THE INFLUENCE OF SELECTED BUSINESS DEVELOPMENT SERVICES ON THE PRODUCTIVITY OF FARMERS: A CASE OF TECHNOSERVE'S BANANA PROGRAM IN SOUTH IMENTI DISTRICT.

BY

JANE WANZA KAMAU

D53/RI/11755/04

A RESEARCH PROJECT PROPOSAL SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION OF KENYATTA UNIVERSITY, NAIROBI, KENYA.
DECLARATION

I hereby declare that this research study is my own original work and has not been submitted in any other institution of higher learning.

Signature: ........................................ Date: ........................................

Jane Wanza Kamau (D53/RI/11755/04)

SUPERVISOR'S APPROVAL

This research project was done under my guidance as the university supervisor.

Signature: ........................................ Date: ........................

Dr. Mary Namusonge
Department of Business Administration.

Signature: ........................................ Date: ........................

Mr. Dominic K. Ngaba
Chairman department of Business Administration, Kenyatta University, Nairobi, Kenya.
DEDICATION

This research work is dedicated to my entire family for the never fading support and constant encouragement they provided while I undertook my studies.
ACKNOWLEDGEMENT

I am greatly indebted to God for the gift of life, resources and time to study.

My sincere gratitude goes to my supervisor - Dr. Mary Namusonge, for the guidance, foresight and cooperation as I undertook this research work. I’m also grateful to all the other academic and administrative staff for the support they gave me throughout this course.

Special words of gratitude go to my family – George, Ian, David and Samantha - for their unwavering support and to my mother Mrs. Patricia N. Kamau for inculcating in me the infallible attributes of personal initiative, hard work and fortitude.

My Special gratitude goes to the staff of TechnoServe Kenya especially to Fred Ogana - Country Director, Henry Kinyua- Senior Business Advisor Horticulture Program and Tom Kimaliki- HR and Administration Manager, for believing in me and giving me the opportunity to pursue this study within their organization. Unforgettable is the Horticulture Program team namely Moses, Maureen, Caroline, Muthama and Isaiah; your constant support and contributions made this study not just possible but also enjoyable. To the rest of the staff, thanks for the smiles; they made me feel wanted.

Finally, my gratitude also goes to the American Reference Center, U.S Embassy in Nairobi for the reference resources provided as I undertook this research work.

Thank you and God bless you all.

Needless to say, I alone am responsible for any errors which may remain in this research paper.
# TABLE OF CONTENTS

Declaration ........................................................................................................ ii
Dedication .......................................................................................................... iii
Acknowledgement ........................................................................................... iv
Table of contents ............................................................................................. v
List of figures ...................................................................................................... vii
List of tables ...................................................................................................... viii
List of abbreviations and acronyms ................................................................ ix
Definition of terms .......................................................................................... x
Abstract ............................................................................................................ xii

## CHAPTER 1

### INTRODUCTION

1.1 Background of problem ............................................................................. 2
1.2 Statement of the problem ......................................................................... 4
1.3 Purpose of the study ................................................................................ 4
1.4 Objectives of the study ............................................................................ 4
1.5 Research Questions .................................................................................. 5
1.6 Justification of the study ......................................................................... 5
1.7 Significance of the study ......................................................................... 5
1.8 Limitation of the study ........................................................................... 6

## CHAPTER 2

### LITERATURE REVIEW

2.1 Introduction ............................................................................................... 7
2.2 Brief history of TechnoServe Inc. ............................................................. 7
2.3 Business Development Services (BDS) .................................................. 9
2.4 TechnoServe’s BDS Program .................................................................. 27
2.5 Business Development Services in the banana value chain ................. 31
2.6 Conceptual framework ........................................................................... 41

## CHAPTER 3

### RESEARCH METHODOLOGY

3.1 Introduction ............................................................................................... 42
3.2 Research Design ....................................................................................... 42
3.3 Population of the study .......................................................................... 42
3.4 Sampling Procedures ............................................................................. 42
3.5 Sample size .............................................................................................. 42
3.6 Data collection tools and procedures .................................................... 43
3.7 Data analysis techniques ........................................................................ 43
LIST OF FIGURES

Figure 1: The core elements of TechnoServe’s approach .................................................. 8
Figure 2: BDS Needs, Services, and Providers .................................................................... 12
Figure 3: The Layout of BDS players ................................................................................... 15
Figure 4: Service Delivery Model ........................................................................................ 16
Figure 5: Provider – Centric Model ..................................................................................... 17
Figure 6. Market Development Model ................................................................................ 19
Figure 7: Market Dynamic Perspective ............................................................................... 21
Figure 8: The Framework of a BDS Transaction ................................................................. 22
Figure 9: Pre-TechnoServe Banana Value chain ................................................................. 31
Figure 10: Post TechnoServe Banana value chain: the players and their roles .................. 32
Figure 11: Business Development Services and their providers in the banana program ...... 40
Figure 12: Conceptual framework on productivity of farmers ............................................. 41
LIST OF TABLES

Table 1: Producer Business Groups per district and their members. ............................................ 33
Table 2: List of Traders, monthly purchases and source of supply.................................................. 39
LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFE</td>
<td>Action for Enterprise</td>
</tr>
<tr>
<td>AGRA</td>
<td>Alliance for a Green Revolution in Africa</td>
</tr>
<tr>
<td>AMAP</td>
<td>Accelerated Microenterprise Advancement Project</td>
</tr>
<tr>
<td>BDS</td>
<td>Business Development Services</td>
</tr>
<tr>
<td>CABS</td>
<td>Cluster Access to Business Services</td>
</tr>
<tr>
<td>DAI</td>
<td>Development Alternatives Inc.</td>
</tr>
<tr>
<td>DIT</td>
<td>Directorate of Industrial Training</td>
</tr>
<tr>
<td>ERS</td>
<td>Economic Recovery Strategy</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agricultural Organization</td>
</tr>
<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
</tr>
<tr>
<td>HCDA</td>
<td>Horticultural Crop Development Authority</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>KARI</td>
<td>Kenya Agricultural Research Institute</td>
</tr>
<tr>
<td>KAS</td>
<td>K-rep Advisory Services</td>
</tr>
<tr>
<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
</tr>
<tr>
<td>K-REP</td>
<td>Kenya Rural Enterprise Program</td>
</tr>
<tr>
<td>KENFAP</td>
<td>Kenya National Federation of Agricultural Producers</td>
</tr>
<tr>
<td>LED</td>
<td>Local Economic Development</td>
</tr>
<tr>
<td>MoA</td>
<td>Ministry of Agriculture</td>
</tr>
<tr>
<td>MSC</td>
<td>Market Service Centre</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non Governmental Organizations</td>
</tr>
<tr>
<td>PBGs</td>
<td>Producer Business Groups</td>
</tr>
<tr>
<td>PRSP</td>
<td>Poverty Reduction Strategy Paper</td>
</tr>
<tr>
<td>SDC</td>
<td>Swiss Agency for Development and Cooperation</td>
</tr>
<tr>
<td>SEs</td>
<td>Small Enterprises</td>
</tr>
<tr>
<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities, and Threats</td>
</tr>
<tr>
<td>TNS</td>
<td>TechnoServe</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
**DEFINITION OF TERMS**

**Business Development Services (BDS):** Business Development Services refers to a wide array of non-financial services critical to the entry, survival, growth, productivity and competitiveness of small enterprises, thereby improving their ability to compete in a market-based economy.

**BDS Consumer:** This refers to the client(s) or the recipients of the Business Development Services offered by the BDS Providers. They include business owners, farmers e.t.c

**BDS Facilitator:** refers to international or local institution whose primary aim is to promote the development of local BDS markets. This may include provision of a range of services to BDS providers (e.g. development of new service products, promoting good practice and building provider capacity) and to BDS consumers (e.g. information, education about the potential for BDS purchase). A BDS facilitator may also perform other important functions, including the external evaluation of the impact of BDS providers, and advocacy for a better policy environment for the local BDS market. Currently, most BDS facilitators are public institutions, NGOs or project offices of donors, and are usually funded by governments or donors.

**BDS Provider:** a firm, institution or individual that provides BDS directly to Small Enterprises. They may be private for-profit firms, private not-for-profit firms, NGOs, parastatals, national or sub-national government agencies, industry associations, etc. They may also be firms whose core business is not services but who provide them as part of a broader transaction or business-to-business relationship.

**Cost effectiveness:** a service (of a given type and quality) is cost effective if it is provided at the lowest possible cost.

**Cost recovery:** refers to the extent to which the costs of providing a good or service are covered by revenues from the consumers.
Impact (sometimes called "effectiveness"): the effect of the service on the performance of BDS consumer or the client (i.e., that which can be attributed to the service itself, not to outside factors), or the broader economic and/or social effect of the intervention.

Outreach (sometimes called "coverage" or "scale"): refers to the proportion of the target population that uses the service. If the target population is limited and therefore smaller than the total population of Small Enterprises, then outreach should also be expressed in terms of actual numbers of Small Enterprises reached.

Private good: a good (or service) is said to be private if the benefits of consuming it are fully appropriable. For example, if the benefits of a business service accrue solely to the Small Enterprises purchasing that service, then that business service is a private good.

Public good: a good (or service) is said to be public if the amount consumed by one individual or firm does not reduce the amount available for consumption by others. In other words, it is impossible to exclude others from consuming the good (or service); the benefits are not fully appropriable. The benefits that accrue to others are an "externality".

Small Enterprises (SEs) in the context of this study refers to the agro-based enterprises of various sizes that along the banana value chain, including banana farmers who undertake banana farming as a business.

Sustainability (financial sustainability): a BDS is sustainable if commercially-motivated revenues are at least as great as the full costs of service provision (direct and indirect costs, fixed and variable costs). Generally, costs should include all those associated with the commercial operation of the provider; in addition to the running costs and other costs related to market research, product development, customer feedback etc.
ABSTRACT

Traditionally, services have been given low priority and referred to as a leftover category of minimal importance, compared with the ‘real’ endeavor of producing commodities and manufacturing goods. This is partly due to the perceived intangibility of services, which makes them easily interpreted as vague and weak. In addition, most BDS provision has been donor funded, however with reduced donor funding, development agencies are reducing their spending in the provision of BDS. But despite this, the crucial role of business services in successful economies is now beginning to be appreciated. This is supported by the fact that there is increasing recognition that services add value to commodities and goods and allow businesses to compete more effectively, access new markets, and operate efficiently (Riddle 2000). Hence this research study seeks to determine the effect of selected business development services (BDS) on the productivity of farmers within TechnoServe’s Banana program with specific focus on South Imenti District.

Due to the vastness of business development services, coupled with limitations of time and financial resources, the researcher restricted the study to production related BDS and marketing related BDS. The research was designed as a descriptive survey. The study population comprised of 1,311 banana farmers from which a representative study sample of 147 farmers was drawn using a simple random sampling method. These were issued with the data collection tool i.e. a structured questionnaire. Out of the 147 questionnaires issued 119 were returned fully filled. The data was then coded and analyzed using descriptive statistics namely the mode, mean, range, tables, graphs, charts, percentages and regression coefficient.

Upon data analysis the researcher established that there was a very strong positive association between the production and marketing related BDS received and their effects on the quantity of bananas produced and sold. This was further supported by other findings in the study which indicated that 57% of the respondents had increased farm area under banana production despite the limiting farm sizes which averaged 2.9 acres, in order to increase yield hence increase income. Though a significant majority of the farmers were satisfied with the quality and relevance of BDS information provided, an equal majority were concerned over the mode of delivery and the time when the services are provided. Hence the researcher suggests that the project owners can improve on these two aspects by taking time to understand the peculiar circumstances of the farmers such as their age, education level and time limitation in order to tailor their services to overcome such challenges.

xii
CHAPTER 1
INTRODUCTION

Poverty reduction, employment creation and private sector development—of which Small Enterprises are a core component—are at the top of the development agenda for donor agencies and national governments. Small enterprises include businesses in both formal and informal sectors, classified into farm and non-farm categories employing 1-50 workers (Sessional Paper, 2005). These enterprises cut across all sectors of the Kenyan economy and provide one of the most prolific sources of employment creation, income generation and poverty reduction. According to the Economic Survey 2008, the agricultural sector for example contributed about 24% of the Gross Domestic Product (GDP) and directly employed an estimated 3.8 million Kenyans in the rural areas. However, despite their significant contribution, small enterprises experience many binding constraints that inhibit the realization of their full potential (Sessional Paper, 2005).

The constraints faced by these enterprises are both financial and non-financial. They range from poor access to markets, poor access to financial services to unfavorable policy, legal and regulatory environments. Hence, there is need to increase the performance and competitiveness of these enterprises if they are to effectively respond to the challenges of creating productive and sustainable employment opportunities, promoting economic growth and poverty reduction. Business development services provide viable solutions to the non-financial constraints. These BDS are crucial for the entry, survival and growth of these Small Enterprises. However, as noted by the Committee of Donor Agencies for Small Enterprise Development, there is need for a paradigm shift in the provision of BDS since traditional interventions did not achieved the objectives of the development partners namely the donors and the governments. This statement underscores the need to improve the approaches of providing BDS to Small Enterprises owing to its ability to reduce poverty (Hatch 2001).

Before looking at BDS in depth, we need to set out clearly the link between BDS and poverty. BDS market development has a direct impact on poverty reduction and private sector development. The argument for BDS market development is straightforward: poverty alleviation requires private sector development, which requires Small Enterprise development, which requires business support services (Gibson et.al 2001). This is so because poverty although complex, is primarily about people’s lack of access to income-
earning opportunities and/or people’s limited capacity to respond to income-earning opportunities. Experience and evidence abound has shown that to address poverty, governments and development agencies need to pursue a market friendly approach to development, based on sound macroeconomic management, competent delivery of public services, structural reform, and open trade (Gibson et al. 2001).

Therefore, the aim of the government should be to create an environment conducive to Small Enterprise development (Hatch 2001). Such an environment provides relevant, differentiated business services, which meet the range of needs critical to Small Enterprise success. BDS are a very important means of supporting the development of micro, small and medium sized enterprises, which are known to create employment, generate income and contribute to economic development and growth. Employment and income generation are particularly important as far as impoverished rural areas, vulnerable communities and groups are concerned. In this sense, supporting BDS is an important means of achieving the Millennium Development Goals (MDGs) by addressing poverty and empowering the poor and vulnerable groups (UNDP, 2004).

