculture is not sustainable due to the way it practiced, especially livestock raising which seems to conflict with several other land uses especially housing and as a threat in spreading health hazards because of accumulated wastes. They concluded that urban agriculture should be encouraged and planned for. More studies by Sawio, (1993), show that in Tanzania major challenges to urban agriculture and its future in Dar es Salaam as a viable, efficient long-term source of food and wealth is the problem of land tenure which is uncertain in planned areas and inhibited by city regulations. He concluded that for urban agriculture to prosper and for urbanite to enjoy the acclaimed benefits, the city government and planners need to demonstrate the will to include urban agriculture as an integral part of the built-up environment.

Urban agriculture in South Africa is not a phenomenon of recent origin, Rogerson, (1993). Beavon and Elder (1991), document the wide spread practice of maintaining cattle and of associated backyards dairies in Johannesburg during the 1st two decades of the twentieth century. In addition, the practice of subsistence food production in home gardens is clearly apparent in many of the informal settlements that have burgeoned in and around the country over the past two decades, Rogerson, (1993). In South Africa, especially in Msinduzi Municipality of Kwazulu-Natal, urban agriculture practices are popular. People use small pieces of land to produce crops, in municipality- owned camp grounds, open or wastelands in their vicinity (RUAF 2010). Urban agriculture in Msinduzi has been encouraged by some councillors by providing tools and seeds. This is supported by policies based on the realisation that sustainable urban agriculture can contribute to a reduction of environmental pollution.

Up to now South Africa as the most developed country in Africa have conducted a good amount of research studies on urban agriculture and have various urban agriculture projects going on in the country. For instance, Aballimi organisation runs the following programmes: the Urban Agriculture Programme (UAP) and the Cape Flats Greening Programme (CFGP),

(Small 2005). The UAP and CFGP currently support 200 community agriculture and environmental projects.

2.2.2 Success of various urban agriculture projects

Urban agriculture sector is still worth today as it has a lot of advantages to the community and it is for the same reasons that the benefits to be accrued need to be long-term and sustainable. The benefits which have been and continued to be expected from the urban agriculture projects are as follows;

- **Relative nutritional security at household level:** It was indicated that, most of the urban agriculture producers are producing for the households' nutrition security and health.
- **Income from sales of surplus vegetables:** It has been reported that, in South Africa, community gardeners (who are mostly at early-mid subsistence level) have been known to save between R1000-R20000 per year in their bank accounts (Small, 2005). Small, 2005 documented different uses of the savings. Mostly, individual savings are spent on items like fuel, school fees, transport etc. Group savings are kept until year-end and distributed among the members as a sort of "Christmas Bonus" (Small, 2005). In addition there is a trend of the community garden associations in South Africa to use the group savings for setting up internal micro-loan schemes to members or for bulk buying of inputs or equipment. This is an example of a collaborative initiative where by the projects' members can collaborate to pool savings and thus obtain leverage in the cash economy (Small, 2005).
- **Job creation:** Empirical field studies and action research within Aballimis organisation have shown that one job can be created for every 250-500m² of wasteland converted into gardens and selling organic vegetables to the local community at street prices (worth up to R 3000/month) (Small, 2005).
- **Social benefits:** Farmers groups dealing with urban agriculture develop important outcomes among the urban poor. Among these benefits are individual and group empowerment among women in South Africa (and also men if they are supportive of feminist perspectives) whereby women have entirely assumed leadership of the movements, with good men support roles (Small, 2005). In Tanzania men form the majority in engaging themselves in urban agriculture than women (Kiango and Likoko, 1996).

Other benefits that urban agriculture can contribute to sustainable urban agriculture projects as outlined by Algert et al. (2005) are;

- It provides assistance to the close and open loop system in urban areas characterised by the importation of the food from rural zones and the exportation of waste to regions outside the city or town.
- Recycling of waste water and organic solid waste can contribute to resources for growing agricultural products: the former can be used for irrigation and the latter as fertilizer.
- Use of vacant urban areas for agriculture contributes to improve urban microclimate.
- Conservation for other natural resources, such as waste water for irrigation increases the availability of fresh water for drinking and household consumption.
- Urban agriculture saves energy that is consumed from transporting food from rural to urban areas.
- Local production of foods allows savings in transportation costs, storage, and in product loss, so resulting in food cost reduction.
- Greening on the urban environment results in pollution reduction in the cities.
- Urban agriculture provides food and creates savings in household's expenditure on consumable, thus increase income allocated to other uses.

- Surplus from urban agriculture can be sold in local markets and generates more income for the urban poor.

2.2.3 Factors that may influence failure to urban agriculture and hence project unsustainability

Jacobi et al. (2000 section 3.1) also highlighted other major factors that may influence the occurrence of urban agriculture. In other way round they could also hinder urban agriculture activities.

- **Natural conditions:** Natural conditions are referred to climatic conditions i.e. amount and seasonality of rainfall and temperature, these determine urban food production. Very low annual rainfall is restrictive to the development of urban crop and vegetable production. In places with low rainfall, irrigation can offer urban crop and vegetable production, but also it depends on the availability of water for irrigation.
- **Physical infrastructure and services:** Basic requirements are availability of water and space. The absence of either one or both hinders households from opting to enter into any kind of production. The availability of infrastructure for water coupled with access (is referred to as by Jacobi et al as institutional conditions) to water can compensate for lack of rainfall and in spite of this, lead to urban agriculture.
- **Socio-cultural conditions:** It refers to the households farming traditions and food preferences as an entry point into urban agriculture and indicates that urban agriculture is not a completely unknown and unskilled activity in many cases. It is easy to start urban agriculture by the groups which traditionally have a farming background e.g. Luguru tribe in Dar es Salaam. The households have a tendency to produce local vegetable varieties which are not common in the market. This is related to food preference to the specific types of vegetables. On the other hand, without socio-cultural conditions, urban agriculture may or may not be practiced in towns.
- **Institutional conditions:** It is the capability of institutions to provide or at least to restrict access to water and space. Access to water and space is reported to be a social and institutional problem and often gender specific). Access to water and space are institutional aspects in a sense that they can be influenced through laws set by the institutions on proper land use planning and the proper use of the available water in the community. Institutional conditions have to be linked with the legal framework for urban production, any weaknesses in this will favour urban agriculture but as an illegal activity.
- **Economic conditions:** refers economic conditions to the urban labour market and the shortage of adequate and accessible income opportunities. In addition, it also refers to an unsatisfied demand for agricultural products in quantity and quality. In considering employment opportunities, it is self-explaining that as the population growth increases, commonly at rates of 5-8% in many cities, there is also a growing demand for jobs (Jacobi et al, 2000). For example in Dar es Salaam, there is a demand for more than 44,000 jobs each year if unemployment rate is kept at a similar levels as that indicated by Jacobi et al (2000). As a result, many people are forced to enter into informal jobs, like urban agriculture to gain income. Moreover, poor-rural-urban infrastructure and/ or high transport costs generally favour the production of perishable products like leafy vegetables, because they are integral parts of the human consumption requirements.

In addition, important to consider other necessary aspects related to social and natural resources which could hinder the urban agriculture projects performance. Algert et, al.,

(2006), highlighted causes and problems of urban agriculture that hinder sustainability of urban agriculture projects as follows;

- **Space:** Lack of enough space in the cities and difficulty to secure land because of high cost is one of the factor that hinder urban agriculture projects to sustain.
- **Use of Waste water:** The use of waste water for irrigation without careful treatment and monitoring can result in the spread of diseases among the population, hence people shun from buying vegetable and other crop products so produced which cause project failure.
- **Cultivation on contaminated land:** Some farmers cultivate crops such as vegetables on contaminated land which will also cause health hazards for consumers.
- **Cultivation along road sides:** The practices of growing vegetables and other crops along road sides facilitates easy distribution of the products as it could capture all passerby individuals, but is also a risky practice since it exposes food to pollution from car emissions.
- **Competing for access and use of limited land:** Urban agriculture and urbanisation are considered to be incompatible activities. In reality, in urban areas there is available space which could be used for urban agriculture such as public and private vacant lots, and other areas not suitable for building up uses (steep slopes and flood plains) but careful planning needs to be done since illegal invasion of spaces which lead to land disputes is common.
- **Legal restrictions and economic impediments to accessing land and water resources:** The resources such as reasonably priced water and land are among the main common problems confronted by urban farmers; this has resulted in unsustainable urban agriculture projects.
- **Lack of security of tenure:** This has acted as a preventive factor for farming due to the uncertainty in the length of the land tenure.
- **Criticism by other sectors:** Criticism by the believers in farm production in rural areas can produce food at larger volume more efficiently lowers the importance of urban agriculture.
- **Conflicts with municipal policy:** Urban agriculture can also cause conflicts with municipal laws, for example the policies that promote urban tree canopy are not sympathetic to food production gardening.

Factors narrated by Algert et al (2006) are somehow related to those reported by Jacobi et al (2000) in the sense that, they all describe space and water as major constraints in urban agriculture. Also Algert highlighted issues of legal restrictions, lack of security of land tenure and conflicts with municipal policy, all of which are related to institutional conditions put forward by Jacobi et al (2000).

Therefore, in order for the urban agricultural projects to sustain, all the above mentioned factors and causes of project un-sustainability should be taken into account from the beginning; that is at the project planning stage. This should include possible mitigation measures to be taken at different stages of project development. During the implementation stage the sustainability issues should be dealt with, and the process continued throughout the project life period and after the end of the projected time of the project. Also important, policies and laws related to agriculture, land and urban development have to be amended by incorporating guidelines and clauses which recognize the importance of urban agriculture and its implementation. This can be done through involvement of all stakeholders in urban agriculture including farmers' representatives, municipal authorities, city planners, agricultural experts and development partners. Continuous checking for sustainable results

should also be done through systematic monitoring and evaluation of the project thus ensuring sustainability.

Factors that cause un-sustainability of agricultural projects can also influence failure of urban agricultural projects. In this study, water accessibility and availability, issues of land tenure, institutional capability, project design, and monitoring & evaluation are used as the external and internal factors that cause project un-sustainability.

2.3 Different concepts of project sustainability

Development projects come to end either because the objective of the project is achieved or because the project funding runs out. Regardless of the reasons for ending the project, it is important to take into consideration the aspect of sustainability to make sure that the results achieved by projects can be shared and/or continued after the end of the project,.

Project sustainability could be defined differently depending on the type of project outcome and the type of project. Berglund, (2008) defines sustainability as something that is capable of being maintained at a certain rate or level. His study intended to show that, in broad sense maintenance could be of any achievable project output. Khan (2000) on the other hand defined sustainability as the ability of a project to maintain its operations, services and benefits during its projected life time. Khan (2000) further explained that, the issue of sustainability always goes with time and depends on changing social, economic and political contexts. For instance a project that is seen worth today, it may not sustain in future. Khan's definition of sustainability relates to American Indian Development Associates (AIDA) notion of sustainability. According to (AIDA, 2001) sustainability is about maintaining and continuing program services after the funding period is over. This notion of sustainability emphasizes an aspect of 'permanence' of the project. AIDA describes sustainability as having needed services to become permanent part of community resources. Sustainability is, however, not something that only needs to be considered at the end of a project, but throughout the implementation of the project as it will be further indicated in this research report.

In this research Khan's (2000) definition is used as it can measure the ability of the project to maintain its operations, services and benefits during and after its projected life time. Maintenance here refers to the continuation of the project operations, services and benefits.

In order for the project operations, services and benefits to be maintained the goal should reflect in improving individual and community well-being. It should not be a short term goal AIDA (2001). Moreover, the goals of sustainability should be;

- Integrated into the community in a way that the project could be accepted and well used by the community.
- Institutionalized into the local systems as part of a larger network of services and resources.
- Merged into extension program relationships and long term networks that develop new partnerships and enhance existing relationships.
- Included in program evolution and development which diversify, specialize, strategize and evaluate the project activities.

In order to attain project sustainability AIDA (2001) has identified the following strategies;

1. **Program visibility:** This will ensure that people are aware of the program from the beginning. The program and its results should be promoted and a program leadership which will incorporate social marketing strategies developed.
2. **Community involvement:** Involvement of people from all parts of the community will create adequate participation, collaboration and resource sharing. Open communication with the people will create opportunities for education and exchange of information in the community. Also it will provide opportunities for training and good leadership.
3. **Creation of a diverse base for program funding and support:** This involves seeking for financial support from multiple sources and at multiple levels in the community for the program administration and leadership operations. Therefore, there will be a tendency of reducing reliance on a sole funding source or funding type.
4. **Promotion of systems change:** This is carried out by identifying how the program can improve the existing community structure by making sure that people understand the way the current system is working and the reasons for change with time. The realistic and beneficial changes should be proposed and instituted when necessary, starting with small changes with gradual increases at different levels.

Conclusively, sustainability is best achieved through program development that includes a long term focus, ongoing program, evaluation, consistent policies, reliable data, community interest and support AIDA (2001).

2.3.1 Indicators for project sustainability

The project sustainability monitoring indicators are signposts which reveal status of sustainability at a certain stage or point of time of a project, (Khan, 2000). Indicators are quantified information which helps to explain how things are changing over time. There are three basic functions of indicators - simplification, quantification, and communication. Indicators generally simplify in order to make complex phenomena quantifiable so that information can be communicated. Indicators may or may not depend on the project objectives.

However, Hambelton A. & Figueres C., (1999), highlighted the sustainable development indicators for monitoring success of projects that would be most useful if applicable to two levels: the national level, and the project level. Some of the indicators which are likely to be common for most of the developing countries are:

1. Economic
 - Additional financial flows
 - Increase in purchasing power of the people
 - Increase in per capita income
 - Employment opportunities
 - Poverty alleviation
 - Transfer of clean technologies
2. Social
 - Clean and safe drinking water supply
 - Basic health facilities
 - Education to children and women
 - Sanitation facilities
 - Socio-economic impacts
3. Environmental Improvement in

- Air quality
- Water quality
- Soil fertility
- Local environment
- Biological diversity

In this study the indicators which will be used are as follows;

- Increase in farmers income (surplus)
- Increase quantity in vegetable produce
- Increase area of vegetable production
- Increase number of households engaged in vegetable production

CHAPTER THREE: METHODOLOGY

The nature of the research is a qualitative approach based on two strategies, case study and desk study.

3.1 Desk study

Desk study for the secondary data was obtained from scientific books, journals, articles and internet search to develop conceptual frame work of the study. Besides, unpublished reports from UVPP and other projects and research were reviewed at a desk level. The different sources of data were consulted to get supportive secondary data and profound insight of primary data. Based on these the background information was collected through literature studies and secondary empirical data related to this study. The literature review serves both theoretical and empirical base for data collection and analysis.

3.2 A Case study

A case study was used to collect a primary field data, through interviewing and conducting focus group with UVPP former staffs, IMC staffs and farmers in Ilala District. A check list with questions for interview were developed and categorised according to the respondents (Annex B). In general case studies are preferred strategy when “how” or “why” questions are being posed (Yin, 1989). It is for this reason, it was decided that a case study would be an appropriate design to answer the research question in this study, because it provides a well-rounded, thorough description of “what are the reasons contributed to failure of urban agricultural projects, in particular the case of Urban Vegetable Promotion Project (UVPP) in Ilala District in Tanzania.

3.3 Area of study

The study was carried out in Ilala District -Dares salaam Region in Tanzania. Dar es Salaam region is located between latitudes 6.36 degrees and 7.0 degrees to the south of equator and longitudes 39.0 and 33.33 to the east of Greenwich (City profile, 2004). Dar es Salaam region borders with Indian Ocean on the East and by the Coast region on the other sides. Ilala district is one of the three districts in Dar es Salaam, others being Temeke to the South and Kinondoni to the North.

The main economic activity carried out in Ilala district are fishing, house construction, furniture making, tailoring, brewing and petty trading as an informal sector enterprise. Many households in Ilala District grow green leafy vegetables for home consumption and extra for selling to the nearby markets. There are few farmers who grow vegetables as a business enterprise. Majority of these farmers worked with UVPP from 1992- 2001.

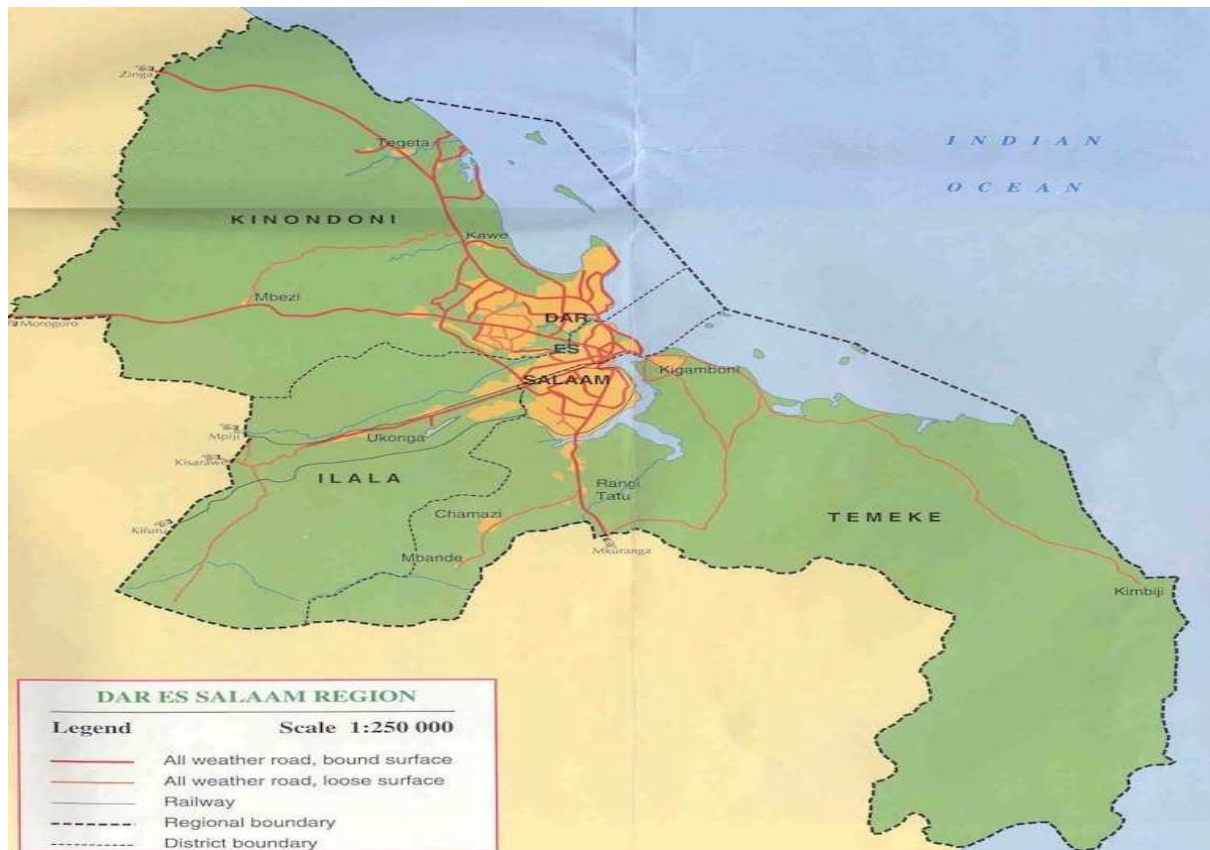


Figure 1 Map of Dar es Salaam

Source: Internet

3.4 Methods of data collection and sample size

As mentioned before, this research study used various techniques of data collection including individual interviews; archival records and existing documents. During field visits I allotted ample time for using local libraries and other reference centres to conduct systematic search of documents. As Creswell (2007) argued, "Case study collection involves a wide array of procedures as the researcher builds an in-depth picture of the case" (Creswell, 2007, p.132).

One of the most important sources of case study information is the interview. While Interviews may take several forms; in this research study, open-ended interviews were used with prepared questions from a check list in which key respondents were asked for facts as well as for their opinions and views as well as probing questions to induce further discussion (Merriam, 2009). In some ways the interviews assumed a conversational manner. This method is useful in a case study approach because its exploratory nature allowed interviewees to provide detailed descriptions of the subject matter and to integrate their experience.

The research sample size was 16 respondents interviewed individually and 4 groups of farmers respondents interviewed as focus groups. The individual interviewees were divided in two groups of IMC staffs and UVPP staffs. The respondents were described as follows;

- 4 groups of 5 farmers each: 20 farmers, out of these 5 were females and 15 were male farmers.
- 6 UVPP staffs: Out of these 3 were females and 3 males.
- 10 IMC staff: 6 were females and 4 males.

Regarding the in-depth interviews, face to face interview conducted to six UVPP staff for capturing research questions number 1, 2 and 3 another face to face interviews was conducted with IMC staffs including seven extension workers from different wards, four from

the wards where the farmers groups belong and three from other wards. Among the seven extension workers three of them were not available during UVPP but they have been interviewed in order to cross check with data from farmers involved in the project (triangulation). The remaining four extension workers were available during UVPP. The remaining IMC staffs were not field workers but they participated during UVPP as coaches, they include a Municipal Agriculture and Livestock Development Officer (MALDO) and a land planner. The IMC staffs were interviewed to capture answers for questions number 4 and 5 and 6 and 7.

The four groups of farmers are from Vingunguti, Upanga West, Kiwalani and Tabata wards. The wards selection was based on the UVPP criteria of dealing with people living under high density areas in Ilala (Kiango, 2001). Three groups of farmers are coming from the selected area and one group from the squatter area which is not allowed for building construction. The group interview was conducted with farmers to capture answers for questions 2 and 5.

Group selection was based on the farmers which were dealing with UVPP before and after transfer of UVPP activities under IMC. Unknowingly, researcher during data collection realise one group Ikunda was no longer practice in urban agriculture activities, instead they have started tailoring mart. The researcher still decides to include them for an interview in order to have the information of what was the reason for them to stop doing urban agriculture.

3.4 Data analysis

Data analysis consists of combining the evidence through examining, tabulating, categorizing data to address the initial proposition of a study. Analyzing case study evidence is especially difficult because the strategies and techniques have not been well defined in the past. In many cases analyzing data in case studies depends on an investigators own style of rigorous thinking, along with careful consideration of alternative interpretation (Yin, 1989). In this research, the following analytic techniques are used: Analytic techniques used were through tabulation of the data and examining of the variable relationships.

Most of the analysis work was done after completion of the task of translation. This work was done in Swahili, and later translated in English.

3.5 Study Limitations

Although overall this part of the fieldwork went on smoothly, a few problems encountered. The major limitation was the abortive appointments with potential research participants. Because there was no other means of communication, there was a need to make several long trips to their homes, offices and fields before setting up a convenient time and place for the individual interview to take place. Another limitation happened as a coincidence. It is unfortunate that at the time of conducting this research in Dar es Salaam, there was a conflict between the government and vegetable growers in the region. The government had decided to stop vegetable growers to produce vegetables because of contamination from the irrigated water, and the farmers were still producing vegetables because it was their only source of livelihood. The majority of farmers claimed that they did not have any other means of survival and opportunity to generate income. Because of this conflict, at first farmers were reluctant and did not want to participate in this research. However, after self introduction and describing the intent and purpose of the research, in addition to detailed explanation of the objective of the study from the ward extension worker, farmers agreed to participate in terms of being interviewed. Although, there was a conflict between farmers and government but it may adds to the factors that influence project un-sustainability.

Ethical Issues

All research participants were assured of confidentiality and anonymity in all phases of the research, and were informed of their right to withdraw at any time. During individual interviews, the informants were asked for their permission. It was also for ethical reasons that pseudonyms were used instead of their real names.

CHAPTER FOUR: ORGANISATIONS DESCRIPTION

The chapter will describe characteristics of Urban Vegetable Promotion Project UVPP as an organisation, staffing and operations. Also it will describe Ilala Municipal Council (IMC) as the organisation received UVPP activities after its completion. Under IMC the description will base on the number of staff deal with UVPP, UVPP activities including other activities of IMC, structure of IMC under section of agriculture and livestock development, mission and vision of the organisation.