It is worth noting that improving the performance of Small Enterprises requires many ingredients, hence this study focused on the specific contributions of production related BDS and marketing related BDS on the productivity of farmers within TechnoServe’s Banana program confined to South Imenti District. Bananas are probably the first fruits on earth and they are the main fruit in international trade besides been the most popular fruit in the world. In terms of volume, they are the most exported fruits, while they rank second after citrus fruit in terms of value. According to the Food and Agriculture Organization of the United Nations (FAO) Statistics estimations, bananas are the fourth most important food crop in the world after wheat, rice and maize. Hence, Banana plays very important economic, social, environmental and political roles.

1.1 Background of problem
Initially, Business Development Services were referred to as non-financial services. This title, non-financial services, was a rather uninspiring epithet. Furthermore, it described what the services were not, rather than what they were, and obviously as a result, these services were relegated to a rather insignificant, leftover second place behind financial services. Hence, in 1996 after a rebranding/renaming process these services were henceforth referred to as
Business Development Services. Though this is acceptable for now, there is need for change because inaccurate titles can limit the ability to fully confront the implications of the BDS (Gibson et al. 2001).

In actual sense, BDS have not been fully embraced by the Small Enterprises and some development agencies despite the vital role they play in improving the entry, survival, growth and competitiveness of these enterprises. In addition, limited access to business development services has further hampered the development of Small Enterprises. As Gibson et al. notes Small Enterprises require different business services at different stages of development. For example, at the start-up stage, they need business services to enable them identify viable businesses opportunities and undertake effective implementation of the selected business activities. Once established, the business services required include upgrading business management skills, refining production processes and marketing strategies. At the growth stage, the focus moves to business services that help in diversifying target markets, improving product design, and establishing effective networks (KAS, 2001). Therefore, the nature of business services needed is influenced by sector and stage of Small Enterprises development; hence the provision of BDS to enterprises should be need-based. This makes provision of these services expensive.

BDS practitioners are also faced with the challenge of achieving higher outreach sustainably. In addition, fewer and fewer donors are willing to subsidize the provision of BDS (KAS 2001). This is in a backdrop of numerous studies that have cast doubt on the willingness of Small Enterprises to pay for the BDS provided. However though, some recent studies show that Small Enterprises are willing to pay if they can see value; if their needs can be addressed. This view is strongly backed by the Krep Advisory Services report on BDS in Kenya to Kenya Gatsby Charitable Trust in which the authors suggest that BDS providers must offer demand-driven services that clearly meet identified needs and for which the Small Enterprises are willing and able to pay (KAS 2001). Paying fees is one clear way that Small Enterprises show their felt value for services provided. If a service adds value to their business, then they will be willing to pay and if they pay, they expect quality service in return which helps improve the quality of work delivered by the BDS providers.
1.2 Statement of the problem

Business development services are crucial in determining the competitiveness of enterprises in market based economies. The nature of business development service required by any enterprises is influenced by the sector type and stage in its development cycle; hence differentiation of services provided is crucial despite the fact that this makes the provision of such services expensive. However, despite the seemingly obvious demand for BDS, the access to these business development services by Small Enterprises is a major challenge in developing countries including Kenya. Available research findings show the supply has been administered rather haphazardly and has not been well targeted, with most BDS providers concentrating on training (KAS 2001).

TechnoServe, an international economic development NGO has been offering BDS to Agro-based enterprises. These services include counseling and advice on business registration and management, linkage to input suppliers, markets and other service providers, provision of technical assistance as well as infrastructure related services. However, it has been difficult to quantify the real influence of these BDS on the performance of the enterprises (Dransfield 2007). These concerns are arising out of the fact that small enterprises are influenced by a host of factors. Besides provision of BDS is very expensive and has been largely donor funded however fewer donors are willing to subsidize its provision and fewer enterprises willing to pay for services (KAS 2001).

1.3 Purpose of the study

The purpose of this study was to determine the influence of selected business development services on the productivity of the farmers in TechnoServe’s Banana Program in South Imenti District.

1.4 Objectives of the study

1. To establish the influence of production-related business development services on the productivity of farmers in TechnoServe’s Banana Program in South Imenti District.
2. To ascertain the impact of marketing-related business development services on productivity of farmers in TechnoServe’s Banana Program in South Imenti District.
3. To establish the satisfaction level and attitude towards business development services from the farmers in TechnoServe’s Banana Program in South Imenti District.
1.5 Research Questions

i) What is the influence of production-related business development services on the productivity of farmers in TechnoServe’s Banana Program in South Imenti District?

ii) What is the impact of marketing-related business development services on productivity of farmers in TechnoServe’s Banana Program in South Imenti District?

iii) What is the satisfaction level and attitude towards business development services from the farmers in TechnoServe’s Banana Program in South Imenti District.

1.6 Justification of the study

Studies have shown that what makes a difference in a business is not just the capital, inputs and labour but also the ability of the business to acquire and utilize business services that enable it enter, survive, grow and eventually expand into a given market. BDS provision is an expensive affair for all in the development world more so when the project sponsors have to foot the associated cost. As such, despite its importance, it has often been relegated as insignificant to the detriment of the target group. Hence this study was to determine the influence of selected BDS on the productivity of farmers in TechnoServe’s Banana Program in South Imenti District.

1.7 Significance of the study

1.7.1 To Development Agents

The findings of this study will enable BDS providers and facilitators to understand the satisfaction level and attitude towards the BDS they provided. In addition the information gathered, will provide a sound rationale to guide in the development of BDS Programs.

1.7.2 To Academic Community

This research findings will add more information and broaden the knowledge on BDS for small enterprises, more so BDS for agro-based enterprises.

1.7.3 To Consumers of BDS

The study will give the farmers an opportunity to air their views on the BDS provided so far, which will help to improve service delivery.
1.7.4 To the Researcher

First and foremost, this study is a requirement for the fulfillment of the requirements for the award of a Master of Business Administration degree which the researcher is pursuing. In addition, it will benefit the researcher who is a business consultant by broadening her knowledge in BDS and hence ability to advise clients on matters related to BDS provision.

1.8 Limitation of the study

i. As the researcher set out to carry out this study she was aware that there were many important but hidden BDS i.e. the informal BDS, often concerned with advice and knowledge. These were offered without a financial transaction but still fall within the confines of a transactional relationship.

ii. There was a limitation of time and financial resources required to carry out the study.

iii. The world of small businesses that BDS interventions seek to improve in some way is inherently complicated. SMEs do not exist by themselves; they compete in markets against other businesses, have relationships with a range of suppliers, are influenced by government actions and are subject to the whims of market trends. In short their world is complex. This complexity is even greater in the small informal businesses, where the distinction between business and household is blurred. This complexity poses great challenges when assessing the influence of BDS on productivity.

iv. There are also some practical problems in BDS performance measurement. For example, as soon as one starts to assess change caused by an intervention, the issues of displacement and attribution arise. It is thus often difficult to fully ascertain whether the changes in performance were caused by the intervention or by other factors as well. Hence the researcher proposed to use both qualitative and quantitative questions to capture detailed and distinct information as much as possible.
CHAPTER 2
LITERATURE REVIEW

2.1 Introduction
This chapter discusses theoretical and empirical literatures on business development services. It begins by briefly discussing TechnoServe Kenya and the banana industry. The core part discusses the Business Development Services in the Banana Value Chain. At the end of the chapter, the researcher discusses a diagrammatic representation of the conceptual framework that shows the relationship between variables that were investigated in this study.

2.2 Brief history of TechnoServe Inc.
TechnoServe Inc. is an international, non-governmental, economic development organization founded in the United States of America (USA) in 1968 by Ed Bullard, a Connecticut businessman and philanthropist. He was inspired to start an organization to help hardworking rural people in developing countries harness the power of private enterprise to lift themselves out of poverty. Bullard's work was guided by two core principles, revolutionary at the time: the power of private enterprise to transform people's lives and the lasting value of providing a hand up rather than a handout (TNS Annual Report 2007). These principles have remained at the heart of TechnoServe's efforts, even as its works evolve to focus on improving living standards on a larger scale in order to transform entire communities and countries.

TechnoServe’s strap line business solutions to rural poverty, is drawn from the founders’ belief that private enterprise can drive economic growth and positive social change. Hence, with the support of a wide range of public and private-sector partners such as USAID, the Rockefeller Foundation, Bill & Melinda Gates Foundation, Lenovo as well as numerous individuals, it works with both cooperatives and individual entrepreneurs to build growth-oriented, sustainable businesses that benefit the rural poor. They also work with diverse industry stakeholders, to improve the business environment. This strong support has enabled TechnoServe to replicate its success and expand its operations in 34 countries throughout the world by end of June 2009, according to information posted on its 2008 Annual Report. TechnoServe Kenya, was established in 1973, and has most of its current programs in the agricultural sector. TechnoServe’s expertise and focus is on 3 key areas; developing entrepreneurs; building businesses and industries and improving the business environment.
Climbing out of poverty in the developing world takes more than hard work; it takes economic opportunities. Hence, guided by the philosophy that a hand up is better than a hand out, TechnoServe’s work revolves around helping people identify and capitalize on good business opportunities that help to transform the lives of the rural poor by generating jobs and markets for their products and services. In summary, figure 1 below illustrates the core elements of TechnoServe’s approach.

Figure 1: The core elements of TechnoServe’s approach

- **Analyze the business opportunity**: Identify a high-potential industry that can be scaled and replicated, benefit the rural poor, and have point(s) along the value chain where interventions can be most effective.

- **Identify the entrepreneur**: Find someone with business aptitude, drive and determination necessary to succeed.

- **Develop the business**: Provide the necessary technical and business development support to help the business reach its full potential.

- **Refine & Scale-up to expand the impact**: Improve the business model based on experience and use it to launch or expand more businesses within the industry.

**Improve the enabling environment**

Promote regulations and policies that improve the business climate.

Source: TechnoServe records
2.3 Business Development Services (BDS)

2.3.1 Historic perspective of services

Traditionally, the services sector has been given low priority. Services are referred to conventionally as the tertiary sector following the primary sector i.e. agriculture, tourism, mining etc and secondary sector i.e. manufacturing (Riddle 1992). Economic writers from Smith to Marx labeled services as unproductive. They were often referred to as residual - a leftover category of minimal importance compared with the “real” endeavor of producing commodities and manufacturing goods. The perceived intangibility of services makes them easily interpreted as vague and weak in comparison with the tangible certainties of physical commodities and goods. As Riddle (2000) notes, production is associated with a kind of moral wholesomeness that renders it positive, sometimes irrespective of its cost, quality, or appropriateness.

Despite their obvious and increasing importance, the lack of priority for services is especially surprising, given their importance in successful economies. The crucial role of services in successful economies is now beginning to be appreciated. This is specifically so because of their significant contribution to economies of the world. It is difficult to be precise about how much of the wider service sector is accounted for by business services, but it has been estimated to be one-half in high-income economies and one-third in low-income countries. Indeed, business services are among the highest growth areas in many economies. This is supported by the fact that there is increasing recognition that services add value to commodities and goods that allow businesses in these sectors to compete more effectively, access new markets, and operate efficiently.

In addition, the increasingly complex and competitive local and global environment demands that businesses have to focus on their core areas of competence, staying with what they know best rather than trying to do everything in-house (Begg, Fischer and Dornbusch 1987). This therefore means developing effective working relationships with a range of external specialists, to whom the business outsources such none core services. This trend has also been hastened by technology developments: the opportunities and threats posed by them. The growing importance of services means that knowledge—how to do things, how to communicate how to work with other people—is becoming ever more important, overshadowing other sectors of the economy throughout the world.
2.3.2 Business need for non-financial services

As Gibson et al. 2001 notes Small Enterprises have a range of different “business needs” that are critical to their survival and growth. At the start-up stage, entrepreneurs need business development services to enable them identify viable businesses opportunities, undertake effective implementation of the selected business activities and access the required resources including equipment, technology and market information. Once a business has been established, the needs of the entrepreneur shift from survival to consolidation and will require services such as upgrading business management skills, refining production processes, control systems and marketing strategies (KAS, 2001). At the business growth stage, the entrepreneur is more in need of business services that will help in diversifying target markets, improving product design, acquiring better technology, accessing finance and establishing effective networks.

However, despite this clear need, hence market for business support services; little has been done to avail the much needed services to Small Enterprises. This view is supported by the findings of the National MSE Baseline Survey of 1999 carried out by CBS/ICEG/K-REP which revealed that of the 1.3 million MSE in Kenya, 93.1% of them did not receive any form of BDS assistance between 1995 -1999. This means that only 6.9% accessed BDS during that period. The reasons for this appalling situation ranged from the lack of awareness among the SEs on the availability of BDS, to inability of these SEs to meet the conditions set by BDS providers e.g. payment of fees. In addition, most BDS provision was supply driven rather than demand driven, hence did not target the real need of SEs. From the fore mentioned studies, it can be said that very few Small Enterprises have accessed any BDS.

Yet, access to non-financial services is a vitally important dimension in the Small Enterprises environment and a key factor in determining their competitiveness in market based economies. Non-financial services relate to different business needs and are provided by a multitude of service providers as illustrated in Figure 2 below. The nature of these needs is influenced by sector and stage of SEs development. The success of a Small Enterprise, to a considerable degree, stems from the owner-manager’s ability to manage the business in an interdependent manner and to develop appropriate working relationships with providers of services and other stakeholders in the environment. An environment that is conducive to Small Enterprises development provides relevant, differentiated services to meet these needs on an informal or formal basis.
2.3.3 **Definition of BDS**

There is no universally accepted definition of Business Development Services; hence for the purpose of this study we shall adopt the following definition:

*Business Development Services refers to a wide array of non-financial services critical to the entry, survival, growth, productivity and competitiveness of small enterprises, thereby improving their ability to compete in a market-based economy.*

Some examples business development services as analyzed by Dieter 2006 include:

i. **Market access services:**

   Market information; market linkages; trade fairs and product exhibitions; development of samples for buyers; subcontracting and outsourcing; marketing trips and meetings; market research; market space development; showrooms; packaging; advertising.

ii. **Input supply services:**

   Linking SMEs to input suppliers; improving suppliers’ capacity to provide a regular supply of quality inputs; facilitating the establishment of bulk buying groups; dissemination of information on input supply sources within the small enterprises locality.

iii. **Technology and product development services:**

   Technology transfer/commercialization; linking SMEs and technology suppliers; facilitating technology procurement; quality assurance programmes; equipment leasing and rental; product design and development services.

iv. **Training and technical assistance:**

   Mentoring; feasibility studies and business plans; exchange visits and business tours; franchising; management training; technical training; counseling/advisory services; legal services; financial and taxation advice; accountancy and bookkeeping.

v. **Infrastructure-related and information services:**

   Storage and warehousing; transport and delivery; telecommunications; courier services; information via print, radio, TV; internet access; computer services; secretarial services.

vi. **Policy and advocacy:**

   Formation and management of member associations; direct advocacy on behalf of SMEs (e.g. taxation problems and premises); sponsorship of conferences; policy studies.

vii. **Access to finance:**

   BDS providers do not provide direct financial support, but link businesses to banks and micro-finance institutions; provide information on credit schemes and conditions; encourage savings; assist in business planning for loan applications.
2.3.4 **Analysis of BDS to Small Enterprises in Kenya**

This analysis focuses on general business services available to small enterprises. However, where possible, emphasis will be put on business services that target the Agro-based enterprises. There is a wide range of business services available to small enterprises. Some of the most common ones include:

i) **Training**

Kenya has over 500 registered BDS providers (KAS 2001). The majority of these BDS providers offer training. Numerous studies including the National Baseline Survey of 1999 have show that training is the most common BDS offered. Most BDS support programmes offer management and technical training to enterprises. Management training focuses on business skills and entrepreneurship while technical training, focuses on equipping the target
group with practical skills such as basic agronomic skill e.g. how to remove excess suckers from a banana plant etc. Technical assistance on the other hand aims at assisting the target groups acquire skills related to routine business practices such as bookkeeping, stock control etc (National Baseline Survey, 1999). In the agricultural sector business start-up training mainly targets farmer groups. Currently Kenya Agricultural Research Laboratories (KARI) leads in the provision of market-led training for the agricultural sector. Other players include Approtech (Kick -Start International), Kenya Institute of Business Training, NGOs and private sector consultancy firms. Majority of the BDS providers offering Agribusinesses training products rely on donor support to offer their services (KAS 2001). In addition to training, the majority of BDS providers offer MSEs other services such as business planning, cash-flow projection, product design and development, consultancy and counseling.

ii) Information
Small Enterprises require different types of information for their entry, survival and growth. There are different sources for this information (KAS 2001). In the TechnoServe Banana Project, the Small Enterprises obtain information from various sources including KARI, Africa Harvest and TechnoServe as well. The Ministry of Agriculture - Extension department has been a key source of information for the farmers and other players in the sector. KARI through its Agricultural Information Resource Centre has documented and published different sets of information that are relevant to the farming fraternity. Africa Harvest is a key source of technical information for the farmers in this project. According to the Program’s Annual Report for 2007, it is charged with providing the technical assistance needed by the farmers to ensure good agronomic practices, which have a direct impact on the quality and quantity of banana yields.

iii) Advocacy
There are over 300 associations all over the country that lobby for improved operating environment for their members (KAS 2001). Agricultural producers’ interests are specifically represented by the Kenya National Federation of Agricultural Producers (KENFAP), which is an umbrella body of all agricultural commodity based associations. According to the Program’s Annual Report for 2008, TechnoServe is currently working with the Banana Sector stakeholders with the assistance of KENFAP to establish the Kenya Banana Stakeholders Association, that will lobbying and advocate and for the plight of the banana farmers nationally.
2.3.5 BDS markets – the players and their roles

There are various BDS market players, with different interests depending upon their commercial versus development orientation (Best et.al 2005).

They include Small Enterprises (SEs), which are profit-oriented enterprises that may be agro-based and or purely trading entities. They are the actual or potential clients of BDS providers. They constitute the demand side of the market.

BDS providers are individuals, private for-profit firms, Non-Governmental Organizations, national or sub-national government agencies, industry associations, etc. that provide business services directly to the Small Enterprises (Gibson et al 2001). They may be Small Enterprises or be firms whose core business is not services but who provide BDS as part of a broader business transaction.

BDS facilitation is a function normally carried out by development-oriented institutions having the objective of BDS market development (Best et.al 2005). These development-oriented institutions include Non-Governmental Organizations, industry and employers’ associations, government agencies and others. BDS facilitators support BDS providers for example by developing new service products, promoting good practice, and building provider capacity (Riddle 2000). BDS facilitators can also work on the demand side, for example through educating Small Enterprises about the potential benefits of services. As Gibson 2001 notes in some cases, an entity may have a dual role that of BDS facilitator and BDS Provider as is the case with TechnoServe and Africa Harvest in this program.

The donor’s roles is to provide funding for BDS projects and programs, while the principal role of governments is to provide an enabling policy, legal and regulatory environment for Small Enterprises and BDS providers to thrive. In addition, the government should provide the basic infrastructure, education and information services to the general public. In BDS market development, the main function of donors and governments is facilitation of the demand and supply sides of the BDS market, represented by the dashed lines in Figure 3.
2.3.6 Informal BDS

Informal BDS includes all those activities and strategies that are undertaken outside of formal institutions to help Small Enterprises improve their businesses. Informal BDS are enterprise-based, non-structured and often incidental (KAS, 2001). They are provided either by friends, relatives or by business networks. They often take the form of advice and also include observation of how others conduct their businesses. Past research shows that training is the main BDS provided by informal BDS providers through apprenticeship.
2.3.7 Evolving models of BDS

In the recent past, BDS programs have continued to evolve and broaden. The provider-centric perspective, which characterized the past decade, is giving way to more complex ideas about the development of BDS markets. However, newer models are still encased in the designs, implementation and performance measurement structures of older models. The major challenge that BDS practitioners continue to face is the design and implementation of effective and affordable interventions that support the survival, growth and competitiveness of enterprises especially the Small and Medium Enterprises (SMEs), which are a critical driver of economic growth in developing countries.

Over the last 30 years, business development has undergone fundamental changes, from models of direct service provision to approaches emphasizing building the capacity of providers to more complex designs that address market development and the transformation of business systems. According to Knopp 2001, in his article “The brave new world of BDS”, featured in Developing Alternatives, a journal of Development Alternatives Inc, these models include:

a) Service Delivery Model

The earliest and simplest model can be defined as the service delivery model. In this model, a funded intermediary organization determines the needs of an SME sector and provides direct services to the clients which are more often than not heavily subsidized. This model is illustrated in Figure 4.

Figure 4: Service Delivery Model

![Figure 4: Service Delivery Model](image)

Although the service delivery framework ensures coverage among the target group, the greater context in which the programs operates as well as limited consideration of local service suppliers, often leads to short-lived interventions that do not necessarily meet the needs of the SMEs.
b) Provider – Centric Model

Throughout the early 1990s, donor agencies struggled to integrate BDS into their development programs mainly because of the non-existence of an entrepreneurial culture as well as limited supply of BDS providers in many developing countries. Consequently, to create a cadre of capable service providers, donors made major investments (subsidies) in facilities and systems, while providing technical assistance directly to BDS providers. This led to the development into the Provider-Centric Model illustrated in Figure 5 below. Therefore, in this model a donor agency provides funding to set up or strengthen a service provider either directly or through an intermediary (funded organization). In return, the BDS providers are instructed to offer pre-defined courses to target population at heavily subsidized rates, often 100%. This approach greatly limits the nature of services offered and narrows flexibility of the BDS provider.

Figure 5: Provider – Centric Model

Provider – Centric Tools
i. Capacity strengthening inputs
ii. Skills training
iii. Product Development
iv. Seed Capital and institutional Development subsidies

Heavy Supply-side Orientation

Source: Developing Alternatives

In his analysis of the provider-centric model, David Knopp, an Enterprise Development Specialist at Development Alternatives Inc. notes that the predominately supply-side orientation of the provider-centric model has several distorting effects. These include

i. Service providers are heavily dependent on subsidies to such an extent that the service providers view the donors rather than the target group as the clients.

ii. Services are not always designed to meet client needs because BDS providers are instructed to offer pre-defined courses to target population.
iii. Any BDS provider attempting to offer a similar/related service on commercial terms is unable to compete with the heavily subsidized offerings and hence they are bundled out of business because their services in comparison are viewed as too expensive.

iv. The absence of a feedback mechanism between Donor, BDS providers and target groups means that it is difficult to know or even measure client preference. This situation is worsened by the fact that services are free and offered at heavily subsidized prices hence the client is simply viewed as a passive recipient.

v. There is little room for service providers to innovate or refine their services because all that matters is the achievement of milestones and performance targets set by the donor. Donor subsidies are linked to these two factors.

Knopp concludes that the provider-centric model fails to take into account the development of markets at the systems level. It simply fails to provide direction on how to offer affordable BDS that are designed to genuinely address the needs of target groups, while at the same time ensuring quality in service delivery and outreach. Issues relating to sustainability after the exit of the donors are equally not addressed. Hence, motivating the search for a "new paradigm" for BDS is the shared recognition that traditional interventions have failed to provide quality, affordable BDS to a large proportion of the target population of small enterprises. There is a general feeling that publicly provided and publicly funded services have not achieved their objectives: enterprise productivity and competitiveness, job creation, poverty alleviation, and social mobility. Moreover, good performance measurement is lacking making it difficult to evaluate and compare programs.

e) Market Development Model

The origins of BDS market development lie in the early-to-mid-1990s, when it became clear to many development agencies that in comparison with the results of microfinance, BDS, after many years of funding and endeavor, had disappointing results, specifically with regard to the following:

i) Outreach - Only a small number of Small Enterprises were being reached with officially supported services. Most were untouched.

ii) Sustainability - Public organizations supported to deliver services consumed resources but, with little or no income from their Small Enterprises clients, depended on aid. The model of BDS therefore required never-ending subsidization.
iii) Impact - There were few signs of major impact although, in the absence of a price-based transactional relationship, this was difficult to judge. Certainly, there seemed to be little perceived value on the part of Small Enterprises clients.

iv) Efficiency - The cost bases of providers and their ways of working seemed more appropriate to the world of donors than did that of small enterprises.

Drawing on the microfinance experience, in which open comparison and learning had been a key foundation of progress, practitioners instigated a major review, resulting in, the first instance, preliminary guidelines based on core principles of good practice. The lesson emerging from this process was clear: The basis for effective and sustainable BDS is business and market relationships between providers and SMEs. On the basis of this finding, a new approach has evolved i.e. the BDS market development model, illustrated in Figure 6.

Figure 6. Market Development Model

![Market Development Model](image)

Source: Developing Alternatives

In the above Market Development Model, the goal of an intervention is the creation, development and continued evolution of a well-functioning BDS market, with a diverse array of high-quality services that meet the needs of a large proportion of Small Enterprises affordably. Gibson, Hitchins and Bear (2001) emphasis that in order for the goal of BDS Market Development Model to be achieved there must be a new or at least modified set of core skills and practices in conceptualizing BDS in the new market development paradigm; diagnosing market problems as the basis for intervention; making informed decisions on strategy, intervention options, and partners and their roles; financing interventions with the
right type of incentives and subsidies; and evaluating desired changes and monitoring the impact of BDS interventions. The approach stresses the importance of commercial transactions between suppliers and consumers, with an emphasis on the demand-side interventions to stimulate BDS markets. This model assumes that business development services are private goods and as such are best provided commercially.

The BDS market development model has since been further refined using the “Guidelines for Donor Intervention,” an output of a consultative forum led by the Committee of Donor Agencies for Small Enterprise Development. As a result, the supply-side strengthening of earlier models has been replaced with a demand-driven model that emphasizes commercial, business-like interventions. Gibson et.al (2001) in their work, “BDS Market Development: A Guide for Agencies on the Emerging Market Development Approach to Business Development Services”, note that in an effort to encourage more market players (BDS providers) offering a broader yet more specialized array of services, donors support towards building the capacity of business development services providers is more focused towards building the industry rather than specific BDS providers. In addition, the use of subsidies is limited to specific market development objectives with gradual shift towards a commercial market. It has also been noted that target groups are more willing to pay the full cost of business development services they need if the services/products are appropriate and affordable. Clearly these are great improvements, although more remains to be done.

d) Market Dynamics Perspective
Knopp 2001, in his article on “The brave new world of business development services” points out that the evolution of BDS intervention models illustrates that there is still a lot of learning, testing and developing of appropriate levels and methods of BDS intervention that is currently going on. Like other leading BDS experts, he notes that the desire to clearly distinguish between the old and the new has created the mistaken impression that the old models have merely been set aside as failure ideas, which is not be the case. Hence, he suggests that the insights learned from previous models should be incorporated as useful tools in an expanded understanding of the problem. Some proponents of the market development model have failed to see that in certain cases supply-side interventions may be the solution for example, in order to accomplish broader objectives such as BDS market development, supply-side interventions might still be valid. Hence, the market dynamics perspective takes on a broader and pragmatic systems approach to BDS interventions and market development
employing a variety of tools and approaches. Therefore, depending on the dynamics of a specific market under consideration, an intervention would use a specific mix of demand and supply-side interventions to get the job done as illustrated in Figure 7 below.

**Figure 7: Market Dynamic Perspective**

**Provider Centric Tools**
- Capacity-strengthening inputs
- Skills training
- Product Development
- Mentoring

**Market Development Tools**
- Vouchers to stimulate demand
- Marketing and information
- Public relations campaign

**Target Group**

**BDS Providers**

**Funded Organization (Facilitator)**

**Variables affecting the system**
- Government
- Donor community
- Finance & banking sector
- Culture

**Information Loops and Feedback Mechanisms**

Characterized by
- Dynamics and shifting market
- Supply responding and adjusting to demand signals
- Facilitator intervention targeted at leveraged points
- Variables within system affecting market

Source: Developing Alternatives

The demand and supply-side tools are best applied strategically at critical leverage points to reinforce the development and functioning of BDS markets (Riddle 2000). This Market Dynamics perspective relies on timely feedback to adjust its approach and provides information to BDS suppliers and donors enabling them to adjust their products and tailor the services to meet the effective demand. Knopp 2001 concludes that the market dynamics perspective does not offer a prescriptive methodology or a new model for BDS intervention, but rather it recognizes the complexity within systems and the fact that no single model alone can advance the development of BDS markets.
2.3.8 BDS Market analysis - Demand and Supply

Economic theory describes a market as a set of arrangements/transactions by which buyers and sellers are in contact to exchange goods or services (Begg et.al 1987). Understanding the dynamics of this transaction is the key to BDS market analysis. Figure 8 shows the framework of an effective transaction between a consumer and a business service provider.