4.1 Urban Vegetable Promotion Project (UVPP) history

The urban Vegetable Promotion Project (UVPP) was launched 1993 as a bilateral project between German and Tanzania. It was implemented under the Ministry of Agriculture and Food Security (MAFS) with support from the German Technical Cooperation (GTZ) financed by the Ministry of Economic Co-operation (BMZ). Since 1996 the project was promoting activities in the field of urban vegetable production in Dar es Salaam, Tanzania. The project was dealing with about 100 farmer's groups in the city and each group having more than 5 members (Mwaisango, 2001). The project ended in December 2001, (Kiango 2001) and handed over to IMC and other municipalities of Kinondoni, and Temeke in 2002.

4.1.2 UVPP objective

The project objective was to assist urban farmers to improve food security /or income of the household through improved vegetable production. The main activities that project covers to achieve its objective as mentioned by Kiango (2001) were:

- Strengthening the urban extension structure through training of extension workers in extension methods, technical topics and enhancing the management capacity of their superiors
- Giving direct advice to farmer groups in technical aspects and capacity building/group strengthening/self organisation
- Linking with other actors to channel services to farmers
- Awareness creation on possible roles and potential of urban agriculture and lobbying on political level
- Farming system research in urban areas (urban agriculture).

Apart from the main areas of intervention, UVPP also was conducting other operations to contribute to a sustainable land use by using organic farming as a mean of reducing contamination of vegetables and costs of inputs. The operation was as follows;

- Training on compost making to group of farmers, contractors of garbage collections and Community Based Organisation (CBOs) in Dar es Salaam.
- Use of organic manure and biological plant protection.

Moreover, compost making contributes to the utilisation of solid and liquid waste hence increase soil fertility which is one of the benefits of urban agriculture activities.

4.1.3 Staffing

According to Kiango (2001), most of the project staff was borrowed from Local Government Authority (LGA) under agriculture and livestock section, MAFS, other community development organisations, human relations staff and the Germans expatriates. In total there were more than 90 staffs, 10 staffs were working at the headquarters and the rest at

the field level from three different municipalities of Dar es Salaam, Ilala, Kinondoni and Temeke. The staffs were having different professionals, those working in the field most of them were horticulturalist, few were nutritionist, livestock officers and crop officers.

4.1.4 UVPP partnership

UVPP was operating in the urban wards of the three municipalities in Dar es Salaam. The municipal agricultural extension structure was the executing partner of the project. The project was working in relations to various bodies on municipal, city and national levels as well as international NGOs and other projects, Kiango (2001).

4.2 Ilala Municipal Council (IMC) agriculture and livestock section

Ilala Municipal Council is an organisation established under Prime Minister's office in Ministry of state (Regional Administration and Local Government) in Tanzania. The agriculture and livestock section carries its activities in liaison with Ministry of Agriculture, Food security and Cooperative (MAFC), Ministry of Livestock and Fisheries (MLF) and Presidents office Regional Administration and Local Government. Also collaborate with research institutions, community based and Non-governmental organisations that participate in extension activities within the municipality.

IMC has a wide range of services with different professionals in eight departments; one of the departments is Community Development and Social Welfare (CDSW) on which I work with under agriculture and Livestock section. Agriculture and livestock section deals with management, mobilization, and supervision of agricultural and livestock production activities carried out in the municipality. The section deals with about 29, 906 farmers, specialised in agriculture and livestock production in the municipal. The number is including both urban and peri-urban farmers in Ilala.

4.2.1 Vision

To improve standard of living and accessing all basic services so as to reduce poverty to the community by the year 2025.

4.2.2 Mission

To build its capacity in the sectors of education, healthy, administration (good governance), trade and informal sector together with land use management and town planning to community.

4.2.3 Organisational structure

IMC is designed to provide services to the community, its overall task split into structured sub-task and they are coordinated through organisational chart. Total of eight departments are divided into small sections for easy management and control. The overall structure of the municipal start with the Lord Mayor as the chairman of the councillors from the apex, followed by three committees, municipal director as the Chief Executive Officer (CEO), eight departments and sections in each department. Sections are connected to the wards with different extension officers from different specialization in the departments. Each ward is managed by Ward Executive Officer (WEO); all specialists in the ward are supposed to report to WEO and to their sections at the same time as the representative. Agricultural and livestock section has different specialized tasks; there are livestock, crops, nutrition and horticultural specialists known as Subject Matter Specialist (SMS) and District Extension Officer (DEO) as a supervisor of extension services in the district, all of them are under Municipal Agriculture and Livestock District officer (MALDO) as a head of section. Agriculture and livestock extension officers are located in nineteen different wards in the municipal.

4.2.4 Staffs

In total there are 89 staff working under this section of which 45 are livestock specialists, 37 are agriculture professionals and 7 supporting staffs. In order to facilitate agriculture and livestock activities carried out, the staffs have been stationed in various locations within the Municipality, which includes headquarters; slaughter facilities; livestock auction markets; wards; villages garden, parks and hospitals.

4.2.5 Agriculture unit duties and responsibilities

There are number of general activities that are carried out for promoting agriculture production in the city. The activities are as follows;

- Farmer advice on crop production techniques including plant protection, seed selection, and other on farm activities.
- On farm training
- Organising farmers field visits
- Preparation of demonstration plots
- Organising of farmers show
- Advising on new production technology
- Enhancement of proper land use activities and proper irrigation methods in case of irrigated farms.
- Enhancement on proper harvesting and food processing activities.

4.2.7 UVPP activities under IMC

There are other activities which IMC was supposed to take over after completion of UVPP. Such activities are as follows;

- Group formation/strengthening
- Farmer's technical advice on vegetable production, compost making, and use of Integrated Pest Management (IPM) for protecting their crops against insect pest.
- Enhance in vegetable production education in primary schools.
- Enhance container gardening in farmers groups having un-accessible to land.
- Linking farmers with other actors in the municipal.
- Creation of awareness in importance of urban agriculture to other sectors within the organisation.

CHAPTER FIVE: RESULTS AND DISCUSSION

This chapter contains data gathered from the case study of Urban Vegetable Promotion Project (UVPP).

5.1 Results

This section is divided into three sub-sections in which details of operations during UVPP and after its transfer to IMC, UVPP achievements as a project and under IMC and the reasons for un-sustainability of UVPP are given.

5.1.1 The UVPP operations during its lifetime and under IMC

During the lifetime of UVPP, there were a number of operations that have been practiced. Changes were instituted when the project was implemented under IMC.

a) Operations during UVPP lifetime

The operations of UVPP included the following:

- 1) Farming system research in urban agriculture carried out in urban areas.
- 2) Strengthening the urban extension structure through training of extension staff in extension methods and technical aspects so enhancing their management capacity.
- 3) Giving direct advice to farmer groups in technical aspects and capacity building/group strengthening/self organization.
- 4) Linking with other actors to channel services to farmers.
- 5) Awareness creation on possible roles and potentials of urban agriculture and lobbying on political level.

1) Farming system research in urban areas

In farming system research the project was concentrated on research activities on urban and peri-urban production systems to better understand the general situation in urban areas and identify entry points for possible interventions. Frame conditions for extension service delivery were also observed. During research the project found out that, there was hardly any extension service provided by the IMC to urban farmers.

Apart from farming system research, there was also a comprehensive nutritional survey conducted, which gave an indication on the importance of vegetable home gardening for urban residents.

The research results were important as it gave a better idea about the people involved in urban food production and some of their problem and needs.

Based on the farmer's assessment that an extension service was unsatisfactory, the project decided to shift its activities towards extension.

According to UVPP staff, urban agriculture was practiced before the project was initiated. This is an indication that urban agriculture was a well known phenomenon exemplified by the fact that farmers have been producing various crops in urban areas for many years. Commonly, horticultural crops including vegetables, ornamental, nursery trees and fruit trees are produced in home gardens, open spaces and reserved areas. Urban agriculture

activities also included livestock keeping for instance, dairy cattle, pigs, poultry, fowl and other small animals in the home yard areas. The production technology was simple with low-cost in small areas and a few in intensive medium scale farms in the per-urban areas. Seeds, pesticides and drugs for livestock were used as inputs; while plant protection was normally done through preventive cultural control methods in home gardens. Farmers were using animal manure from urban livestock as their source of fertilizers. Also in some households the use of domestic waste was common through cultivating vegetables on the former domestic waste pits where decomposition has already taken place. At that time water and land was largely available and accessible, but at times, depending on the location, water accessibility was a problem.

Although, extension services were available from the government, the extension workers were stationed in each of the wards but very few in urban areas. This was because of the notion that, agriculture extension methods are for rural areas only. While IMC staffs acknowledge the existence of urban agriculture, they believe that urban agriculture was neglected due to inefficient urban extension services. According to the structure of previous agricultural extension projects, particularly NARLEP and NAEP II, all extension officers were supposed to be allocated in rural areas and were supposed to stay at their working stations. Most important is the argument put forward by farmers that there are so many changes being introduced through different projects and none of these activities are sustainable. As one farmer from Kiwalani group commented:

"I wonder why things are changing every now and then, on the past we were cultivating vegetables locally and no one was asked why? Then came UVPP with a lot activities; we were told to stay in groups, to apply indigenous plant protection remedies (medications) in our fields and many things; but now we are back to square one, no UVPP no extension workers, low production, for sure the world is turning around".

Previously, most farmers used to cultivate land around their premises. These farmers operated individually and overall the number of farmers that engaged in urban agriculture was small.

2) Training of extension staffs for strengthening urban extension structure

All staffs that were there during UVPP agreed on a lot of training received. The livestock officers were trained on vegetable production techniques, moderation course for all extension staff. The course on vegetable production techniques equipped the livestock officers with the knowledge and confidence in conducting sessions with farmers on vegetable production. Also the management of IMC was trained on management skills for administration, backstopping and monitoring.

It suffices here to share one of the extension worker's comments about training:

"I wish we could have another UVPP, we really enjoyed their training after a long period of working by experience without any refresher courses".

In addition to acquisition of new skills from training, extension workers felt it was a great opportunity for learning as they were highly motivated to exchange ideas amongst themselves. They also benefited from financial allowances provided by the project. "It really

motivated us to work hard in our working stations”, commented one of the extension workers. Moreover the extension workers appreciate that they have trained in all aspects of vegetable production, group approach and extension approach that helped them in dealing with urban farmers and the benefits from training was obviously.

In the other hands, the IMC staffs argue that, the UVPP had gone with their trainings which means, they would be no more trainings for the large group like in UVPP.

On the farmer's side, in Ikunda they agreed that during UVPP their extension worker was cooperative and hard working with high moral support, but after UVPP then the problem came when the extension worker transferred to other place. Also Mvinga and Nguvukazi groups' comments on services they were provided during UVPP as they were provided with a lot of new information but the things change after the project to be handled in IMC. There were no more group formation/strengthening discussions.

3) Direct advice to farmer groups in technical aspects and capacity building/ group strengthening/self organization.

Farmers agreed that during UVPP, they were provided with additional skills about vegetable production through their ward extension workers. Others have been called for the seminars together with their extension workers and various city workers. They have been trained on organic farming techniques, compost making, and other techniques on using of indigenous medicines for vegetable protection against insect pest. Additional training was provided on group performance, credit and savings and constitutions and project write-up.

Farmers also agreed to have received training on group formation/strengthening. Also they were trained on the preparation and application of neem, garlic and hot pepper on their field to protect their crops against pest and diseases. Much as the farmers acknowledge the acquisition of knowledge, however, they confessed that they do not apply any of the things they learned. Farmers do not use the technology because it takes a lot of time to prepare all the required items. They claim that it is easier for them to use chemical pesticides since these chemicals are ready for use at any time.

Few farmers do apply the knowledge they acquired from training. For instance, Ikunda group from Vingunguti also acknowledged the importance of the trainings provided during UVPP and the use of indigenous medicines. In their group they manage to use indigenous vegetable medicine in their plots. They are the ones which were practicing container gardening in their home premises and they were invited to farmers show in farmer's day. Also they were used to train other urban vegetable farmers in vegetable techniques as it is believed that 'farmers learn more from other farmers'.



FIGURE 2: The former Ikunda group-container gardens.

Source: Author, 2010

While knowledge acquisition is acknowledged by many, there was lack of continuity as indicated from a quote below (farmer from Mvinga group).

“For sure we had to read a lot but the problem is how to use the knowledge we have acquired. We are now going back again as usual”. We are using the chemical insecticides again”.