The consumer (black arrow) recognizes the causes of underperformance, concludes that a solution is required, and is willing to pay for a problem solving service i.e. effective demand. The provider (white arrow) has the ability to present an attractive offer that the consumer wants, and has the technical know-how to solve the problem with demonstrated positive impact on business performance i.e. effective supply.

Figure 8: The Framework of a BDS Transaction

**Figure 8: The Framework of a BDS Transaction**

**A**

**SME UNDER-PERFORMANCE**
- Low profits
- Poor quality seedlings
- High cost on farm inputs
- Insufficient markets
- High transport costs
- Low sales

**Impact on SME Performance**

**B**

**SME CONSTRAINTS / PROBLEMS**
- Skill deficiencies
- Limited market information
- Poor financial control
- Poor inventory control
- Inadequate equipment
- Inefficient resources use

**Solution is required**

**C**

**SOLUTIONS & REQUIREMENTS**
Specific services such as
- Training
- Technical Assistance & Advice
- Accounting services
- Information Services
- After-Sales support

**D**

**SOURCE OF SERVICES**
Market mechanisms that can make a service available
- Family
- Friends
- Informal networks
- Formal networks e.g. Associations
- Other businesses
- Fee-for-service Provider

**Willingness to purchase a service**

**Key**

- Demand side flow
- Supply side flow
2.3.9 Principles of good practice in Business Development Services

In 1996, the Springfield Centre was asked by the Committee of Donor Agencies for Small Enterprise Development to undertake a study on good practice in non-financial services for small and medium enterprises. Six months later, in 1997, the Centre submitted its report. The basis of this report was a set of guiding and core principles on how BDS should be designed and delivered (Gibson 2001). Specifically the principles outline how interventions should be designed and managed by facilitative organizations such as donors or NGOs; how institutions i.e. providers of BDS should be developed and how they should operate and how services should be developed and delivered. This section principally discusses the principles and later on we see their application in TechnoServe’s Banana Program.

i) Businesslike and demand-led

Emerging both from theory and hard experience, this is the first and probably the most important principle of good practice in BDS: namely that the design and implementation of any BDS intervention should be driven by business-like concerns, skills and values (Field et.al 2000). In practice this is characterized by business relationships that are transactional in nature, centered around exchange; mutual benefit and respect; and response to demands rather than needs, in place of the ‘Conventional’ development interventions which are charitable relationships characterized by one-way flow of benefits from a benefactor to a beneficiary. In such scenarios, rewards are performance based, services offered are paid for and products and services are developed to address the real needs of Small Enterprise.

ii) Sustainability

Many BDS practitioners agreed with Gibson 2001 that, BDS interventions must be based on a clear picture of long-term institutional sustainability. This means that, at the BDS intervention design stage, the long-term role of the state should be articulated clearly and aligned to the capacity and resources the state/government has put in place to support BDS. Besides the government role, the long-term role of the donor should be considered. This is important because donors’ funds for any project are limited to a period of time and within a certain amount of resources which are often very limited. Hence, when designing BDS interventions it is vital to think of what will happen when the project come to a close. For the BDS world, this means that there is need to develop the BDS market as well as BDS providers to be able to carry on with this role beyond the project period. Therefore, it is paramount that the long term role of the private sector is taken into account.
iii) Focused with strategic awareness

Consistent with the first principle of good practice in BDS, i.e. being businesslike, it is also important that BDS organizations focus on what they are good at with a specific client group (Gibson 2001). In increasingly complex market environments, businesses recognize that they cannot be experts at everything. Rather, they need to identify their distinctive area of competence i.e. where they add value, and focus on this. This hence means sub-contracting important but secondary functions to other specialized providers (Field et al. 2000). This approach differs significantly from that often followed in development interventions, where organizations may appear as generic helpers, offering integrated packages rather than specialized packages. Experience abound suggests that not only does 'mixing' result in services of poor quality but it may also send mixed messages to clients, particularly in cases where organizations try to mix finance and BDS. Focus does not imply being strategically narrow-minded. But rather it requires that appropriate networks and relationships are established so that BDS providers know their position within the wider environment and to encourage the development of mutually beneficial linkages (Riddle 2000).

iv) Participatory

In the context of BDS, participative processes are useful in understanding the potential and real clients’ situations, in developing relationships with them and developing products and services that met their needs. In addition, participative approaches require those playing a facilitative role recognize the importance of people’s ownership of their organization and their ideals (Gibson 2001). In BDS just like in Small Enterprises, ownership and management are usually manifested in one entrepreneurial leader. Therefore, when selecting partners and managing relationships with them, donors and BDS Facilitators need to offer suitable space and incentives to encourage ownership and avoid the creation of donor-centered entities (Panlibuton and Meyers 2004). In the case of large scale BDS Providers such state-owned institutions, it is important that they allow individual staff to have greater ownership of their work, so that they can take more responsibility for the results and a greater proportion of their income should be directly related to performance.

v) Enhance outreach

A major weakness with many BDS initiatives is that they fail to reach significant numbers of Small Enterprises particularly in comparison with Microfinance. BDS Providers should have an explicit view on how they will enhance their outreach sustainably (Riddle 2000). One of
the ways of doing this is to ensure that product design and pricing is more focused on the Small Enterprises priority needs-specific problem areas. Donors also need to focus more on BDS market development in order to build a wide range of different types of entrepreneurial providers offering different types of products to discerning, knowledgeable clients in vibrant functioning markets.

**vi) Subsidiarity**

This is the key principle guiding the role of government in BDS. State interventions are usually justified on the basis of market failure or in the pretext of creating equity i.e. opening opportunities to those excluded by market processes. But and unfortunately markets are never perfect and there is always some inequity! Hence, any government subsidies should be focused in areas of core competence e.g. policy setting. In addition, if subsidies must be used, the intervention should be designed such that it is less distorting to the provider-client relationship (Gibson 2001). Clearly BDS markets will not develop if they are undermined continuously by random, ill-considered subsidies. Long-term use of subsidies to stimulate demand or supply of BDS are likely to distort BDS markets and crowd out the commercial provision of services, thus undermining the objectives of impact, outreach, cost effectiveness, and sustainability that are the pillars of the BDS market development paradigm (Riddle 2000). Subsidies may be justified in the short term as an investment in the development of BDS markets (e.g. for the development of new products and models). However, even temporary subsidies can create distortions, and are justified only if their market development impacts outweigh their distortionary effects. Therefore, donors must exercise care in the application and duration of subsidies. To further avoid the distorting effects of subsidies, donors must pay attention to the point of subsidy application. Subsidies applied at the level of the BDS transaction i.e. direct subsidies to reduce the cost or price of services, are likely to be more distorting than developmental subsidies.

**vii) Tight Performance measurement**

Historically, financial management in the BDS world has largely been neglected. Despite the presence of financial records, they are not used to improve decision making. Worst still costing is still a foreign topic in BDS (Gibson 2001). Consequently, without complete basic financial information, which provides the basis for performance assessment in any business, it is not possible to let alone be businesslike but also to measure performance. Performance measurement should cover a wide scope of issues ranging from outreach to cost effectiveness.
and sustainability. Monitoring and evaluation is about assessing performance according to four broad dimensions or criteria i.e. Outreach, Efficiency, Effectiveness and Sustainability (Riddle 2000; Field et.al 2000; Gibson 2001). Together, these offer a comprehensive picture of an intervention’s characteristics and a filter with which to assess performance:

i) Outreach - How many are (breadth), and who is (depth), being reached? This signifies the quantitative scale of a project and the identity of all stakeholders including Small Enterprises and providers touched by it.

ii) Efficiency - Are we doing things right? The efficiency criterion measures the rate at which inputs are turned into outputs.

iii) Effectiveness - Are we doing the right thing? This dimension assesses the extent to which higher-order effects i.e. those related to changes in the real world of Small Enterprises have been achieved.

iv) Sustainability - Will it last? As previously defined, this refers to the market capacity to ensure that relevant, differentiated BDS continue to be offered and consumed by Small Enterprises beyond the period of the intervention.

As Riddle 2000, notes, different actors in BDS markets have different interests, which in turn determine the type and scope of performance measurement that are relevant to them. Hence, comprehensive comparison is difficult because what is measured depends upon the objectives of the institution or program.
2.4 TechnoServe’s BDS Program

Nearly 80% of Kenya’s population lives in rural areas and depends mainly on the agricultural sector for its livelihood. Besides, the agricultural sector in Kenya directly contributes 26% to the Gross Domestic Product (GDP) and in addition employs approximately 75% of the Kenyan workforce (Economic Survey 2008). Hence this vital role has led TechnoServe to focus its attention to the sector. Before the start of the banana program, a comprehensive baseline study was done in 2006 which identified the banana as a high potential crop that presented a clear business opportunity that would greatly transform rural households and significantly reduce poverty. The study singled out banana production as a major economic activity in the western and central Kenya, parts of eastern and coastal regions. The fact that it matures throughout the year, it plays a crucial role in food security and rural economy as surplus is sold to boost household income from farming activity. Besides, it fits well as both subsistence and cash crop. Over 270,000 households, approximately 1.1 million people, derive their livelihood directly from bananas (TNS 2006).

According to the Banana Program’s Annual Report for 2007, at the beginning of the program, Technoserve and Africa Harvest held a successful planning meeting in which a region selection criteria was developed and used to select the regions into which to carry out the planned the baseline survey. The baseline survey covered 7 districts, namely Meru Central, Meru South and Embu, Kirinyaga, Thika, Maragua and Murang’a. Appendix 1 shows the Executive Summary of the Baseline survey. The overall goal of the survey was to provide information to guide the implementation of the project and also to set monitoring and evaluation benchmarks. The survey established critical information that greatly shaped and continues to influence the project. Findings from numerous other studies done by industry stakeholders especially Government of Kenya, through the Ministry of Agriculture on the bananas was also considered. All this studies singled out the banana as a high potential crop that presented a clear business opportunity, which would greatly transform rural households in Kenya’s banana growing regions.

Survey results showed that small scale farmers dominated the area under study as evidenced by the fact that the average farm area was 2.9 acres. Banana production was extremely subsistence with the average farm area under banana being 0.064 acres. The average production for non-tissue culture bananas was 78 bunches per farm per year. The survey also noted that main income earner for the farmers was bananas followed by grain crops. Despite
the importance of the banana, the survey noted that the farmers had very limited knowledge
on the banana in terms of better farming practices that could help improve the quality and
quantity of their yield. For example 82.8% of the farmers used traditional suckers for planting
material sourced mainly from their neighbors. Furthermore, at least 82% of the farmers
interviewed had adopted one form of improved farm technology, the most common being use
of fertilizers. In addition, pests and diseases were the main constraints to banana production
in the areas surveyed. The baseline survey also established that there was a huge opportunity
to expand banana production in the areas surveyed as indicated by the willingness of over
75% of the respondents to expand banana production on their farms. Though the use of credit
facilities was not common, the survey established that the demand for credit facilities was
very high followed by the need for marketing services.

Women were the key players in these areas with over 50% of the respondents indicating that
only women were involved in planting, harvesting and marketing of banana. Actually it was
left to them to decide what to do with the crop, while men made decisions on cash crops.
Farmer training on various aspects of banana production was virtually absent. A significant
number of the respondents reported huge on-farm and post harvest losses linking up to the
lack of training on good agronomic practices as well as pre and post harvest handling. Major
concerns were raised by the respondents regarding the marketing of the bananas. This ranged
from poor prices to unreliable markets, dishonesty and unprofessional buyers. Each farmer
sold their bananas and the size of the bunch determined the price, with the mean price per
bunch @ Kshs.175/-.

The baseline survey recommended that farmer training be conducted on good agronomic
practices, pest and disease control, pre and post-harvest practices, value addition and record
keeping. It also recommended that other stakeholders and institutions in the sector namely
Agro dealers, KARI and Ministry of Agriculture (MoA) extension staff, be included in the
project right at its inception to not only get their buy-in but also to build a foundation of
networks and institutions that would help implement the projects and sustain the value chain
activity beyond the life of the project. It also recommended strengthening of information
dissemination channels and increased use of existing groups and local radio stations, support
in establishment of satellite nurseries to improve access to good quality seedlings, improved
access to farm inputs and irrigation equipment, establishment of sales outlets and the
promotion of group sales since the survey established that social or community groups were
identified as a dominant feature in the lives of the farmers interviewed, with 59.7% of them belonging to farmer groups. The findings of this baseline survey continue to shape the banana project even in its current phase. Numerous other short term studies have been done that have helped redirect the project towards achieving its objectives.

The potential of the banana in local, regional and export markets is largely untapped. According to Horticultural Crops Development Authority’s Horticultural data validation report 2005-2007, Kenya’s current banana production of ~1 million MT per year is insufficient, resulting in the importation of ~71,000 MT of dessert bananas. In addition, the per capita consumption of banana in Kenya stands at 260 is far much lower compared to that of other East African countries such as Uganda and Rwanda which stands at 1880 and 1080 bananas per person per year respectively. In order to unlock this untapped potential of the banana sector, TechnoServe and Africa Harvest use the “Whole Value Chain” approach, this is discussed in detail below.

2.4.1 Value chain analysis

Value chain analysis provides a convenient framework to study the impacts of economic, technological and institutional changes in the development of a product or service by looking at each discrete step in the life of the product, the players at each step, how value is added and how much each of the players earn from the value created (Panlibuton and Meyers 2004). In TechnoServe’s Banana project, the approach adapted combines Value Chain Development with Business Development Services concepts. Therefore, in order to clearly understand business development services in the banana industry, it is paramount that the researcher undertakes a comprehensive analysis of the banana value chain.