On the IMC staffs, they agreed to participate on the technical advice and group formation/strengthening during UVPP but during UVPP under IMC they were just give advice on vegetable production techniques because not all of the extension workers have the knowledge about group formation/strengthening. Even the vegetable production techniques are not known by all of the extension workers.

4) Linking with other actors to channel services to farmers

UVPP staffs was initiate and try to link farmers with other actors in order to make farmers capable of solving problems they met in a proper channel. Amongst the problems there are availability of capital (credit), water supply and market opportunities. In one way or another UVPP staffs see these problems as they related to UA activities and they can affect the impact of extension services. However extension staffs are not in a position to assist in all areas because some are beyond their mandate and capacity of the extension program.

Linkages to other service providers with the respective mandates are one solution. In order to facilitate this UVPP conducted training with extension workers on how they can link farmers groups that need support with such institutions.

The farmers agreed on this support during UVPP as they were being linked with banks and being advised by extension workers on the procedure of opening group accounts. The Nguvukazi group argues on this that after the transfer of their extension worker they could not afford to continue with procedure of opening group account as a result they disintegrate. Ikunda group agree on this as they were participating in all seminars that including farmers participation even in farmers show, but the things change as the transfer came for their

extension worker during UVPP under IMC and group lose interest on urban agriculture activities. On the other hand Mvinga group have different opinion on this as they were advised to look for the loans from other financial institutions but the institutions look for those who have permanent assets as collateral for the loan.

The IMC staffs, agreed on this but they lose support because the financial institutions needs farmers to be in groups and to have a permanent assets which most of farmers do not have.

5) Awareness creation on possible roles and potentials of urban agriculture and lobbying on political level.

The UVPP staffs also were address to other practitioner's about other issues spanning the complex realities of urbanization, human settlement in general, meaning of urban agriculture, the relevant concepts concerning urban agriculture, obtaining practices, positive and negative impacts of urban agriculture as well as environmental issues. These were done by bringing together the variety of different stakeholders from different government institutions, NGOs, and donor's agencies to be in place to guide the activity. It also shows that the topic needs interdisciplinary action from many actors.

During UVPP, the project was capable of preparing workshops and seminars with different stakeholders because of financial capability. But there was a need of this operation to continue under IMC for strengthening its achievements. On the other hands IMC was not in a position to continue because it is money demanding. All of the agriculture activities under IMC are planned before and their budget for every activity is known. Thus, IMC fail to continue with UVPP operations.

b) UVPP operations under IMC

This section provides information shared by the UVPP and IMC staffs about operations which still continued after the completion of UVPP. Some of the lingering questions are: Are farmers still operating in groups? And how many are they in total? Is it still organic farming?

1) Direct advice to farmer groups in technical aspects

According to the former UVPP staff, it seems they are not sure of what UVPP operations are still in existence. For sure production of the vegetables in open spaces is still operational; farmers are still there; but logistics and dynamics of how they produce their vegetables are not very clear. It seems that UVPP staff does not have update information on these issues. However, through their observation they feel that UVPP activities are no longer operational. It has also been observed that extension services provided do not align with services that were provided during the UVPP implementation, the situation is totally different.

A former UVPP staff was of the opinion that the main reason for this change was frequent transfers of the extension workers. At the time when the project was implemented the project had the capacity to train only 90 extension workers in Dar es Salaam city; out of about 200 extension workers in the city. It is unfortunate that those trained extension workers were the ones transferred to other regions. About 15 extension workers were transferred from Ilala to other regions. At that time, the District received new extension workers from rural areas who did not consider urban agriculture especially vegetable growing as one of their job responsibility. On the other hand, some of the staff from IMC also did not consider that the movement of the extension workers from Dar es Salaam to other regions of the country as a problem. Another point given by UVPP staff was the poor monitoring of the project by the IMC.

Another problem outlined by the IMC staff is the large number of livestock officers who have little knowledge about vegetable growing compared with agriculture officers. In addition to that, some of the extension workers complained about the management team from IMC. The supervision they have been given by the UVPP was not similar to how they are supervised by IMC. For those who were supposed to work outside their working stations, they were provided either with transport allowances or provided with the office car to travel to the field. But the case was different with IMC; there were neither allowances nor office transport for field trips. The office vehicles were assigned to different job activities but not field trips related to vegetable production. It was also observed that, the monitoring and feedback system conducted by UVPP was a strong tool for the subordinates to work hard. But the structure and day to day operations within IMC was quite different. Generally with IMC the staff meet only once per month, and nobody cares on what you are doing at your working station because it is the Ward Executive Officer (WEO) who has the responsibility to supervise extension workers. In reality, the management team was interested in the project reports and not the actual work on the ground. All of these reasons contributed to the failure of UVPP as the extension staff lost interest on UVPP activities.

All UVPP and IMC staffs agreed that the only thing remaining was the existence of vegetable growers. Even if they are not in large numbers but they are still there producing vegetables by using effluent water for irrigation and chemical pesticides for protecting crops against pests and diseases.

As regards to farmers, Ikunda farmers is no longer practicing urban agricultural as a group anymore. Individual farmers just have small gardens, producing vegetables for home consumption only. Some farmers are currently involved in tailoring business. They complained about their former extension worker who was transferred to another ward. The new extension worker was not interested in farmers group's activities.



FIGURE 3: The former Ikunda member at her home garden.

Source: Author, 2010

Nguvukazi farmers from Tabata are still producing vegetables but not as a group anymore. They were unable to continue as a group because they lost direction after the transfer of their extension worker. They did not have any information about the new extension worker in their ward.



FIGURE4: Nguvukazi vegetable plot; Tabata.

Source: Author, 2010

They reduced the area of production because of insufficient and polluted water for irrigation. They remained with small plots where they grow vegetables and irrigate their gardens using polluted water. Some of their plots are now used for house constructions. Their opinions for improving vegetable production are as follows;

"We will not stop producing vegetables in this area because we do not have another business activity and we have families to care. Instead of the government stopping us to produce vegetables, they have to stop the industries which are the source of pollution".



FIGURE 5: Water pollution: Msimbazi River.

Source: Author, 2010

The group complained about the government announcement to the public, who happens to be their potential customers - that people should not buy vegetable because of contamination.

According to Kiwalani farmers group the major problem they faced in vegetable farming was related to inefficient extension workers. They complained that, their extension worker was not cooperative, they have always worked on their own, and that some group members had to leave their gardens after they faced difficulties related to water problem. During UVPP there were about 30 farmers but now they are not more than 15 and only 5 farmers which worked with UVPP were interviewed during this study, the rest were new.



FIGURE 6: Kiwalani group vegetable production (Egg plants). Source: Author, 2010

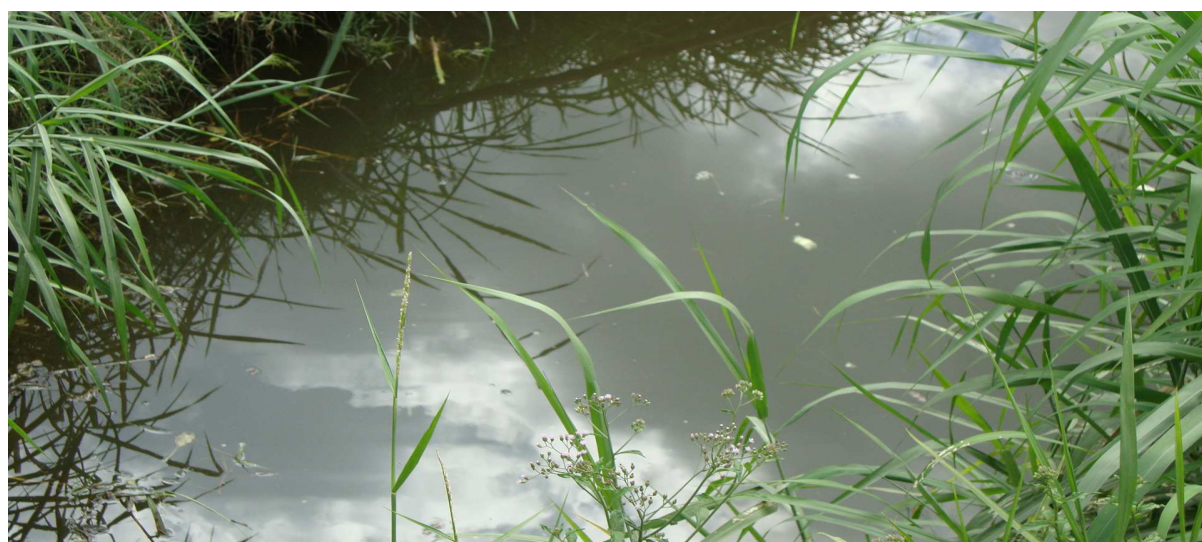


FIGURE 7: Kiwalani irrigation water Source: Author, 2010

Mvinga group is still operating but not in a group any more, and they confess that since UVPP they have the same problem of functions as a group because of their personal interest. They have tried during UVPP but they could not go far. Their problem in 2010 is the water pollution which results in reduced number of their customers

5.1.2 The achievements during UVPP lifetime and under IMC

As mentioned before urban agriculture is not a new phenomenon in the city and its contribution to the society was highly appreciated by many. Although, urban agriculture was not among the government priorities, the benefits of the urban agriculture to the society and environment were among the reasons that contributed to the initiation of UVPP. The UVPP project was the intervention in agricultural sector as a bilateral project with government to improve food security and income through improved extension services.

This section is going to report about achievements on area for vegetable production, quantity of produced vegetables, number of household engaged in vegetable production and profit that farmers made from vegetable production, during UVPP and UVPP under IMC.

a) Area for vegetable production

It was reported by all groups of farmers that, there was many open spaces during UVPP where farmers can obtain land easily by setting agreements with the owner of the land. The agreement could be in writings or verbally, and others are even pay rent to the owner of the land. The problem is that, at anytime the own could ask for the land and farmer have to leave the land for other development.

It was reported from Ikunda group that, during UVPP land was not an issue to them as they were cultivated in containers. Containers garden is not occupying much land and they were using land of one group member for vegetable production.

In the year 2010 the land owner decide to build a house after the group decision to opt for tailoring mart and left vegetable production activities. The reason for their decision was the transfer of the extension worker and the new extension worker was not co-operative with the group.

On the other hand Mvinga group borrowed land from the secondary school premises and they have to pay rent per area of the plot per month. They still have the same land since UVPP completion in 2001 up to 2010. They demand for their own land in town but it is not possible to have one because all places were already occupied with buildings and other activities. They fail to get loan from the microfinance institutions because they don't have permanent assets as collateral for credits. Farmers had different opinions as to what is really a problem, as indicated by the quote below:

"The production now is low due to lack of market and safe water for irrigation. We need more plots and safe water for irrigation, so that we can produce more".

Kiwalani group reported on the same area they have been used more than 20 years ago. The land is still there, the changes occur on the number of farmers cultivated in the area and their utilization. They are like Mvinga group as they borrowed land from Tanzania Zambia Railway Authority (TAZARA); their difference is that they are not paying rent to the owner. They face the same problem with Mvinga that they cannot obtain loans from microfinance institutions. During UVPP the land was fully utilized but in 2010 the things changed as the area is not much utilized because of larger number of farmers who left the area. The reasons for this as outlined by farmers in a group were as follows;

- Water contamination

- Conflict with the government caused by contaminated water
- Reduced number of customers
- Insufficient extension services.

The Nguvukazi group reported that the land used for vegetable production belong to the individual farmers. They bought their own land along Msimbazi River for vegetable cultivation. During completion of UVPP in 2001 the area was large enough to produce high quantity of vegetables. However, in the year 2010 the farmers decide to sell their land to other people for building purposes. They remained with very small plots compared with the area they were having in 2001 and about 10 farmers left the area. The reasons for selling their land was the same as mentioned by Kiwalani group that are; water contamination, conflict with government for contamination water, reduced number of customers and insufficient extension services.

From the UVPP staffs overviews, all respondents agreed that there were many open spaces for urban agriculture during UVPP until they have stepped down in 2001. In comparison with 2010, a lot of different occurs, many open spaces were changed to another uses.