2.4.1.1 Definition of Value chain

According to Kaplinsky and Morris, 2001, value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production, delivery to final consumers and final disposal after use. Miehlbradt and McVay, 2005, agree with this definition adding that it also includes activities such as design, production, marketing, distribution and support to the final consumer. Key players in the value chains include input suppliers, producers, processors and consumers, who are supported by a range of technical, business and financial service providers.
According to Dolan and Humphrey 2000, value chain analysis is based on a comprehensive characterization of input-output relationships from grower to retailer, and the coordinating mechanisms that guide activities at each stage. It can include consideration of technical transformations of product, pricing, costs and margins, number and size of firms at each stage, barriers to entry, market power and the sharing of benefits from innovation, product differentiation and diversification. Of particular concern is “governance”, in this case defined as the power to determine who participates in the value chain, what is produced, how and when, and asymmetries in market power. The activities that comprise a value chain can be contained within a single firm or divided among different firms, and can be contained within a single geographical location or spread over wider areas. Value chain analysis brings into light additional insights that help in understanding relevant market systems (Miehlbradt and McVay, 2005). Donors and practitioners are increasingly incorporating several aspects to assess value chain competitiveness not typically included in subsector and market assessment studies such as interfirm cooperation, and enabling environment (Lusby & Panlibuton 2004).

2.4.1.2 The Value Chain Development Process

Although value chain development has been around for quite some time, there are a number of entry points and different sets of steps that experts recommend when attempting to incorporate small farmers into value chains. In this banana program, the “Territorial Approach” is used. This is a systematic approach which assumes that the goal is local economic development (LED) and thus starts by mobilizing the community (Best, Ferris, and Schiavone 2005). Following a systematic approach to developing value chains ensures that opportunities and constraints to competitiveness and limitations to Small Enterprises participation in the value chain are clearly identified and analyzed; core businesses in the value chain are involved in the program design and strategic planning process, which improves program success and sustainability and the program plans provide for support services to the value chain businesses through strengthening support markets and moderation of relations among players (Miehlbradt et.al 2005). According to the Program’s Strategic Review for 2007, the approach adapted combines Value Chain Development with Business Development Services concepts. As McVay 2005 puts it, the cornerstone of the whole approach to value chain development is to focus on the critical constraints and opportunities that hold back the growth of the subsector and helps design BDS interventions that will benefit all actors in the chain and have a potential to become viable solutions to be offered by the local service providers.
2.5 Business Development Services in the banana value chain.

Before TechnoServe got involved with the banana sector, the banana industry was poorly organized and faced a multitude of challenges. As mentioned in the Program’s Annual Report 2007, there were a number of core organizational challenges within the banana value chain that contributed to the disorganized state of affairs in the banana market. The issues ranged from the presence of a large number of often unreliable, unprofessional intermediaries, to a large number of poorly organized small scale producers. This, coupled with the poor quality of the final produce meant that farmers fetched very low prices for their produce and hence were reluctant to invest in irrigation, use of inputs and in acquiring technical and marketing knowledge key to improving the quality of their bananas. In addition, the absence of a comprehensive policy and regulatory framework for the banana, lack of agreed grading standards, low technical capacity for ripening and high transport costs, all conspired to generate a circle of low quality produce hence; low market prices for the farmers, exploitation by the brokers and trader, as well as poor off take by the consumers. The chain was overly long and highly inefficient as illustrated in Figure 10 below.

Figure 9: Pre-TechnoServe Banana Value chain

![Figure 9: Pre-TechnoServe Banana Value chain](source: TechnoServe)
The analysis of this long and inefficient value chain helped TechnoServe work with other core players in the industry namely farmers, brokers, traders and transporters to design a shorter and more efficient value chain, illustrated below in Figure 18. This involved a critical analysis of the role of the various players in the value chain, the assessment of the value they added in the process as well as their influence in the sector. This resulted in the elimination of some of the players especially the opportunistic traders and the increase in the number of activities undertaken by key players especially the farmer and the market traders. The end result was a shorter and more efficient value chain that resulted in better quality produce, direct linkage to stable markets and better prices for the farmer.

However, this posed new challenges to the program. All the while, farmers simply focused on on-farm production of banana only but in the new value chain illustrated in Figure 11 below, they were expected to undertake additional tasks which they were either not familiar with or lacked the required capability to do them well. This further strengthened the business development services component of the Program such as training, technical assistance, advocacy, marketing research among others. Besides, there was need to address other challenges identified in the baseline study and in the past phases of the program such as low production and poor marketing strategies. This called for capacity building and technical assistance for the farmers and traders in these areas.

Figure 10: Post TechnoServe Banana value chain: the players and their roles.

FARMER
- Production on the farm
- Transportation from farm to local market or the MSC

PBG
- Weighing, Recording, Bulking, Grading, De-handing, Cleaning, Packaging, Marketing, Farmer payment,

TRADER
- Transport to consumer markets, Stocking, Ripening, Packaging, Tendering for institutions & supermarket supply

RETAILER
- Selling to final consumer Stocking

PBG – Producer Business Group
MSC- Market Service Centre
Source: TechnoServe records
The value chain development approach resulted in a shorter and more efficient banana value chain as illustrated in Figure 11. This formed and continues to be the platform around which the entire banana program is built-on. Following this clarity on the value chain, a roll-out plan for the program was developed. This is a continuous process that follows the following steps:

1. Pre-production: Awareness creation and Producer Business Group Formation.

Field activities begin with contacting the (farmers) producers. Without reinventing the wheel, TechnoServe collaborates with the Ministry of Agriculture, the local administration, the churches and other NGOs to link to the already existing farmer groups, which are known as the Producer Business Groups (PBG). The only key requirement for any farmer in the PBG is to own some banana plants. Discussions are held with these groups on the opportunities and the challenges they experience with the banana. Where there are no producer groups, fieldwork begins with initiating group formation and the identification of other stakeholders such the Frontline Agricultural Extension Officers of the Ministry of Agriculture (MoA), Officers of Ministry of Culture and Social Services, local administration, churches and NGOs to assist in creating awareness, mobilizing the farmers, and with the formation and registration of the Producer Business Groups. Since program inception, 236 groups have been formed with a total membership of 10,382 smallholder banana farmers as shown below.

**Table 1: Producer Business Groups per district and their members.**

<table>
<thead>
<tr>
<th>Region</th>
<th>District</th>
<th>The Number of Groups</th>
<th>Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meru</td>
<td>Imenti South</td>
<td>21</td>
<td>1311</td>
</tr>
<tr>
<td></td>
<td>Imenti Central</td>
<td>10</td>
<td>676</td>
</tr>
<tr>
<td></td>
<td>Imenti North</td>
<td>16</td>
<td>1676</td>
</tr>
<tr>
<td></td>
<td>Tigania</td>
<td>4</td>
<td>344</td>
</tr>
<tr>
<td></td>
<td>Meru South</td>
<td>32</td>
<td>1924</td>
</tr>
<tr>
<td>Muranga’a</td>
<td>Muranga’a South</td>
<td>34</td>
<td>1298</td>
</tr>
<tr>
<td></td>
<td>Muranga’a North</td>
<td>22</td>
<td>569</td>
</tr>
<tr>
<td>Kirinyaga</td>
<td>Kirinyaga</td>
<td>27</td>
<td>769</td>
</tr>
<tr>
<td>Thika</td>
<td>Thika</td>
<td>13</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>Gatundu</td>
<td>19</td>
<td>426</td>
</tr>
<tr>
<td>Embu</td>
<td>Embu</td>
<td>38</td>
<td>1269</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td><strong>236</strong></td>
<td><strong>10382</strong></td>
</tr>
</tbody>
</table>

Source: TechnoServe’s database
TechnoServe is also involved in assisting the farmer groups established the required group leadership and management structure as reported in the Program’s Annual Report for 2007. This structure has been modified over time to address the numerous challenges that arise in groups. In the current structure, all members are involved in the management of the groups’ affairs. The new structure comprises four distinct management teams, with clearly defined roles for each of them. The teams include Marketing and Commercialization team, Finance and Audit team, Production and Grading team, and an Investment and Welfare team. Each team is led by an individual with basic knowledge in the area of interest and is made up of seven to ten members; this structure ensures that all group members are involved in running the affairs of the group. The Marketing and Commercialization team is responsible for market research, price reviews, negotiating prices with farmers, and advising producers on the quality and quantities required by markets. This team meets with buyers and visits urban markets and reports back to the entire group once every two weeks. The intent of this process is to ensure that producers not only comply with the quality requirements, but also that buyers have the capacity to take up all the green bananas produced by the PBG. The team also explores other aligned agricultural opportunities that the farmers can venture into e.g. bulking of other agricultural commodities such as milk, avocados etc.

The Finance and Auditing team is responsible for monthly financial reporting, managing and monitoring expenses, managing petty cash and evaluating the viability of investments proposed by farmers through the investment team. The Production and Grading team is responsible for ensuring production meets demand in terms of quantity, quality and variety, grading the bananas, reviewing farming methods and serving as a liaison to government and other bodies that offer technical training in order to ensure all farmers benefit from such training sessions. The Investment and Welfare team is responsible for the general welfare of members as well as maintaining the reputation of the group as the preferred development partner in their region, representation of groups in the local development forums like with Constituency Development Fund, and local authority development committees. The team is also responsible for identifying other non farming activities that the group can venture into in order to improve farmers’ income and general welfare. At Kamahuha Market Services Centre, the team successfully negotiated for a partnership with United Nations Industrial Development Organization (UNIDO) to set up a biogas powered energy kiosk that they use to charge mobile phones, power a computer training centre and supply cooking gas to a local school. This partnership has generated additional income for farmers.
Additional benefits have also been accrued as a result of this group approach. For example, due to high transaction costs associated with reaching smallholder farmers, many stakeholders in and outside the industry are interested in using the MSCs to reach the smallholder farmers even at a fee. These stakeholders include input suppliers seeking to wholesale fertilizers and agro chemicals, micro-finance institutions seeking to expand their client base as well as other community development agencies such as those dealing with HIV/AIDS interventions among others. The Market Service Centers are hence are not only output bulking points for agricultural produce such as bananas and milk, but also complete training venues with demonstration units for the farmers as is the case with Kamahuha Market Services Center. Besides, MSCs act as meeting venues; farm input centers, communication centre for the groups as well as the local administration.

2. Production: Land preparation, supplier of seedlings, farm inputs and irrigation systems, transfer of technical skills and knowledge for good orchard management

Banana productivity in Kenya is very low compared to other countries and regions. According to the Ministry of Agriculture - Economic Review of Agriculture 2007, Kenya only manages an average of 12 metric tons per hectare compared to the 60 metric tons per hectare and more achieved in Asia and the Caribbean countries. To address productivity improvement there is need to promote use of certified seedlings, inputs such as fertilizers and irrigation. Africa Harvest’s role in the program is to build the technical capacity of the farmers to enable them produce superior quality yields. They carry out farmer training sessions and have developed relevant training materials on land preparation, spacing, planting, good orchard management practices, harvesting and post harvest handling. Africa Harvest also facilitates the supply of Certified Tissue Culture banana seedlings to the farmers and in the establishment of farm demonstration units, used to continuously train the farmers. In addition, from time to time, TechnoServe reinforces this technical knowhow with the support of its banana and horticulture production experts, who offer on-the-field training to the farmers to boost their production.

One such expert helped Meru Greens triple their production from 15 metric tons per hectare to over 50 metric tons per hectare in one year’s time (between 2006 and 2007). This was achieved through a combination of greater use of input and employment of best practice orchard management. By use of correct plant spacing, the farm increased their plant population from one thousand plants per hectare to the industry recommended rate of
between 1500 to 2200 plants per hectare depending on the variety. Correct spacing resulted in over 50% increases in yields. Coupled with use of organic and inorganic fertilizers, Meru Greens realized an overall 300% yield increment. In an effort to encourage farmers to share knowledge, TechnoServe facilitates farm visits by various Producer Business Groups to lead farmers’ farms such as Meru Greens farms among others.

This encourages smallholder farmers to adopt the use of certified tissue culture seedlings and best practice orchard management practices that lead to enhancement of their yields. Additionally availability of affordable credit to farmers through the Banana Productivity Improvement Program’ (BPIP), funded by Kirk House Trust (a UK based Trust), and implemented by TechnoServe in partnership with Kenya Rural Enterprise Program Development Agency (KDA), enables them to access loans to procure irrigation equipments and other farm inputs, which have a direct positive impact on the yields.

3. Post-Production: Post harvest handling; harvesting; transportation to local market; bulking; weighing; recording; cleaning; grading; packaging; and ripening.

Studies on post harvest handling of agricultural produce have shown that poor handling results in excessive waste of farm produce. This finding is also echoed in the Baseline Survey conducted prior to the commencement of the program as one of the key challenges faced by the farmers. Therefore, there is deliberate effort to training both the farmers and traders on good pre and post-harvesting handling techniques to minimise such damage and wastage. Numerous studies done by TechnoServe and other stakeholders have shown that the traditional approach to selling banana by bunch size does not give a farmer a fair return. Hence, TechnoServe spearheaded efforts to change this practice, and promoted the selling of banana by weight. This called for a lot of training and convincing the traders and the farmers that it was the right approach. Eventually traders and farmers within the Banana project area have adopted this approach. Bananas are weighed at the Producer Business Group Selling Points or the Market Service Centres (where available).

Most Producer Business Group Selling Points are located along the Meru-Nairobi Highway for ease of access by the Traders and Transporters. Each group has team that is assigned the responsibility of weighing and recording the produce delivered by each farmer during the market days. This information is vital because it is linked to the payment. Currently farmers who have adhered to the recommended agronomic practices are producing banana weighing
over 80Kgs and selling at between Kshs. 10 to Kshs.14 per Kg. The challenge however is to rollout this practices nationally and reach the over 270,000 farmers bananas in Kenya.

Bulking refers to combining produce from several farmers. Once the bananas have been weighed and recorded at the Producer Business Group Selling Points or the Market Service Centres, they are held together and sold as one lot to the traders. Bulking has numerous benefits to the farmer and trader. For example pulling the produce together enables the trader save on time and significantly reduce costs associated with searching for the bananas from farm to farm. Besides, it boosts the farmers bargaining power, hence they fetch better prices and gain access to stable markets since they are organised. Depending on the destination market, bananas are transported using various means from animal drawn carts to lorries. Proper packaging i.e. securing the banana bunches together is essential to avoid damage during loading and off-loading as well as during transportation.

In most marketing centres, the researcher noticed organised groups of young men undertake the packing, loading and offloading activities for a fee. De-handing refers to the removal of the small bunches from the peduncle. This is done to facilitate cleaning and packing in the ripening chambers by the ripening agents or the wholesalers. Cleaning means wiping the banana bunches clean so that once they ripen they are presentable to the consumer. Grading is done by generally sorting out the banana by figure size. However, for premium end markets the size and appearance of the banana figures greatly influence price. Ripening of bananas is a fairly technical aspect, which has great influence on the quality of the ripe bananas. Hence TechnoServe assist traders in developing proper and efficient ripening chambers. Once banana are ripe they are delicate and hence proper packaging is important while transporting them to final consumer markets to ensure they are not damaged.

4. Marketing: Identification of buyers; Linking buyers to PBG; Farmer payment; Business Management; Formation & Management of MSC; Linkage with transporters and financial institutions.

To establish sustainability and enhance the commercialization concept among smallholder farmers, TechnoServe in conjunction with other stakeholders encourages the formation of farmer groups and facilitates the transformation of the Producer Business Groups into limited liability companies. The farmer owned companies are envisaged to take over responsibilities and activities currently undertaken by TechnoServe and other facilitators. So far,
TechnoServe has facilitated the formation of two farmer owned companies; three others are at various stages of formation. The two companies are, South Imenti Banana Company Limited in Ntharene, Meru and the Murang’a South Agricultural Produce and Marketing Company Limited. The South Imenti Banana Company is allied to the Ntharene Market Services Centre whereby 26 PBGs, with a total membership of 1616 (See Table1; pg 73) have joined together to form the said company. The company is operational and is currently marketing an average of 50 MT per month of bananas to several banana traders in Nairobi, Nakuru Naivasha and Mombasa, who have been successfully linked by TechnoServe.

The South Imenti Banana Company, with support from TechnoServe, has also successfully hired a professional Centre Manager who manages day-to-day affairs of the centre. The Board of Management, in conjunction with the Centre Manager, is taking over the responsibilities which formerly were under the TechnoServe and Africa Harvest. These responsibilities include training in good agronomic practices, post-harvest handling, group governance, market linkages and financial linkages. It is envisaged that with time the centre will be able to generate enough income to fulfill its obligations and hire more support staff and procurement of office equipments. On the financial linkages side, South Imenti Banana Company in 2008, with support from TechnoServe, secured Kshs. 250,000 (US Dollar 3,333) loan from Equity Bank to purchase a weighing machine which they are currently using to weigh the bananas. The management of South Imenti Banana Company has also started organizing joint transportation of bananas from various Producer Business Groups, which are spread over a radius of 10 KM to the Market Services Centre. This arrangement has enabled majority of the members of various groups to participate in the marketing of their bananas through the Centre without necessarily having to deliver them personally to the centre. Initially this was a fundamental challenge to the bulking of the bananas at the centre which is strategically located near the main Meru-Nairobi Highway.

Through TechnoServe’s market linkage efforts, the Producer Business Groups have formed strong links with urban banana traders wholesaling in the major open air markets in Nairobi. The traders were initially small, low-volume operators but have continued to grow with TechnoServe’s technical assistance in business management. Specifically TechnoServe has assisted the traders in the following areas: developing basic business skills; record keeping; marketing linkages; business registration; strategic business planning and financial linkages. On the financial linkages, TechnoServe has assisted four traders in securing loans from
Equity Bank to help them expand their businesses and to be able to pay the farmers on a regular basis. The urban traders currently in the program are shown in table 2 below:

**Table 2: List of Traders, monthly purchases and source of supply.**

<table>
<thead>
<tr>
<th>Open air Market</th>
<th>Number of Trader</th>
<th>Monthly Purchases (MT)</th>
<th>Source/ Region of supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nairobi (Kangemi)</td>
<td>5</td>
<td>92</td>
<td>Meru South, Imenti south &amp; Ntharene MSC</td>
</tr>
<tr>
<td>Nairobi (Kawangware)</td>
<td>1</td>
<td>15</td>
<td>Meru South</td>
</tr>
<tr>
<td>Nairobi (Mathare)</td>
<td>3</td>
<td>28</td>
<td>SabaSaba</td>
</tr>
<tr>
<td>Kitengela</td>
<td>1</td>
<td>8</td>
<td>Kamahuha MSC</td>
</tr>
<tr>
<td>Nairobi (Pipeline)</td>
<td>5</td>
<td>33</td>
<td>Murang’a &amp; Kamahuhu MSC</td>
</tr>
<tr>
<td>Nairobi (Ruai)</td>
<td>1</td>
<td>24</td>
<td>Imenti South, Muringa &amp; Nguruki</td>
</tr>
<tr>
<td>Nairobi (Githuruai)</td>
<td>2</td>
<td>96</td>
<td>Kiroho, Iruma &amp; Marima</td>
</tr>
<tr>
<td>Nairobi (Mugoya Fruits, South C)</td>
<td>1</td>
<td>12</td>
<td>Imenti South, Miruriiri</td>
</tr>
<tr>
<td>Nairobi (Wakulima)</td>
<td>2</td>
<td>12</td>
<td>Imenti South &amp; Meru South</td>
</tr>
<tr>
<td>Nairobi (Umoja)</td>
<td>2</td>
<td>8</td>
<td>Kirinyaga</td>
</tr>
<tr>
<td>Mt.Kenya Gardens (formerly Meru Greens)</td>
<td>1</td>
<td>60</td>
<td>Imenti South</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
<td><strong>386</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: TechnoServe

The above analysis of the Business Development Services in the different stages of banana value chain and the service providers is clearly illustrated diagrammatically in figure 12 below.
TechnoServe as both a BDS Facilitator and BDS Provider

As Michlbradt and McVay note in BDS Reader 2005, the nature of BDS markets determines the role the organization plays in the intervention. They go on to say that in very underdeveloped markets, donors and facilitators may need to start by supporting a particular BDS provider or directly launching a new service or model, in order to demonstrate its potential. As the service becomes established, the donor can then withdraw from a market leader role to a facilitating mode, using experience gained in the initial provision to support a range of providers for the new service. If a BDS provider also performs facilitation functions, it should separate these activities in so far as possible for clarity of objectives and evaluation along commercial and development lines, as appropriate. In the banana program, TechnoServe assumes the dual roles of BDS facilitator and BDS provider.
2.6 Conceptual framework

This section discusses the variables that were investigated in this study. A diagrammatic representation of the same is in figure 13 below. Data collected using the research instruments was used to measure the influence on productivity - the major dependent variable by selected business development services - the major independent variable, of the farmers within the context of TechnoServe’s Banana Program.

Figure 12: Conceptual framework on productivity of farmers

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production related BDS</strong></td>
<td><strong>Productivity of farmers</strong></td>
</tr>
<tr>
<td>1) Training on agronomic practices</td>
<td>1. Increase in acreage under banana production</td>
</tr>
<tr>
<td>2) Linkage to input suppliers</td>
<td>2. Effect on quantity of banana produced and sold.</td>
</tr>
<tr>
<td><strong>Marketing related BDS</strong></td>
<td>3. Usefulness of the selected BDS</td>
</tr>
<tr>
<td>1) Use of group marketing approach</td>
<td></td>
</tr>
<tr>
<td>2) Linkage to output markets</td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction and attitude towards BDS</strong></td>
<td></td>
</tr>
<tr>
<td>1) Relevance of BDS provided</td>
<td></td>
</tr>
<tr>
<td>2) Usefulness of BDS provided</td>
<td></td>
</tr>
</tbody>
</table>

Schematic diagram showing the independent and dependent variables in this study.

Source: Researcher 2009
CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction
This section describes the procedure that was followed to conduct the research study. It discusses the research design; population of the study; the sampling method and the sample size; data collection tools and data analysis methods.

3.2 Research Design
The research design was a descriptive survey. This enabled the researcher collect quantitative and qualitative data on the influence of selected production related BDS and marketing related BDS on the productivity of farmers within TechnoServe’s banana program in South Imenti District.

3.3 Population of the study
The study population comprised of 1,311 banana farmers in TechnoServe’s banana program South Imenti District (Appendix 2).

3.4 Sampling Procedures
Due to cost and time limitation, a census of the population was not possible. Therefore, this study adopted a survey design where respondents were sampled. A simple random sampling method was used to select banana farmers from the total study population of 1311 banana farmers. This gave rise to 147 banana farmers who comprised the study sample i.e. 11.2% of the study population. Gay suggests that for descriptive studies, 10% of the accessible population is enough. According to The Economist (1997), a minimum number of 30 elements is required as a rule of thumb for statistical analysis (Saunders et al, 2000).

3.5 Sample size
The sample size comprised 147 banana farmers in the TechnoServe’s banana program South Imenti District.
3.6 Data collection tools and procedures
Data was collected using a Structured Questionnaire (Appendix 1). The structured questionnaire comprised of both open-ended and closed-ended questions. It was hand delivered to the 147 banana farmers by the researcher and a research assistant hired and trained by the researcher during banana marketing days. The researcher also worked hand in hand with TechnoServe’s field team in South Imenti District to ensure all questionnaires reached the farmers comprising the study sample in a timely manner and were collected as soon as they were completed.

3.7 Data analysis techniques
Once the completed questionnaires were received from the farmers, the data was coded i.e. numerical codes were assigned to the responses and then analyzed using descriptive statistics. For quantitative data measures of central tendency namely the mode and mean; measures of variability namely the range as well as frequency distribution tools such as tables, graphs and charts were used. As for qualitative data percentages and relationship tools such as regression coefficient were used. From the results obtained, conclusions and recommendations were made.
CHAPTER FOUR
DATA ANALYSIS AND PRESENTATION

Introduction
This section discusses the respondents' response to the questions in the questionnaires in relation to the variables that were to be investigated in this research study. The responses were tabulated to show the frequency of occurrence, which were also expressed as percentages and further presented in form of pie charts and bar graphs.

4.1 Profile of respondents
A total of 147 questionnaires were issued out to 147 respondents randomly sampled from the study population of 1311 banana farmers in TechnoServe's banana project in South Imenti District during banana marketing days. Characteristics of respondents in terms of biographical data are presented below:

4.1.1 Response rate

Table 4.1 Analysis of Response

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Expected response</th>
<th>Actual response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>147</td>
<td>119</td>
<td>81 %</td>
</tr>
<tr>
<td>Non response</td>
<td>0</td>
<td>28</td>
<td>19 %</td>
</tr>
<tr>
<td>Total</td>
<td>147</td>
<td>147</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Source: Research Data, 2010

From the above table and pie chart it is evident that the response rate was good as the researcher managed 81% response rate i.e. 119 respondents.
4.1.2 Gender composition of the respondents

Table 4.2 Respondent’s Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>75</td>
<td>63%</td>
</tr>
<tr>
<td>Female</td>
<td>44</td>
<td>37%</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Research Data, 2010

The table and pie chart above shows that out of the total 119 respondents, 63% i.e. 75 of the respondents were male while 37% i.e. 44 of the respondents were female. It can therefore be said that men are the key players in banana farming in South Imenti District.

4.1.3 Age of the respondents

Table 4.3 Age Bracket.

<table>
<thead>
<tr>
<th>Age bracket</th>
<th>20 - 29</th>
<th>30 - 39</th>
<th>40 - 49</th>
<th>50 - 59</th>
<th>60 &amp; above</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>1</td>
<td>18</td>
<td>44</td>
<td>33</td>
<td>23</td>
<td>119</td>
</tr>
<tr>
<td>Percentage</td>
<td>0.8 %</td>
<td>15.1 %</td>
<td>37%</td>
<td>27.7%</td>
<td>19.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Research data, 2010
From the bar graph above, 37% of the respondents fall within the 40 - 49 age bracket, followed by 27.7% in the 50 - 59 age bracket, while those above 60 years comprise 19.3%. Hence, 84% of the banana farmers are above 40 years of age, which shows that the respondents were mature people with a long term interest in farming.

### 4.1.4 Respondents’ level of formal education

**Table 4.4: Respondents level of education**

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Adult Education</td>
<td>7</td>
<td>6%</td>
</tr>
<tr>
<td>Primary Level</td>
<td>49</td>
<td>41%</td>
</tr>
<tr>
<td>Secondary Level</td>
<td>49</td>
<td>41%</td>
</tr>
<tr>
<td>College</td>
<td>12</td>
<td>10%</td>
</tr>
<tr>
<td>University</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

*Source: Field Data, 2010*
The above analysis shows that only 2 which represent only 2% of the total respondents had not attained any form of formal education. However, 6 % attained adult education, 41 % primary education, 41 % secondary education and 10% college level of education. None of the respondents had attained university education. It can therefore be said that 98 % of the banana farmers were literate and could be relied upon to read, understand and respond to the questions in the questionnaire, albeit with a little assistance from the assistant researcher.

4.1.5 Respondents' first contact with TechnoServe's banana project.

Table 4.5 Year of first contact with TechnoServe.

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>2</td>
<td>43</td>
<td>10</td>
<td>26</td>
<td>19</td>
<td>19</td>
<td>119</td>
</tr>
<tr>
<td>%</td>
<td>1.7%</td>
<td>36.1%</td>
<td>8.4%</td>
<td>21.8%</td>
<td>16%</td>
<td>16%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Research Data, 2010
From the above table 100% of the respondent’s made their first contact with the banana project by the year 2008. Of this, the bulk i.e. 36.1% of them made their first contact with the project in 2004. Therefore, it can be said that by the time the respondents filled the questionnaire, they had been in contact with the project for more than one year. This is ample time for them to have been through all the phases of the project, hence received the BDS that this study was investigating.