They agreed that the project was overlooked the assumption that land for cultivation would be available. During monitoring and evaluation they decide to consult other stakeholders in the municipal for including urban agricultural land in the city master plan. But they were not sure if their promises have been considered after their completion. They further complain about the policies which are not emphasized and consider urban agriculture as important aspects to the poor urban and the city residents.

All IMC staffs in their part they have been agree that in 2001 there were many open spaces in urban areas of Ilala municipal. Farmers were cultivated at any empty space available and for them with or without permission from the owner. In their comparison with the year 2010, there were a lot of changes in urban areas, there are constructions going on all over the place and this cause the reduction of open spaces around the city. The areas which they were used for urban agriculture in the past are now changed to other uses. Reasons for these changes might be the land owners want to develop their land and the ignorance from other sectors such as land planners, (the ignorance was caused by the notion that agriculture is for rural areas and not for urban areas) they are supposed to consider land for urban agriculture in the master plan. Also urban planners have to work with available policies which acknowledge urban agriculture as part and parcel of urban people.

According to these different overviews from the respondent it shows that there are different causes that results into changes in land area during UVPP from 1993 - 2001 and when UVPP was under IMC from 2002 - 2010. The results shows that, land for vegetable production in urban areas is reduced as some of the areas were changed into building construction and some are left idle because of water contamination which lead to reduced customers. This happens when UVPP activities was under IMC.

b) Quantity of produced vegetables

According to Ikunda group they reported that they produce a lot during UVPP but they do not remember exactly amount of produce. For the reason that the group is no longer working for vegetable production in the year 2010 the researcher has nothing to compare with.

Mvinga group reported that they were producing large quantity of leafy vegetable during UVPP, as they can harvest up to 15 polythene bags weigh about 20 kilograms per day. The thing is harvesting of leaf vegetable is the everyday activity which depend on the number of customer you have. Depending on the availability of customers it's hard to measure the real quantity of produced vegetables per day.

However, in their comparison with the year 2010, they face the problem of reduced number of customers due to the use of contaminated water for irrigation. Thus, the reduction of vegetable quantity harvested per day as they can harvest up to 1.5 polythene bags per day. It's really a big difference which have been caused by other farmers which they use contaminated water for irrigation. Because of this reason we have left other land un-planted.

For them they use water from shallow wells which they have been examined and they are safe for irrigation. But the problem is that, customers are trusted them anymore. The remaining customers are their neighbors which they know exactly source of water for irrigation. They complained about the government to generalize on their announcement about water contamination.

Kiwalani group reported on their quantity produced during UVPP as it was high in the sense that, they were harvested up to 20 polythene bags of Amaranthus per day which weigh about 20 kg. The produce was sold to retailer. The comparison with UVPP under IMC in the year 2010 is that, the production is low in 2010 they are not even get up to three polythene bags. They have no permanent customers, so harvesting is done according to the number of customers they have. They outlined the reasons of low production as the water scarcity and water contamination.

The other reason for low quantity explained by Kiwalani group is the land is not fully utilized some other parts of the land left un-planted because of reduced number of farmers and customers.

Nguvukazi group also were produced more during UVPP from 5 – 10 bags of leafy vegetables per day which weigh about 20 kg per bag. In the year 2010 they produce low quantity as the area is capable of producing up to 2 polythene bags if is well utilized. The problem again is water contamination which leads to land reduction and hence low production.

All the respondents from UVPP staffs agree on high production during UVPP as the urban farmers were able to produce more than 50,000 tones of leafy vegetables in the market. The UVPP estimations are for the whole city. But for the year 2010, they are not sure of what farmers are able to produce to the market. This is because they are no longer deal with UVPP activities.

According to the IMC staffs 7 of them agreed about high production which was reported from urban areas in the year before 2002, the reports shows large difference of quantity produced during UVPP and UVPP under IMC that, the quantity produced in the year 2010 is low.

According to the estimated data available for the quantity produced and the reasons which leads to low production, seems that many problems were observed during UVPP under IMC which is after completion of the projected time.

c) Number of households engaged in vegetable production

In 2001 Ikunda group was formed with five women participating in vegetable production in Vingunguti Ward. The group was practicing in vegetable container gardening, with its member coming from different households. In 2010 the group was no longer operational in vegetable production instead they are doing tailoring. The researcher was interested to interview them because they were very strong group before and wondering why they have changed to tailoring mart.

The reasons which made them leave urban agriculture activities was the transfer of extension worker and the new extension worker was not co-operative to the group.

During UVPP completion in 2001 Mvinga group was formed with 12 members coming from different households. In the year 2010 the group was remained with 5 farmers which they were respondents during interview. The other farmers left the group because of other reasons apart from water contamination; they decide to do other business, reported by other members.

The Kiwalani group was having more than 30 members coming from different households in the year 2001. But 25 farmers left the group during water problem in the year before 2010 and five farmer remains. Another 10 new farmers engaged the group in 2010 and increase the number up to 15.

In Nguvukazi group the group members was 20 in the year 2001 coming from different households. In the year 2010 the group disintegrated because of lack of support from extension staff. They had a conflict between group members caused by lack of knowledge in the procedure of opening of group account. Therefore the problem come as they were not have a trust to each other, hence, group disintegration.

The other group members sell their farms and left the area when water problem come up. The remaining farmers were 5 in the year 2010.

On the other hand, all UVPP staffs were sure of the increased number of household engaging in vegetable production during the project implementation. It was hard for them to remember the exactly number but they were many including those producing at home garden areas.

However, they add that, the number of household might be reduced due to the reduction of open spaces for urban agriculture but they have no information of those who left and go somewhere else may be they still produce vegetables.

In addition for IMC staffs which were dealing with UVPP before agreed on the increasing number of number of household engaged in vegetable production in 2001. The main reason was at that time there were a lot of open spaces where farmer can easily use for urban agriculture.

In 2010 the IMC staffs agree on reduced number of households especially with those cultivate at the private open spaces and others which use contaminated water for irrigation. According to the situation many private open spaces they are developed into buildings and those which are using contaminated water also they may leave the sector and look for another business.

d) Profit made from vegetable production

Farmers argue that, urban agriculture make their life easier in town. They say that, they have no any other opportunity for generating income in their life, they cannot be employed in the formal sectors because of their low level of education and they have dependants. The only way of getting money was through urban agriculture. They have started urban agriculture earlier before UVPP and at least they can get something out it each day. The amounts of money which have been obtained by these farmers were not very much so they do not have a surplus for other development activities.

A farmer from Kiwalani group shared his views as to the benefits of urban agriculture. He views himself as the oldest man in the group and confessed that, urban agriculture improved his life since 1980s.

"I know the benefits of urban vegetable production, that's why I could not leave the area at that time when others were leaving because of contaminated water in the place".

He managed to provide school fees for his children through urban agriculture. In addition, he commented that;

The Kiwalani group reported on their income they get during UVPP as they have been sell 1 bunch of *Amaranthus* spp for the price of 50 shillings (Tanzanian currency), per day they could manage to sell up to 30 – 45 bunches which will give them 1,500 – 2,250 shilling per day. The amount was estimated for the whole group and production cost was not considered. Which matters for them was they can have food and manage other family activities. However, when the UVPP activities were under IMC in 2010, the things changed and they can get 1,000 -1,500 shillings per day after selling different varieties of vegetables.

Farmers in Ikunda group said, before UVPP there were carrying out urban agriculture but not in a group, it was an individual activity for home consumption. During UVPP the group manages to produce tomatoes and sell them for the price of 10,000 shillings per day. The group was satisfied with amount of money they get from their produce. But in the year 2010 they stopped to continue with agriculture activities and engaged in tailoring.

Also Nguvukazi group from Tabata reported on their income as they could sell different varieties of leafy vegetables for the price of 2000 shillings per one bag of polythene material weigh about 20 kgs per bag during UVPP. At that time they would be able to sell from 5 – 10 bags per day. However, in 2010 the things were different as they are capable of selling 1 – 2 bags of leafy vegetables 1,000 -1,500 shillings per day.

Mvinga group reported that, during UVPP they were selling 1 bunch of *Amaranthus* for the price of 50 shillings, and per day they would manage to sell up to 30 bunches for the price of 1,500 per day. In the year 2010, 1 bunch of *Amaranthus* was sold up to 100 shillings and they can sell from 10 – 15 bunches for the price of 1000 – 1500 per day.

These difference amount of income obtained was not considering inputs used during production. The difference shown during UVPP and UVPP under IMC was caused by the following problems as mentioned by farmers; insufficient extension services, water pollution, access to safe water for irrigation, access to market and conflict with the government.

All interviewed UVPP staffs, agreed on the increased of farmer's income. It was reported that farmer's income during UVPP was mostly depend on the type of cultivated vegetable

and the area used. For example, an Amaranthus plot of 500 square meters, can give farmer more than 45,000 shillings per month which was more than a minimum wage of a Tanzanian government employee during 1996.

Also the 7 IMC staff out of 10 respondents agreed the income from vegetable production during UVPP was increased during UVPP but they were not sure on the exactly amount in the year 2001. They also compare the results of farmer's income in 2010, that is much smaller than in 2001 due to some reasons;

- Farmers would have lost most of their customers because of water contamination
- Extension workers are not dealing with farmers that using effluent water for irrigation
- The land for vegetable cultivation is reduced; a number of open spaces are used for other purposes.

Apart for the above achievements there are other social and environmental benefits which were reported by the respondents.

These benefits were shared by UVPP staff during the life period of the project. More gardens were established in the city which automatically created more employment opportunities for youth and women (women for home gardening) in the city. Through vegetable cultivation farmers achieved the objectives of an improved diet and increase of income to the household by selling their surplus. Green vegetables contribute in reduction of air pollution in the city as the area of vegetable gardens increase. "Up to this point, it can be said that UVPP has contributed a lot in the improvement of urban agriculture in the city".

On farmers' views, it was agreed that, UVPP brought a change in their lives socially and economically. Economically, they increased their plots and earned more money from vegetable production which helped in other household services (school fees for their children and others manage to build the houses). Socially, they had opportunities to meet with other people during seminars and built up confidence by participating in farmers' day shows.

Ikunda farmers group reported on their participation on farmers day show and in other seminars with UVPP. They were also used by their extension worker in the ward to explain their experience and knowledge about improving vegetable production by using compost and indigenous medicine. They also helped other farmers in preparation of the medicine by using neem, garlic and hot pepper, even how to use of ashes to protect their plants from incidence of pests and diseases.

Farmers from Mvinga and Nguvukazi groups reported increased earnings through vegetable production and they managed to build houses and buy more plots. In case of the Kiwalani group, although they were not actively engaged in the UVPP they reported increased vegetable production which enabled them to get money for sending their children to school.

5.1.3 The factors that causes project un-sustainability

The following section highlights major reasons for project un-sustainability as they have obtained during data collection. The factors will be divided according to internal and external factors that cause project un-sustainability.

A: External factors that cause project un-sustainability

1) Issues related to land tenure:

Availability of land for urban agriculture and access to land was a challenge to the project after completion of UVPP. At the beginning of the project, city planners had agreed to set aside land especially for urban agriculture in the city master plan. Also the policy makers agreed to set by-laws which will allow urban agriculture in the city with a condition that the activities will not result into any harmful effects to the environment. These agreements came to an end as the UVPP phased out.

The IMC staff shared their complaints about problem of land availability for urban agriculture after phasing out of UVPP. For instance, they said all open spaces that were previously used for vegetable production were turned into settlement areas and for construction of new buildings. Evidence shows that there was no area allotted for urban agriculture any more, and even the city open spaces were turned into petty trader market; for example at Mchikichini ward in Ilala. A farmer's demonstration garden at Uzuri was turned into a secondary school. It was a place where all farmers in the city and extension workers used for workshop and training during UVPP.

Farmers too shared the difficulties they experienced as regards to land availability; in particular they felt that their problems exacerbated as those areas where they used to grow vegetables were put into a different use. As such most of the farmers cultivate on the areas which are not theirs, either they pay rent to the owners or they just invade the areas illegally (without permission of the owners). In their comments, they mentioned that they need land so that they can produce more vegetables.

2) Unsafe water for irrigation

In Dar es Salaam, water availability can be categorized as surface water, shallow and deep wells as well as tap water. In this study area, most of the farmers use water from the rivers for irrigation. Water pollution in these rivers is very high now than ever. During UVPP the sample was taken to measure the amount of pollution in the rivers and if it can be used for irrigation purposes. The results showed that, Msimbazi River is highly polluted and farmers were not allowed to use its water for irrigation purposes. Since the majority of these farmers do not have other alternatives they still use the polluted water to irrigate their fields.

During UVPP, the alternative was to have the shallow wells or using tap water. But the problem was insufficient money for these options. The tap water is too expensive; farmers could not afford to pay. The use of shallow wells also required farmers to contribute money for drilling and pumping. The idea of forming groups in this case was advantageous in that, farmers in their groups could donate money for the shallow wells operation. During the process of group formation and strengthening, the UVPP phased out and IMC could not continue with the process.

The government was not supportive in any way; instead it was attacking farmers by asking them to stop vegetable production activities in the city. At one level government policies and farmers practices were always in conflict. For instance the government through IMC, told farmers to stop using water from the rivers for irrigation. This was a major source of conflict between farmers and the government

Out of four interviewed groups, only one group was not facing this problem, they were having deep wells for irrigation. The other three groups Mvinga, Kiwalani and Nguvukazi

depend on surface water while Nguvukazi depend on river Msimbazi and Kiwalani depend on river Kizinga. Mvinga group depend on the shallow well aside of river Msimbazi.

Another evidence from IMC shows that, there were transfers within and out of the municipal and even out of the city. This hindered the UVPP operations to continue because about 15 extension workers who were under UVPP have been transferred outside the municipal.

3) Access to market of urban agriculture produce

Access to market for leafy vegetable was high because of demand from the urban citizens during UVPP but the things changed after the increase of water pollution. The government intervenes by announcing to city residents that, they have to stop buying vegetables from the urban farmer because of water pollution. These cause urban farmers to lose their customers as it has been reported by all farmers groups, and IMC staffs.

The farmers comment on the issue as they will still produce vegetables because they don't have other alternatives. In additional comment to the government that it should stop those who are the source of water contamination like industries.

4) Government policies in favour for urban agriculture

The government policies as they have been shared together with UVPP and IMC need to emphasized so that every stakeholders deal with urban agriculture have to acknowledge its importance to the urban citizens. Policies are there but they are not implemented in favor of urban agriculture as far as it leads to better off of the urban farmers.

B: Internal factors

1) Problems related to extension services

This factor is under both situations, internal where the extension workers are under IMC supervision and external where the government can make changes in structure of the organisation and affect the organisation implementation.

During the handing over of UVPP to the municipals in Dar es Salaam, the implementers of UVPP mentioned that inefficient extension services was one of the major problems that hindered the achievement of the project's objectives. They explained the reason for this as not all of the extension workers have the skills on facilitation and group formation /strengthening. They recommend to the government to capacitate more extension workers with the new skills. Also the tendency of IMC to station one extension worker in every ward regardless of their professionals was a problem as the Livestock Field Officers (LFO) tends to ignore agriculture activities especially on vegetable production activities.

The problem of inefficient extension workers was shared by farmers too. Most of the farmers complained about lack of appropriate extension services as a source of their production failure. The urban vegetable producers depended more on extension services after realizing its importance during UVPP. The transfers of extension workers made by the government resulted into a problem of inadequate extension services in urban agriculture. The farmers lost their directions and referred the problems to extension workers as the source. The evidence from Ikunda showed that, the group is no longer practicing vegetable production activities as a group because of the transfer of an extension worker. The same is the case with Tabata group, they are still growing vegetables, but they are not in a group any more. Their argument is that, if they were still operating as a group may be they could afford to

have a reliable source of water like shallow or deep wells for irrigating their vegetables farms. They also failed to continue as a group because of transfer of an extension worker who could facilitate their group to continue. Even Kiwalani group disintegrated because of the extension worker was not cooperative to them.

2) Poor Planning of government projects (designs)

Poor planning of the government projects was shown up during the study as the government during its implementation, decide to restructure its organizations which results into the transfer of some of its civil servants. Before implementation, UVPP was already known by the government and it must be one of its plans unless otherwise. UVPP was a bilateral project between German and Tanzania, Kiango (2001), its project planning, objective, target group, assumptions, indicators, and way of intervention was known before by the government. UVPP could not start the project without informing the government what is going to do in the field. According to what was happening after UVPP handing over to IMC that there was a transfer of extension workers from Dar es Salaam to other places, the insufficient budget of IMC, and access to land and water availability could be tackled earlier if there was proper participatory project planning in government sectors. In addition, the appropriate authorities concerning the available problems were not effectively consulted World Bank (2005). In connection with this, top-down planning often appeared to be an obstacle to change and innovations, Leeuwis (2004). Overlooked of some of the constraints to the project was the result of poor project planning.

3) Ignorance of support staff

Ignorance of the support staff was also a contributing factor to UVPP failure Farmers complained that they were ignored by other sectors particularly those dealing with finance. The micro-finance sectors are not in the position to support farmers with credits because most of them do not have permanent (fixed) assets which they could use as collateral for borrowing money from banks.

It was noted by the participants that, the management teams at IMC, who are trained in livestock production, tended to give priority on all aspects related to livestock production at the same time ignoring urban agriculture. According to the information shared from a former UVPP staff, if the head of section happens to be a livestock officer, he will generally be highly biased in terms of prioritizing the activities of the livestock sector and ignoring the agricultural sector.

4) Lack of continued support to extension workers and farmers

The UVPP staff mentioned about the capacity of the IMC in supporting UVPP activities. During their handing over process one of their agreements was the IMC to continue supporting UVPP activities by providing transport allowances to the extension workers who will have the task of working outside their working stations. Otherwise they should provide transport by using office transport which was given to IMC by UVPP. UVPP staff is not sure that if these agreements were met by providing allowances or transport to the extension staff as agreed.

In fact, the extension workers complained that they have not been supported by the management by giving them office transport or transport allowance for their extra work. So they decided to remain in their working stations and neglect other UVPP tasks which they were given for group formation/strengthening.

The comments from the management about their agreement with UVPP were to provide allowance to the extension workers if the budget allows or office transport in absence of allowance. But they could not afford to provide these services because the activities were not budgeted for. This happened due to the fact that the project handing over was done after budgeting, while the project activities were out of the municipal budget. That is why the municipal management could not carry out even small activities such as repairing the old car which was given to them by UVPP.

Also farmers complained about the capacity of the IMC to help them on water availability and accessibility. They have based their complaints on the fact that it is this organization which is supposed to set by-laws or sanctions which could stop the industries from polluting rivers. Hence, if the by-laws are there, the IMC should ensure that industries abide by them or pay sanctions for not doing so thus reducing the rate of river water pollution and increase the accessibility of cleaner water for irrigation and other activities.

5) Monitoring and evaluation procedures

Proper monitoring and evaluation procedure as they have been affecting both UVPP and IMC in implementing the project. For UVPP proper evaluation of the project before implementation could have been result in negatively assumptions of the major factors for un-sustainability, water availability and land accessibility that could be of a problem later.

In the other hand, proper monitoring of the extension workers in the field could results in positive results if other factors like water and land accessibility were available. That means even the land planners as the stakeholder for urban agriculture could have been consulted before and not during implementation.

Even the issue of insufficient budget could be tackled before if the IMC could have been consulted before and incorporate the UVPP activities into their budget.

5.2 Discussion

The purpose of this study was to explore the factors that contributed to the failure of UVPP. In this section the findings of the study are discussed and integrated with what has been discussed in the literature. . The documentary review was done to have an in depth insight of the causes of un-sustainability of urban agriculture projects in Tanzania, the case of Urban Vegetable Promotion Project (UVPP). The lesson from the project indicated the successful story of the UVPP during its life period. However, after handing over to IMC the project activities stopped and the achievement of the project was reduced as shown from the results.

5.2.1 Failure of UVPP operations under IMC

Failure of UVPP operations under IMC was clearly expressed in the above section. The report shows that UVPP was handled over to IMC in 2002 after completion of its projected time. During the phasing out of UVPP, it handled over some of its operations to IMC for the sustainability of the project outcomes. According to (AIDA, 2001) sustainability is about maintaining and continuing program services after the funding period is over. Thus, IMC was supposed to continue with the following operations;

- Giving direct advice to farmer groups in technical aspects and capacity building/group strengthening/self organization.

- Linking with other actors to channel services to farmers.
- Awareness creation on possible roles and potentials of urban agriculture and lobbying on political level.

IMC was ready to continue with the activities under the section of agriculture and livestock development. The extension staffs which were working with UVPP before were supposed to continue with their general duties together with UVPP operations in their working station. The ones with extra operations under UVPP e.g. supporting farmers in group formation/strengthening outside their working station were supposed to be provided with transport allowances or office transport. According to Khan (2000) the project should be able to maintain its operations, services and benefits during and after its projected time Khan (2000) if the project is worth.

The urban agriculture project is worth and is a part and parcel of urban citizens as it supplementing their diet, gain employment and income of the urban dweller, which is their main driving force behind vegetable cultivation.

The results show that IMC was not able to continue with other UVPP operations such as capacity building/group strengthening/self organization, linking with other actors to channel services to farmers and creation of awareness on possible roles and potentials of urban agriculture and lobbying on political level. The operations which they managed to do was just giving advice to farmers groups in technical aspects.

The following reasons were mentioned by the respondents as the causes of failure of the IMC to continue with other operations;

- Transfer of the trained extension workers to other regions
- Lack of consideration of urban agriculture by the new extension worker from rural areas
- Poor monitoring of UVPP activities by IMC
- Little knowledge of urban agriculture in livestock officers compared to agriculture officers
- Poor IMC structure
- Few staff meetings per month
- Group disintegration due to lack of support from extension workers
- Little co-operations with new extension workers
- Water pollution results to reduced number vegetable customers
- Change of land uses due to water pollution

Moreover the IMC explained that the project was handled over to IMC at the middle of its budget, so it could not easy for them to take over the UVPP operations which are money demanding. In addition, the transfer of trained extension workers was beyond of the IMC capacity, which the government during its normal work of implementing some of its functions and re-structuring of its organizations has to transfer some of its servants to other places or regions. This was done by the government un-knowingly that it may disturb programs in other organizations.

5.2.2 Relationship of UVPP achievements under IMC

For the project to be sustainable, the assumptions made should be true and able to guide the project to fulfill its objectives. In order to know the success of the project there should be indicators used as the signposts which reveal status of sustainability at a certain stage or

point of time of a project Khan (2000). The UVPP project has got a number of assumptions and indicators which were used to measure the achievements of the project (Annex A). The results obtained from the field show that during UVPP, that is from 1993 to 2001 the project outcomes were successful as reported by different respondents. The achievements of the project include the following:

1) Area for vegetable production

The results obtained from the field shows that during UVPP, that is from 1993 to 2001 the project outcome was successful as they were reported by different respondents. The area for vegetable production was increased during UVPP as shown by all of the respondents and explained that, almost 650 ha of the urban area of Dar es Salaam were used for vegetable production on open spaces Dongus (2000). On the other hand, it was reported by UVPP and IMC staffs that from 2002 to 2010 there were a lot of changes concerning land availability. Many open spaces were changed its use from vegetable cultivation to building constructions. This is also shown by Nguvukazi group from Tabata ward that they have reduced their land area because of water problem. It was reported differently by Mvinga and Kiwalani group as they have left the land un-planted because of problem of water contamination which leads to reduced number of customers. During its implementation stage, UVPP as one of its functions was tried to meet with all of the stakeholders in the city for creating awareness of possible role and potential of urban agriculture. Yet it was reported that, the official recognition of the contribution of urban agriculture to food security, income generation and employment is still in an infant stage (UVPP & UDSM, 2001). The stakeholders such as land planners are supposed to incorporate into the city master plan the area of for urban agriculture.