4.1.6 Farm size in Imenti South District among banana farmers

Table 4.6 Farm size

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Maximum size (Acres)</th>
<th>Minimum size (Acres)</th>
<th>Average size (Acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farm size</td>
<td>12</td>
<td>0.25</td>
<td>2.9</td>
</tr>
<tr>
<td>Under banana production</td>
<td>4</td>
<td>0.017</td>
<td>0.7</td>
</tr>
</tbody>
</table>

Source: Research Data, 2010

With regard to total farm size, it ranged from a maximum of 12 acres to a minimum of 0.25 acres, with an average 2.9 acres. However the majority owned 3.0 acres. When we consider farm area under banana production, we see from table 4.6 that it ranged from as small as 0.017 acres holding tens of banana plants to a maximum of 4 acres holding several thousands of banana plants. On average, the area under banana production was 0.7 acres per farmer, which is 24.14% of the average farm size. Hence, this been a rich agricultural area with various farming activities such as dairy and cash crop farming competing for the land resource, the research concludes that banana is a high value crop in this area since they have allocated it a significant portion of their land.
4.1.7 Changes in farm size under banana production

Table 4.7 Rate of increase of area under banana production

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased</td>
<td>68</td>
<td>57%</td>
</tr>
<tr>
<td>No Increase</td>
<td>51</td>
<td>43%</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Research Data, 2010

In the last one year, 68 out of the 119 i.e. 57% of the banana farmers reported that they increased the area of their farm under banana production for various reasons. On average the area under banana production increased by 0.29 acres in the last one year. However, the remaining 51 who represent 43% of the banana farmers did not increase the area under banana production for varying reasons which are discussed further below.
4.1.8 Reasons for increasing farm size under banana production

The banana farmers who increased the size of their farm under banana production gave varying reasons for doing so. These are recorded in table below:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>To generate and increase income</td>
<td>25</td>
<td>36.7%</td>
</tr>
<tr>
<td>They are profitable</td>
<td>17</td>
<td>25%</td>
</tr>
<tr>
<td>To increase production/yield</td>
<td>17</td>
<td>25%</td>
</tr>
<tr>
<td>Availability of market</td>
<td>3</td>
<td>4.4%</td>
</tr>
<tr>
<td>Better prices</td>
<td>2</td>
<td>2.9%</td>
</tr>
<tr>
<td>Availability of water</td>
<td>1</td>
<td>1.5%</td>
</tr>
<tr>
<td>Business expansion</td>
<td>1</td>
<td>1.5%</td>
</tr>
<tr>
<td>Because of training</td>
<td>1</td>
<td>1.5%</td>
</tr>
<tr>
<td>Improved style of living</td>
<td>1</td>
<td>1.5%</td>
</tr>
<tr>
<td><strong>Total (n)</strong></td>
<td><strong>68</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

36.7% of the farmers increase the area under banana production because they presented them with an opportunity to generate as well as increase their income. This was followed by 25% who increased production area in order to increase yield and another 25% who said that due to the fact that bananas were profitable they had increased the portion of their farm under banana production. Hence the researcher concludes that 86.7% of the 119 farmers increased area under production due to income related reasons. This view supports an earlier finding in section 4.1.6 which showed that despite the overall farm size been just 2.9 acres, 10% of it was dedicated to banana production, signifying the important position the crop occupies as an income earner.

4.1.9 Reasons for not increasing farm size under banana production

43% i.e. 51 farmers out of the 119 respondents' did not increase the size of their farm under banana production. For this they reported various reasons. These are recorded in table below:
Table 4.9  Ranking of the reasons for NOT increasing area under production

<table>
<thead>
<tr>
<th>Reason</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of the farm too small yet need to undertake other farming activities e.g. dairy, coffee and tea growing</td>
<td>32</td>
<td>62.7%</td>
</tr>
<tr>
<td>Insufficient water supply</td>
<td>10</td>
<td>19.6%</td>
</tr>
<tr>
<td>Lack of capital</td>
<td>3</td>
<td>5.9%</td>
</tr>
<tr>
<td>Lack of inputs e.g. manure</td>
<td>3</td>
<td>5.9%</td>
</tr>
<tr>
<td>Inadequate labour</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Lack of technical knowhow</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Lack of time</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>100%</td>
</tr>
</tbody>
</table>

Two major reasons where advanced by the farmers who did not increase the area of their farm under banana production. These included 62.7% of respondents who said the farm size was limiting and 19.6% citing insufficient water supply. This correlates well with the finding on the average farm size which was 2.9 acres. The respondents, expounding on the limiting farm size, said that they needed to diversify their farming activities by grow other crops such as coffee and tea as well as keep dairy animals. The researcher identifies this as a major threat for similar projects that rely on the land resource. This therefore means that only crops that give a high rate of return on investment are likely to get the attention and interest of the farmers in this geographical area.

4.2  Influence of production related business development services

4.2.1  Production related BDS received

Table 4.10  Production related business development services received

<table>
<thead>
<tr>
<th>BDS</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linkage to input suppliers</td>
<td>93</td>
<td>78.2%</td>
<td>26</td>
<td>21.8%</td>
</tr>
<tr>
<td>Training on land preparation, planting, crop management and harvesting</td>
<td>98</td>
<td>82.4%</td>
<td>21</td>
<td>17.6%</td>
</tr>
</tbody>
</table>
78.2% of the respondents' i.e. 93 out of the 119 respondents reported that they received BDS relating to linkage to input suppliers, while 21.8% equivalent to 26 respondents did not. With regard to training on land preparation, planting, crop management and harvesting, 82.4% i.e. 98 out of 119 respondents received while 17.6% i.e. 21 out of 119 were yet to receive any training with regard to production practices. From the above analysis it can be said that a significant majority of the banana farmers in South Imenti District had received production related BDS i.e. besides been linked up with input suppliers, they were also trained on land preparation, planting, crop management and harvesting.

4.2.2 Rate of provision of production related business development services

Table 4.11 Rate of provision of production related BDS

<table>
<thead>
<tr>
<th>Rate</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely</td>
<td>58</td>
<td>49%</td>
</tr>
<tr>
<td>Frequently</td>
<td>44</td>
<td>37%</td>
</tr>
<tr>
<td>Very frequently</td>
<td>12</td>
<td>10%</td>
</tr>
<tr>
<td>No response</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
While a total of 47% of the respondents i.e. 37% frequently and 10% very frequently said they had received production related BDS, a nearly equal number reported that they rarely received production related support services. Another 4% i.e. 5 out of the 119 respondents did not answer the question. Hence, this shows that though the farmers reported in section 4.2.1 that they had received production related support services the frequency at which such services were offered was nearly low, a view that is supported by the fact that 49% of the respondents rarely received such BDS.

### 4.2.3 Effects of production related BDS on the quantity of bananas produced

**Table 4.12 Effects of production related BDS on quantity produced**

<table>
<thead>
<tr>
<th>Significant effect</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>104</td>
<td>87%</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>


A staggering 87% of the respondents reported that the production related BDS they had received so far, had significant effect on the quantity of bananas they produced. From this the researcher concludes that although the frequency of dissemination of such BDS was much lower, the little that reached the farmers had a positive impact on banana production. Hence, it would be wise for the project manager to devise ways of improving access to production related BDS even beyond the life of the project due to its positive impact.

4.2.4 Degree of influence of production related support services on banana production

Table 4.13 Degree of influence of production related BDS on production

<table>
<thead>
<tr>
<th>Degree of influence</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>21</td>
<td>17.6%</td>
</tr>
<tr>
<td>Medium</td>
<td>61</td>
<td>51.3%</td>
</tr>
<tr>
<td>High</td>
<td>33</td>
<td>27.7%</td>
</tr>
<tr>
<td>No response</td>
<td>4</td>
<td>3.4%</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>
Production related support services have had a medium to high effect on banana production. 51.3% i.e. 61 farmers reported a medium influence while 27.7% i.e. 33 out of 119 respondents said it had a high influence on banana production. Hence, from the researcher's view a total of 79% equivalent to 94 farmers out of 119 respondents, acknowledged that production related BDS had a significant effect on banana production.
Influence of selected marketing related business development services

Table 4.14 Marketing related business development services received

<table>
<thead>
<tr>
<th>BDS</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linkage to banana traders</td>
<td>116</td>
<td>97%</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Training on and use of group marketing</td>
<td>117</td>
<td>98%</td>
<td>2</td>
<td>2%</td>
</tr>
</tbody>
</table>

Nearly all the respondents reported that they had received marketing related BDS. From the bar graph above it is clear that 97% which represents 116 of the 119 respondents had received BDS related to linkage to output markets, while 98% had received training relating to group marketing. This signifies a very high success rate for BDS related to marketing. It is also in line with the fact expressed earlier in section 4.1.8 where the increase in area under banana production was as a result of need to increase yield hence income.
Over 70% of the 119 respondents said that they had received marketing related BDS either frequently or very frequently. Only 30% of the responded said that they rarely received marketing related BDS. This signifies that deep reach and ease of access marketing related BDS which corresponds to the high number of farmers over 98%) who reported having receive marketing related BDS in section 4.3.1 above. This signifies good execution by the TechnoServe team that is charged with providing marketing support services to these farmers.

Table 4.16 Effects of marketing related BDS on quantity sold

<table>
<thead>
<tr>
<th>Significant effect</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>117</td>
<td>98%</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>


98% of the respondents agreed that marketing related support services had a significant effect on the quantity of bananas sold. This matches with one of the key reasons for increasing area under production which was to increase yield hence income.

Table 4.17  Degree of influence of marketing BDS on banana production

<table>
<thead>
<tr>
<th>Degree of influence</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>19</td>
<td>16 %</td>
</tr>
<tr>
<td>Medium</td>
<td>64</td>
<td>54 %</td>
</tr>
<tr>
<td>High</td>
<td>36</td>
<td>30 %</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>
30% of the respondents said that marketing related BDS had a high degree of influence on production, while another 64 respondents representing 54% reported a medium degree of influence. Hence from the researcher's point of view marketing related BDS had a significant positive impact on banana production as confirmed by over 84% of the 119 respondents. This therefore confirms that selected marketing related BDS have a positive impact on productivity of banana farmers in South Imenti District.

4.4 The satisfaction level towards business development services

Based on a scale of 1 to 3, where 1 represented dissatisfied and 3 represented very satisfied the respondents rated their level of satisfaction with selected BDS relating to banana production and marketing. The satisfaction level was measured with regards to quality of information provided, its relevance, mode of delivery and time when delivered. The results are tabulated below:

Table 4.18 Quality of information provided

<table>
<thead>
<tr>
<th>Level of satisfaction</th>
<th>Production BDS</th>
<th>Marketing BDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>20</td>
<td>16.8</td>
</tr>
<tr>
<td>Satisfied</td>
<td>40</td>
<td>33.6</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>59</td>
<td>49.6</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

Level of satisfaction with quality of information provided

- Dissatisfied
- Satisfied
- Very satisfied

Marketing related BDS
Production related BDS
83.2% of the respondents reported satisfaction with the quality of production information provided compared to 69.8% who reported satisfaction with the quality of marketing information provided. This may emanate from the fact that production related information has nearly immediate benefit to the individual farmer because they can immediately use it in their own farms as compared to marketing related information which is more of theory and targeted to the group of farmers. This links up well with an earlier finding that a staggering 87% of the respondents reported that the production related BDS they had received had significant effect on the quantity of bananas they produced.

Table 4.19 Relevance of BDS provided

<table>
<thead>
<tr>
<th>Level of satisfaction</th>
<th>Production BDS</th>
<th>Marketing BDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Satisfied</td>
<td>53</td>
<td>44.5</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>47</td>
<td>39.5</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

With regard to relevance of selected BDS provided, 90.7% of the respondents recorded satisfaction with marketing related BDS as compared to 65.5% who were satisfied with production related BDS, which may be due to the fact that marketing related BDS has significant degree of influence on quantity produced and income earned.
Table 4.20  Mode of delivery

<table>
<thead>
<tr>
<th>Level of satisfaction</th>
<th>Production BDS</th>
<th>Marketing BDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>54</td>
<td>45.4</td>
</tr>
<tr>
<td>Satisfied</td>
<td>44</td>
<td>37</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>21</td>
<td>17.6</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>

Slightly more respondents were satisfied with the mode of delivery of marketing related BDS with 37.8% saying they were satisfied and 23.5% were very satisfied. A fairly significant number of respondents were satisfied with the mode of delivery of production related BDS though there is an area for improvement.

Table 4.21  Time when provided

<table>
<thead>
<tr>
<th>Level of satisfaction</th>
<th>Production BDS</th>
<th>Marketing BDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>52</td>
<td>43.7</td>
</tr>
<tr>
<td>Satisfied</td>
<td>46</td>
<td>38.7</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>21</td>
<td>17.6</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>100</td>
</tr>
</tbody>
</table>
A significant number of the respondents i.e. 43.7% were dissatisfied with the time when production related BDS was provided. Hence, timing of production related BDS is critical because application of such information is at the initial stages of setting up the orchard, later it may be irrelevant. 68.5% of the respondents were satisfied with the timing of marketing related BDS though there is also an area of improvement. It is important that BDS providers pay attention to the fact that the farmers have many other activities demanding their time and this will affect their ability to seek and uptake BDS.

4.4.2 Attitude towards business development services
Attitude was measured in terms of how useful the BDS provided was from the farmer’s point of view and was rated on a scale of 1 to 3, where 1 represented not useful at all and 3 represented very useful. For production related BDS, the degree of usefulness was measured with regards to linkage to input suppliers and training on production practices. While for marketing related BDS, usefulness was measured with regard to linkage to output markets and training on and use of group marketing approaches. The results are tabulated below:
Table 4.22 Usefulness of selected production related BDS provided

<table>
<thead>
<tr>
<th>Degree of usefulness</th>
<th>Input linkages</th>
<th>Training on production</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>%</td>
</tr>
<tr>
<td>Not useful at all</td>
<td>21</td>
<td>17.6</td>
</tr>
<tr>
<td>Useful</td>
<td>59</td>
<td>49.6</td>
</tr>
<tr>
<td>Very useful</td>
<td>33</td>
<td>27.7</td>
</tr>
<tr>
<td>No response</td>
<td>6</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>119</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

On the overall with regard to selected production related BDS, training on production was identified as more useful compared to creating linkages with input suppliers. Actually 61.3% of the respondents found production related training as very useful compared to 27.7% who found linkage to input suppliers very useful. On the hand, only 10.9% found production training not useful and 17.6% found linkage to input suppliers not useful. Hence it can be concluded that majority of the respondents have a positive attitude towards production related BDS.
With regard to selected marketing related BDS, it is interesting to note that training on group marketing approaches and linkage to markets were found to be useful to 98.3% of the respondents. This is in line with earlier findings that 98% of the respondents reported that marketing related support services had significant effect on the quantity of bananas sold and also the finding that marketing related reasons contributed to increase area under banana production. The researcher hence concludes that the nearly all the 119 respondents have a very positive attitude towards marketing related BDS.
4.5 Relationship between BDS and Productivity

With the aid of Ms Excel computer application, correlation was calculated to establish the relationship between the selected BDS received by the respondents and their effect on quantity produced.