2) Quantity of produced vegetables

Also the results show difference in quantity of vegetable production during UVPP and UVPP under IMC. During UVPP completion in the year 2001 the quantity of produced vegetable was high as it is further explained that, urban agriculture in Dar es Salaam produces around 50,000 – 60,000 tons of leafy vegetables per year (Jacobi, 1997; Stevenson et al, 1996). Moreover, the Mvinga, Nguvukazi, Kiwalani and Ikunda agreed on the increasing on the vegetable quantity as they could harvest up to 20 polythene bags weigh of 20 kg each as reported by Kiwalani group. However, the things were changed again as vegetable quantity went down under IMC. The farmers were complained on the same reasons of water contamination, land reduction and reduced number of customers. Each respondent group take different action on it as they decided to leave part of the land un-planted e.g. Mvinga and Kiwalani groups, Nguvukazi group decide to sell some of their land to other people for building constructions. Farmers decide to reduce production quantity because they have lost the number of customers caused by contaminated water. As it was reported by Dongus (2000), in his study of spatial change, he observed that the urban agriculture is very dynamic. In addition from his research results, it was observed that, there is part of the land which was used before for urban agriculture that is no longer used, and they emerge new portions of land in the area which was not used for urban agriculture. Thus, urban agriculture will still be there as it is just moving from one area to another. It still needs a consideration from other stakeholders.

3) Number of households engaged in vegetable production

Another indicator that results into different outcomes from respondents is the number of households engaged in vegetable production. One of the benefits of urban agriculture is job creation, Small (2005). Many people have reported to be engaged in urban agriculture

during UVPP for income generation. Jacobi reported that, about 6.5% of the informal urban workforce is engaged in urban agriculture, (Jacobi et al. 2000a). Farmer's reaction on this shows that, many farmers left the sector as it was shown by Ikunda group of Vingunguti, Nguvukazi, Kiwalani and Mvinga. The number of farmers during UVPP and UVPP under IMC are different. There is lower number of farmers engaged in urban agriculture in 2010 than in 2001. As the UVPP staffs argue that they are not sure of the ones that left because they might continue with vegetable activities elsewhere. The main reasons that made other farmers to quit were water contamination. The farmers were complained to the government that they should look for those who are the source of contamination instead of stopping farmers to cultivate. Also the IMC staffs are not dealing with farmers using contaminated water for irrigation. Thus, farmers left without any assistance, and by-laws and policies are there without any emphasize on the things that affect urban agriculture.

4) Income generated from vegetable production

The income of different groups of farmers increased to a certain extent during UVPP. Although, the real income was not easy to figure out because the information of operational costs were missing, but the farmers reported that their income during UVPP compared to UVPP under IMC was high. It was reported that an income of 62,897 Shillings per month was attained for the open space producers in Dar es Salaam (based on a 500 square meters plot) which was higher than a minimum wage (40,000) of Tanzanian government employee, (Jacobi, 1996). Also, farmers reported on their ability to pay school fees for their children and some of them managed to build houses from the income obtained after selling their surplus vegetable produce during UVPP. But in 2010 they could just afford to buy food for their family and nothing else. They still complained about the problem of contaminated water and the fact that the IMC which is supposed to advise them on technical production activities was neglecting them. To them they felt that UVPP as a project is no longer there, and though the government has policies which acknowledge urban agriculture as a part and parcel of urban livelihood is instead creating obstacles for their survival.

Conclusively, according to the results obtained from respondents and based on the UVPP assumptions that water and land will be available for the urban agriculture, these assumptions should have led to the achievements of the project objective. Otherwise, something went wrong during project planning, therefore careful planning involving all stakeholders should be done for other related projects in order to prevent the recurrence of such situations.

5.2.3 Major factors that contributed to un-sustainability of UVPP under IMC

According to the results, many factors that cause failure of UVPP project under IMC occurred during implementation of UVPP activities by IMC. The factors are in two groups, external and internal factors. The external factor implies the ones that are above the capability of UVPP and IMC organizations. The internal factors are those which can be managed by the UVPP and IMC.

A: External factors that leads to failure of UVPP under IMC

1) Improper land planning

One of the major findings of this study was lack of accessibility to land as one of the causes that led to the failure of UVPP. According to the interviews and various reports about the project it seems the problem was less intense during the UVPP implementation, as there

were ongoing negotiations between city planners and policy makers, UVPP staff and farmers on accessing land for agricultural activities. .

Evidence shows that urban agriculture is not the priority for the city planners. According to the master plan from IMC, the area for urban agriculture is very small and is allocated on the hazardous areas, such as steep slopes and on the river edges which could cause soil erosion. The impression by land planners that agriculture is for rural areas and not for towns and cities contributed to the problem of availability and accessibility of land for such activities in urban areas.

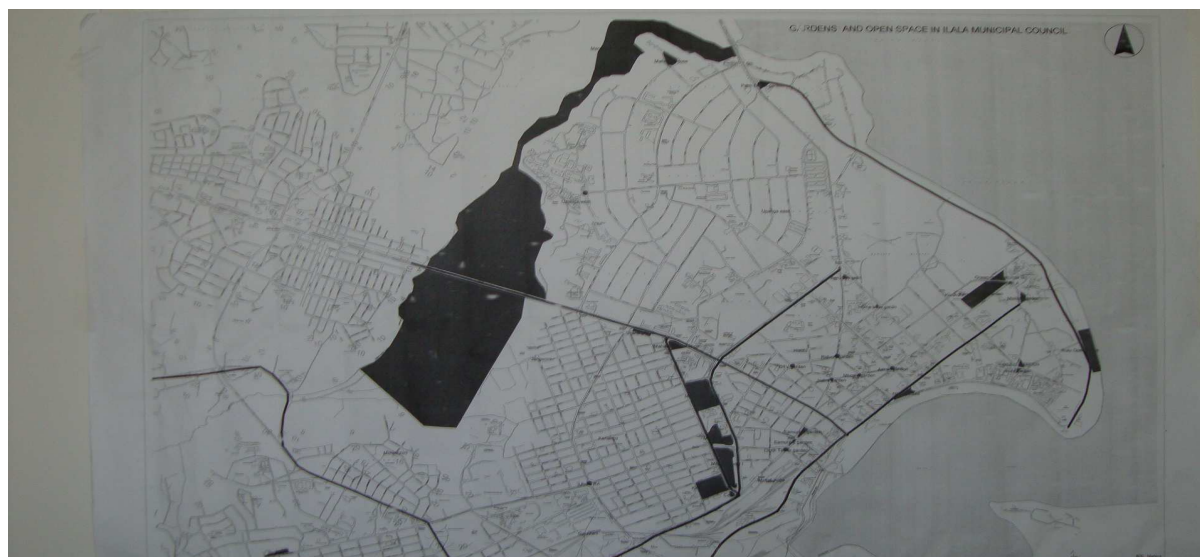


FIGURE 10: Gardens and Open spaces in IMC Source: IMC

Key: = Area for Urban Agriculture

This finding is supported by literature on challenges of urban agriculture. Literature has shown that in the cities there is lack of enough land and it is difficult to secure it because of high cost (Algert et, al., 2006). Although there is speculation that in Tanzania's cities land is still plenty from intra urban open land that could be used for urban agriculture both for short and long term periods, it is the responsibility of town planning to accommodate urban agriculture (Kiango, 2001). It is for the same reasons that Illegal land use (hazardous land and government owned land) or informally given private land makes open space production a highly sensitive venture to invest in (Dongus, 2000). This results into utilization of un-secure land as the case of Nguvukazi farmers group who were forced to use the land on the river edges. Likewise Mvinga group they have borrowed land from school premises and on hazardous areas of Msimbazi valley. The existence of the groups in these areas is not permanent, and is one of the reasons that they are not provided loans or other developmental assistance for their agricultural activities.

2) Poor sources of water for urban agriculture activities

The need for water in any agriculture activities is inevitable. However, this study has shown that the access of water sources for urban vegetable production was highly unreliable. As it was indicated in the results, the majority of farmers in this study used the polluted water to irrigate their fields and did not have other alternatives. Therefore, the only solution from the government side was to urge farmers to stop vegetable production.



FIGURE 11: Cartoon- Government steps on water pollution Source: Majira, 2010

This finding is highly supported by literature on urban agriculture. For instance, Kiango (2001), have shown that worries on the quality of surface water limit the production of vegetables in many areas of Tanzanian cities. In addition, the use of waste water for irrigation without careful treatment and monitoring can results in spread of diseases among the population, (Algert et, al., 2006).

3) Unused Policies

One of the major problems with the implementation of UVPP was the fact that what was written is not what was implemented. In the case of urban agriculture, there are no clauses in the existing policies and by-laws which are aimed at helping urban farmers. As regards to farmers' knowledge, majority of farmers are not aware of the laws and how to use them for their benefit. Here we are speaking about the laws that are ostensibly created to protect poor needy farmers.

In Tanzania, Agriculture and Livestock Policy (1997) observes that agriculture is not a principle function of towns but when properly organized Urban Agriculture has the potential to provide employment, income and is a supplementary source of food supply. *The policy states that "the government will continue to regulate the conduct of UA and will ensure that it does not disrupt planned urban development"*.

The problem that was evident throughout the study is that City authorities recognized the agriculture and livestock policy but pay little attention to it probably due to the way it has hitherto been carried out (Kitilla, 2001). As this study has shown, urban agriculture is practiced in open spaces that are vacant plots waiting for development, in lands inappropriate for other urban uses such as steep slopes and swamps, hazardous lands, road reserves, utility way-leaves and in backyards and fronts of the residential plots which makes it unsuitable to the environment. Because of this fact, the City council had to come up with certain relevant restrictive by-laws geared towards regulating urban agriculture in the city. While documents have shown that Dar es Salaam has existing by-laws for urban agriculture, it seems that law enforcement is rather weak. Stricter law enforcement would lead to changes in the production system.

Literature has shown that there are a lot of policies made in favour of urban agriculture (Kitilla, 2001); some of these policies are;

- Local Government Act (section 80) of 1992
- The Town and Planning Ordinance (Cap 378, Urban Farming Regulations of 1992)
- The National Land Policy of 1995, section 6.7.0,
- The Agricultural and Livestock Policy (1997)
- The National Human Settlements Development Policy (January 2000)

All of these policies have been made to recognise urban agriculture as one of the major and significant form of land use in the city. It is important that these policies are understood by all users and implemented accordingly.

B: Internal factors that leads to failure of UVPP activities under IMC

1) Inefficient extension services

Lack of efficient extension services was one of the factors that contributed to the failure of UVPP. According to the structure of extension services, emphasis was on rural agricultural activities and not urban agriculture. Moreover extension workers lacked appropriate facilitation skills and group mobilization. Frequent transfer of extension workers from one location to another affected their performance especially those who were placed in urban areas but were not trained in urban agriculture.

These findings are supported by what the literature says about approaches and methodologies of extension work. For instance, Kiango (2001) argued that extension workers were mainly addressing rural problems with limited inputs on extension methodologies (Kiango, 2001). Their focus was in rural agriculture and leaving urban agriculture unattended.

2) Poor planning of government projects (designs)

Poor planning of the government projects was shown up during the study as the government during its implementation, decide to restructure its organisations which results into the transfer of some of its civil servants. Before implementation, UVPP was already known by the government and it must be one of its plans unless otherwise. UVPP was a bilateral project between German and Tanzania, Kiango (2001), its project planning, objective, target group, assumptions, indicators, and way of intervention was known before by the government. UVPP could not start the project without informing the government what is going to do in the field. According to what was happening after UVPP handing over to IMC that there was a transfer of extension workers from Dar es Salaam to other places, the insufficient budget of IMC, and access to land and water availability could be tackled earlier if there was proper participatory project planning in government sectors. In addition, the appropriate authorities concerning the available problems were not effectively consulted World Bank (2005). In connection with this, top-down planning often appeared to be an obstacle to change and innovations, Leeuwis (2004).

3) Weak organizational and management capacity

Lack of capacity in organization and management of the project during the phasing out stage was the major factor that contributed to the failure of UVPP. Many examples from the data speak to this problem. For instance, during the handing over process one of their agreements was IMC to continue supporting UVPP activities by providing transport and financial allowances to the extension workers who will have a task of working outside their

working stations. Most of these agreements were in theory as they were not implemented as it was expected.

This finding is also supported by literature organization and management of development projects. For instance, Jacobi et al. (2000) describes the capacity of organization to refer to adequately fulfill their mandates but also the political acceptance of urban agriculture. In addition of Quon, (1999), stated that the capacity of the organization is more refereed to implementation side of existing legislation and to efficient delivery of service. In this study both the organizational structure, management of the project and delivery of services were of low standard. For instance, the IMC was supposed to support urban farmers in terms of providing them with safe water for irrigation, allocation and use of adequate land for urban agriculture and none or to very minimal of this kind of support was available.

The problems of water pollution, lack of extension services, land tenure and marketing which are faced by urban farmers are the results of the weak or absence of the capacity of the organization to fulfill their mandate. These are some of the challenges to IMC, as argued by Leeuwis C. (2004). Hence the failure of UVPP in IMC was partly due to lack of capacity for organization and management of the project itself by IMC.

4) Un-effective monitoring and Evaluation procedure

Poor monitoring and evaluation procedure for both UVPP and IMC was another major factor that contributes to the failure of UVPP under IMC. For the case of UVPP, evaluation procedure was overlooked the assumptions for future project development. The assumptions made by UVPP that, land will be available without forecast in future land demand, that population grows up and more space will be used in building constructions. Also water problems as the more the higher is the population results into the higher water demand. Also pollution will increase as far as the population increase. Thus, if the assumption proof negative it's better to change the project objective or to stop the implementation of the project. For the case of IMC, as it was mentioned by some of IMC staffs and UVPP staffs that, there was no follow-up and feedbacks as the UVPP was doing, few staff meetings which results to poor performance in field activities. Proper monitoring of staffs and immediate feedbacks used by UVPP was a strong instrument leads to their achievements, regardless of other planning problems. According to World Bank (2005), monitoring should pay more attention to assessment of changes in social-economic indicators at the level of beneficiaries.

5) Lack of cooperation between various stakeholders

Lack of cooperation amongst various stakeholders that were involved in urban agriculture is one of the causes of failure of UVPP. During the life time period of UVPP, the implementers tried to incorporate other sectors such as city planners, policy makers, counselors, politicians and farmers to help in ensuring project sustainability. By cooperating with various stakeholders the implementers expected that they will stand together with agricultural and livestock sections dealing with urban agriculture in order to achieve the envisaged goals of UVPP. Unfortunately things did not work out as expected.

One good example was when the micro-finance institutions refused to support farmers with credit because farmers did not have any permanent asset to use as collateral for borrowing money from banks. However, these same stakeholders, for instance, microfinance institutions, city planners, land surveyors were somewhat supportive to rural farmers. Probably this is due to the belief that farming is more efficient in rural areas than urban areas. It is a known fact, and it is well documented that urban farmers are in need of loans

and other services such as safe water for irrigation and adequate extension services. Unfortunately, according to this study, IMC support on these services is very minimal; hence the continuation of vegetable production in the city becomes highly unsustainable.

According to the indicators in logical frame work and from the above discussion the project was not sustainable. This was mainly due to the following indicators; Increasing number of the households engaged in vegetable production, increased area of vegetable production, and quantity for the vegetable produced without forgetting the income obtained from vegetable enterprise before during and after UVPP. All these could not be sustained when the project life time came to an end. This kind of non-sustainability after the project phasing-out phase is comparable to other agricultural projects like National Agricultural and Livestock Extension Rehabilitation Project (NALERP) 1989-1999, National Agricultural Extension Project II (NAEP II) 1996-2003, Second Agricultural Research Project II (TARP II) 1998-2004, Agricultural Sector Management Project (ASMP) 1993-2001(World Bank, 2007).

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

This chapter refers to the conclusion and recommendations of the outcome of UVPP. This research study was conducted through interviews with the UVPP former staff, IMC staff, and Farmers from four different wards in Ilala District in Dares Salaam. Through these interviews and various UVPP reports an understanding of the major causes of the failure of UVPP in Ilala-Dar-Es salaam was gained, including improper land planning, poor sources of water for urban agriculture activities, un-used policies, poor planning of government projects, inefficiency extension services, weak organisational and management capacity, un-effective monitoring and evaluation procedure and lack of co-operation between various stakeholders. Based on the problems encountered, this chapter provides some strategic recommendations for further research studies that would enhance sustainability of future urban agriculture projects.

6.1 Conclusion

The evidence from the project records, the views of the interviewed respondents and observations of the researcher suggest that the project was successful only during its life time. Overall it was unsustainable as it was assumed that water and land will be available was proved failure to project outcomes. Even if the changes were realized after it has been handled over to IMC, but the project design was not going to handle it more even if it was still under UVPP.

Much as the implementers of UVPP realized the downward trend in terms of how the project was operating, it was difficult to start a new project in the middle of its actual budget. The project demand for provision of allowances to extension workers was a burden to IMC. Although during their agreement the UVPP and IMC agreed on providing allowances to the extension workers if possible. In fact all financial and monetary issues within the IMC need to be discussed by the counsellors first before approval. Moreover proposal for funding depends on the priority list of the decision makers. It seems the UVPP activity at the time it was phasing out was not in the priority list of the decision and policy makers. The decisions were made against UVPP regardless of its importance to the society.

As indicated in results and discussions of findings the implementation of UVPP was highly impacted by the decisions made by the government appointees. A good example is the case of inefficient extension services which was basically due to poor planning of government projects as the government should have known before that transfer of extension staffs will affect other on-going projects. On the part of UVPP's objective to strengthen of extension services, it could be said that their objective was fulfilled. However, the problem arose when the government during its normal activities of monitoring and evaluation of their staff, it was amenable that some extension workers had to be transferred from one station to another and from one region or district to another. Because UVPP was implemented only in Dar es Salaam and the training provided was for Dar es Salaam extension workers only, the transfers of extension workers affected UVPP negatively. Here we are talking about extension workers who were trained and had acquired additional knowledge to handle urban farmers. This poorly planned movement of trained extensions workers increased the incapability of handling other problematic \ issues faced by urban vegetable growers that participated in UVPP. UVPP should bear in mind that strengthening of extension services should go hand in hand with other production factors or assumptions like land and water availability.

The problem of in-efficient extension services was culminated by the inherent lack of capacity of IMC staff to handle the project activities. Not only that the problem of using waste water for irrigation could have been handled earlier if the remaining extension workers were

supported to mobilize farmers in their groups to take action. Group formation /strengthening were meant to give courage to farmers and encourage them to fight for their rights as regards to development and progress in their farming. Urban farmers could have formed strong associations in which could help them to find solutions for their problems.

The problem of poor planning of government projects results into failure of many agricultural projects in Tanzania. Design elements, institutional capabilities, monitoring and evaluation need to be thoroughly examined before imposing any project. The need of participatory project design which will integrate interest of the community, institutionalised into local system and involvement with other stakeholders in urban agriculture will overcome such problems of failure of many agricultural projects IMC and the government in general.

6.2 Recommendations

6.2.1 Project designing

For the better performance results of the project, the planning should bear in mind that the services which will be provided to the community need cooperation from all involved stakeholders. The issues which can cause constraints to the project should not be overlooked instead they have to be settled at the design stage before the project is implemented. The study recommends that the government should make sure that the projects have to follow environmental needs assessment procedures by involving participants from all essential stakeholders including a governmental official as a primary decision maker.

6.2.2 Institutional capabilities

Basing on weak organisational and management capacity, the government should base on realistic assessment of the capacity of the institutions involved in implementations. The planning capability of the institutions should go together with technical skills, financial capacity, the political and administrative support required to implement the project effectively. As the results shows that, there were a lot of challenges faced by the institution during implementation of UVPP project, may be there other projects which face the same, therefore it recommends the changes on its structure, mission, mode of operation and management for the better sustainable development projects.

6.2.3 Recycling of waste water for irrigation

As far as marketing is concerned, there is a high demand of fresh vegetables in Dar es Salaam city. Based on the results of this study, the problem of marketing happened due to contaminated water for irrigation. The study is recommending the use safe water for irrigation, and IMC to continuously monitor the water situation, if possible there should be concrete follow-up of by-laws and meting out punishment for the people or industries responsible for polluting water.

Literature has shown that waste water if treated properly has advantages of providing nutrients to the soil. Regarding the waste water problems the study recommends further research studies on water pollution and the possibility to recycle water sources and whether these sources could be used again for irrigation purposes without affecting the soil and vegetables. The access and availability of reliable water will contribute to the sustainable urban agricultural projects.

6.2.4 Land tenure

Urban agriculture in the city is a legal activity and inevitable with expanding urban populations. Findings of this study have shown that land tenure is one of the problems which contributed to unsustainable urban agriculture. The findings further showed that policies pertaining to availability and access to land did not match with the requirements of urban agriculture as in many cases urban agriculture was regarded a non-meaningful activity in the city. The tendency of farmers to use any available open space is not a proper way of doing it. It is recommended that land planners should always be reminded that it is their responsibility to make sure that urban agriculture is included in the city master plan. The study further recommends that other sectors involved in urban agriculture to consider the importance of urban agriculture and to provide the required assistance to urban farmers.

6.2.5 Policy implications

Several policies have been put in place to safeguard urban agriculture as a legal activity in the city. Thus, all stakeholders in urban agriculture have to play their part to make sure farmers understand these policies and their importance including following stipulated guidelines. This will enable them to conducting their farming activities properly and in ways that ensure environmental protection. Furthermore, policy implementation requires a thorough monitoring of its achievements. If the objectives of the projects are not achievable as planned it is recommended that necessary changes in policies be put in place as soon as possible.

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Annexes

ANNEX: A

URBAN VEGETABLE PROMOTION PROJECT (UVPP) LOGICAL FRAMEWORK

PROJECT DESCRIPTION	INDICATORS	SOURCE OF VERIFICATION	ASSUMPTIONS
Overall objective: To assist urban farmers to improve food security or income of the household through improved vegetable production	<ul style="list-style-type: none"> -Decrease frequency illness in the household by 25% by 2000. -Increasing number of proper diet in the household by 20% by 1999. 	<ul style="list-style-type: none"> -Report from the health centre -House to house visits 	
Purpose: To improve vegetable production and raise the income of the household	<ul style="list-style-type: none"> -Farmers income increase by 25% by 2000. -Increase quantity in vegetable production by 30% by 2000. 	<ul style="list-style-type: none"> -District agricultural report -On farm survey -Farm to farm visit 	
Results			
<ul style="list-style-type: none"> -Vegetable production improved -Number of household engaged in vegetable production increased -Area for vegetable production increased -Income increased 	<ul style="list-style-type: none"> -Reduced incidence of pests and diseases by 50% by 2002 -Increased area of vegetable production by 10% by 2000. -Increased number of households engaged in vegetable production by 15% by 2000. 	<ul style="list-style-type: none"> -Farm/garden free from pests and diseases -Report on low incidence of pests and diseases from agriculture departments -Research report on urban agriculture from agriculture departments - 	
Activities			
<ul style="list-style-type: none"> 1.Farming system research in urban areas 2.Awareness creation on roles and potential of urban agriculture and lobbying on political level 3.Strengthening the urban extension structure through training of extension staffs in extension method and technical topics and of management in organizational aspects 4.Giving direct advice to farmer groups in technical aspects and capacity building/group strengthening/self organisation 5Linking with other actors to channel service to farmers 			<ul style="list-style-type: none"> -Farmers willingness on vegetable production -Availability of extension workers -Land availability -Farmers ability to change and to cooperate with other service actors such as fund provider NGOs/ microfinance institutions.

ANNEX: B CHECKLIST FOR THE INFORMANTS

a) UVPP

1. What were the project objective, goal, activities and purpose?
2. Who was your target group and why?
3. What were your activities during your life time?
4. What were your achievements?
5. What was your agreement with IMC after phasing out period?
6. What were your strategies for sustainability?

b) IMC

1. How was the organisation structure, mission and vision favour projects intervention?
2. How many staffs are there in your organisation?
3. How the organisation policies favour urban agriculture?
4. How was the vegetable production trend before, during and after UVPP?
5. What was the agreement with UVPP after phasing out?
6. What challenges did you met after UVPP phase out?
7. What were the UVPP activities at your organisation?

c) FARMERS

1. What was UVPP doing at your place in relation to UA?
2. What were the services provided to you by UVPP? How?
3. What was your production in quantity before, during and after UVPP?
4. What is your income obtained from vegetable production before, during and after UVPP?
5. Where are you selling your produce? How is the demand of your produce?
6. What are the problems concerning land tenure at your place? How did you get your land?
7. What problems do you face during production activities? What did you do to overcome the problem?