**Production related BDS**

From the above tables (Table 4.10 on Production related BDS received and Table 4.12 on effects of BDS on quantity produced) a correlation coefficient \( r \) of 1 was obtained. This means that there is a strong positive association between the productions related BDS received and its effect on the quantity of banana produced (productivity). Therefore, it can be concluded that the more the production related BDS the farmers receive, the greater the influence on the quantity produced, all other factors held constant. The Coefficient of determination \( (R^2) \) was also equal to 1 i.e. 100%. This means that 100% of the variation in the quantity of bananas produced is as a result of the amount of production related BDS received.

**Marketing related BDS**

From the tables (Table 4.14 on Marketing related BDS received and Table 4.16 on effects of BDS on quantity sold) a correlation coefficient \( r \) of 1 was obtained. This means that there is a strong positive association between the marketing related BDS received and its effect on the quantity of banana sold (productivity). Therefore, it can be concluded that the more the marketing related BDS the farmers receive, the greater the influence on the quantity of bananas sold. The Coefficient of determination \( (R^2) \) was also equal to 1 i.e. 100%. This means that 100% of the variation in the quantity of bananas sold is as a result of the amount of marketing related BDS received.
CHAPTER FIVE

SUMMARY OF FINDINGS CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
The main purpose of this section of the study is to give a detailed analysis of the findings of the study and draw conclusions on the effects of selected business development services on productivity.

5.2 Major findings of the study
A total of 147 respondents were randomly sampled from the study population and issued with the questionnaires. Out of the 147 questionnaires issued, 119 of them were returned filled. This signified an 81% response rate. The responses were analyzed in Chapter 4 and the major findings and recommendations are reported below:

• Biographical findings
With 63% of the respondents been male, the research hence concludes that banana production and marketing in Imenti South District is dominated by men unlike earlier reports that had placed banana as a woman’s crop. With regard to age, 84% of the farmers were above 40 years of age. This also indicated that the land resources were controlled by older people. It may have long term implications on the continued impact of the project, since there are very few young people to progress the learning’s forward.

In terms of education, 92% of the banana farmers had obtained primary level of education and above hence they were literate and could therefore be relied upon to read, understand and respond to the questions in the questionnaire, albeit with a little assistance from the assistant researcher. The project cycle shows that it takes a minimum of one year for a banana farmer to go through all the phrases of the project. The research findings showed that all respondents had made their first contact with the banana project by the year 2008, hence had received the selected BDS that the study was investigating.
Influence of production-related business development services on the productivity

Banana is a large perennial crop, which occupies a significant amount of land. Hence, land is a critical factor in the production of banana. In this study the researcher established that the average farm size was 2.9 acres, with the area under banana production per farmer been an average of 0.7 acres which represents 24% of the average farm size. In addition, in the past one year, 57% of the farmers reported that they increased the area under banana production by an average of 0.29 acres majorly because they wanted to increase yield thus increase income. Therefore, considering the fact that South Imenti is a rich agricultural area with various farming activities such as dairy and cash crop farming competing for the land resource, the research concludes that these farmers highly value banana production to the extent of allocating it a significant portion (24%) of their land.

It further shows that the banana occupies an important position as an income earner for these farmers. With regard to production related BDS received, more farmers had received training on production practices as compared to those who had received BDS relating to linkage to input suppliers. However, the frequency at which such services were offered was much low as supported by the fact that 49% of the respondents said they rarely received such BDS. Nonetheless, a staggering 87% of the farmers said that the production related BDS they had received had significant effects on the quantity of bananas they produced. From the above the researcher concludes that the little BDS that reached the farmers had a high positive impact on productivity.

Impact of marketing-related business development services on productivity

Nearly all the respondents reported having received marketing related BDS frequently. Besides, 98% of the respondents agreed that marketing related support services had a significant effect on the quantity of bananas produced and sold. This signifies a very high rate of reach for quality and relevant marketing related BDS among the farmers in South Imenti District. This also links to one of the reasons for increasing area under production which was to increase yield hence increase income which is a factor of access to stable markets for the produce. Hence from the researcher’s point of view marketing related BDS had a significant positive impact on productivity of banana farmers in South Imenti District.
Satisfaction level and attitude towards business development services

The satisfaction level with BDS relating to banana production and marketing was measured with regards to quality of information provided, its relevance, mode of delivery and time when delivered. 83.2% of the respondents reported satisfaction with the quality of production information provided compared to 69.8% who reported satisfaction with the quality of marketing information provided. This may emanate from the fact that production related information has nearly immediate benefit to the individual farmer because they can immediately use it in their own farms as compared to marketing related information which is more focused on the group of farmers and more needs to be done in order for the individual farmer to realize results. This links up well with an earlier finding that a staggering 87% of the respondents reported that the production related BDS they had received had significant effect on the quantity of bananas they produced. More respondents found marketing related BDS to be more relevant than production related BDS. The researcher concludes that this is due to the fact that with production BDS once the farmers are trained on for example land preparation, spacing and planting, they only need to remember and follow the steps which are more factual compare to the case in marketing. Markets are dynamic; hence pose a unique challenge for the farmers in that they have to keep adjusting their techniques/approaches to fit the nature of the changing markets.

A fairly significant number of respondents were satisfied with the mode of delivery of both production and marketing related BDS though there is an area for improvement. A significant number of the respondents i.e. 43.7% were dissatisfied with the time when production related BDS was provided. It’s critical that the project planners address this issue. On the overall with regard to selected BDS, it is interesting to note that training on group marketing approaches and linkage to markets were found to be useful at 96.6% and 95.8% respectively. This clearly shows that the addressing marketing related challenges goes a long way in stimulating production and improving income for the farmers. Hence, with this improved income the BDS consumers will be willing to pay for services provided. This view is strongly backed by the Krep Advisory Services report on BDS in Kenya to Kenya Gatsby Charitable Trust in which the authors note that paying fees is one clear way for Small Enterprises to show their felt value for services provided. If a service adds value to their business, then they will be willing to pay and if they pay, they expect quality service in return which helps improve the quality of work delivered by the BDS providers.
5.3 Answers to Research Questions

i) What is the influence of production-related business development services on the productivity of farmers in TechnoServe’s Banana Program in South Imenti District?
Production related BDS significantly influence the farmers to allocate on average 24% of their land for banana production despite the fact that various farming activities including coffee and dairy farming were competing for the scarce land resource.

ii) What is the impact of marketing-related business development services on productivity of farmers in TechnoServe’s Banana Program in South Imenti District?
Marketing related BDS have had a significant impact on the quantity of banana produced and sold by the farmers because they have linked the farmers to stable and reliable buyers of their bananas as well as enlightened them on group marketing approaches. These have provided solutions to the marketing related challenges faced by the small scale producers, hence positively influencing production.

iii) What is the satisfaction level and attitude towards business development services from the farmers in TechnoServe’s Banana Program in South Imenti District.
Though satisfaction level with BDS provided differs across the variables been investigated, it is true to say that majority of the farmers are satisfied with the BDS provided. However, there is need to improve on the mode of delivery and the timing for the provision of production related BDS.

5.4 Conclusion

Gender
Out of the total 119 respondents, 63% i.e. 75 of the respondents were male while 37% i.e. 44 of the respondents were female. It can therefore be said that men are the key players in banana farming in South Imenti District.

Age of the farmer
The researcher established that 84% of the banana farmers were above 40 years of age. On the positive side, this shows that the farmers are mature people with a long term interest in farming. However, it may spell doom to the long term impact and sustainability of the project in relation to dissemination of the information considering that farmers learn a lot from each other. There is hence need to encourage the participation of younger farmers.
Education level
While only 2% of the respondents had not attained any form of formal education, majority of the rest had either primary education (41%) or secondary education (41%). It can therefore be said that 98% of the banana farmers were literate and could be relied upon to read, understand and respond to the questions been asked, albeit with a little assistance from the assistant researcher. It also shows that they had the ability to comprehend and understand information provided by the BDS provider, despite the fact that the majority were adult learners.

Farm size and area under banana production
The researcher established that land was a critical factor affecting banana production. But despite the average farm size been only 2.9 acres, 0.7 acres of this, representing 24% of the average farm size was dedicated to banana production. This indicates that the banana is a highly valued crop and a major income earner for these farmers. Furthermore, in the last one year, 57% of the farmers reported that they increased the area under banana production in order to increase yield and hence income.

Production related BDS received and their effect
With regard to production related BDS received, a staggering 87% of the farmers said that the training on production practices, crop management and harvesting had significant positive effects on the quantity of bananas they produced. However, the linkages to input suppliers had far much less effect on production and they felt it was an area of improvement for the BDS providers.

Marketing related BDS received and their effect
98% of the respondents reported having received marketing related BDS which had significant effect on the quantity of bananas produced and sold. This concurs with the reasons they gave for increasing area under production i.e. to increase yield hence increase income. Hence from the researcher’s point of view marketing related BDS namely linkages to the output markets and training on group marketing approaches had a significant positive impact on productivity of banana farmers in South Imenti District.
Satisfaction and attitude toward BDS

The fact that over 80% reported satisfaction with the quality and relevance of production and marketing related information provided and more than 90% indicated that they found the BDS provided been useful, the research concludes that the farmers valued the BDS provided and as earlier established it had positive impact of the quantity of banana produced and sold. However, a notable area of improvement for both production and marketing related BDS is related to the mode of delivery and the timing of the services. The researcher suggests that attention should be paid to how gender, age of farmer and demands on time affects the uptake and effectiveness of BDS provided.

In conclusion, the researcher suggests that TechnoServe can build on this positive impact to begin charging a fee for its services. This is so because the farmers have already seen value in the BDS provided. Previous research has shown that consumers of BDS are willing to pay for BDS if it adds value to their business. Value in this case is signified by increased income. This additional income will enable them pay for the BDS sought. This view is strongly backed by research finding by Krep Advisory Services (KAS) which established that if a service adds value to a business, then the business will be willing to pay for that service. If they pay, they expect quality service in return which not only helps improve the quality of BDS provided but also significantly contributes to the sustainability of BDS providers.

5.5 Recommendations of the study

In strategic management, formulation of strategies starts with an audit of the external environment for opportunities and threats, and then looking internally for strengths and weaknesses. With this in mind the researcher recommends the following:

i) When developing the service provision plan, attention should be given to other factors such as gender, age, education level, as well as how the availability of resources such as time etc that affects the impact of the BDS provided.

ii) A major threat to the realization of the full impact of the BDS provided is competition for the land resource. Hence, the researcher recommends that TechnoServe desists from introducing of other lucrative interventions in this area which are likely to increase competition for the land resource and cause a reduction or diversion of resources from this already successful project.

iii) The farmer selection criteria should be designed in a way that it encourages the increased participation of more women and the youth i.e. 18 to 30 years.
5.6 Suggestions for further research

The study has shown that BDS has a significant effect on productivity. In addition, the respondents showed that they discern BDS that helps them address challenges that they face resulting in better performance. Therefore, the researcher proposes that further research should be carried out in the following areas relating to BDS

a) Should BDS providers focus on providing services relating to areas that have significant impact on the enterprises’ bottom line only?

b) Effective approaches of promoting the benefits of BDS to small enterprises to increase uptake.

c) How to make BDS attractive and affordable to consumers.

d) How can BDS providers achieve higher outreach sustainably?
REFERENCES


Bear, M., (2005), Making retail markets work for the poor: Why and how Triple Trust Organization decided to intervene in the Spaza marke, SEEPNETWORK Washington, DC.


76


APPENDICES

Appendix 1: Questionnaire

Section A: Biographical data

Name of respondent; ............................................Name of PBG ..................................................

Q1. Gender:  a) Male  b) Female  

Q2. Age of respondent
(i) 20-29 □  (ii) 30-39 □  (iii) 40-49 □  (iv) 50-59 □  (v) 60 - above □

Q3. Respondents’ level of formal education, tick the most appropriate.
(a) No formal education □  (b) Adult literacy education □
(c) Primary education □  (d) Secondary education □
(e) College □  (f) University □

Q4. When was your first contact with TechnoServe’s banana program?
(a) 2003 □  (b) 2004  
(c) 2005 □  (d) 2006  
(e) 2007 □  (f) 2008  

Q5. a) What is the average size of your farm ....................... Acres.
   b) Of this how much is under banana production .................... Acres.

Q6. (a) Have you increased the size of your farm under banana production in the last one year?
   (i) Yes □  (ii) No □
   (b) If Yes, by how much .................................................................
   (c) Why..............................................................................................
   (d) If No, briefly explain why; ..........................................................
Section B: BDS related questions

Q7. Since you began interacting with this Banana Program which of the following production related support services have you received?

a) Linkage to input suppliers e.g. seedling or fertilizer suppliers.
   1) Yes  
   2) No  

b) Training on Land preparation, planting, crop management and harvesting.
   1) Yes  
   2) No  

Q8. How often do you receive banana production related support services?

a) Rarely  
   b) Frequently  
   c) Very frequently  

Q9 (a). Have they had any significant effect on the quantity of banana you have produced from your farm?

a) Yes  
   b) No  

(b) If Yes, how do you rate the influence of these production related support services on the size of your banana farm?

a) Low  
   b) Medium  
   c) High  

Q10. How satisfied are you with the following support services relating to production of bananas:

a) Quality of information given  
   b) Relevance of BDS provided  
   c) Delivery mechanism  
   d) Timing  

   1 = Dissatisfied  
   2 = Satisfied  
   3 = Very satisfied  

Q11. Please circle the number that best describes your view about the usefulness of the following production related business services provided in TechnoServe’s Banana Program.

a) Linkage to input suppliers  
   b) Training on production practices  

   1 = Not useful at all  
   2 = Useful  
   3 = Very Useful  

80
Q12. Since you began interacting with this Banana Program which of the following marketing related support services have you received?

a) Linkage to banana traders (output markets)
   1) Yes [ ] 2) No [ ]

b) Training on and use of group marketing approaches.
   1) Yes [ ] 2) No [ ]

Q13. How often do you receive banana marketing related support services?
   a) Rarely [ ] b) Frequently [ ] c) Very frequently [ ]

Q14 (a). Have they had any significant effect on the quantity of banana you have sold from your farm?
   a) Yes [ ] b) No [ ]

   (b) If Yes, how do you rate the influence of these marketing related support services on the quantity produced on your farm?
   a) Low [ ] b) Medium [ ] c) High [ ]

Q15. How satisfied are you with the following support services relating to marketing of bananas?

   a) Quality of market information provided 1 2 3
   b) Relevance of BDS provided 1 2 3
   c) Delivery mechanism 1 2 3
   d) Timing 1 2 3

Key:
1 = Dissatisfied 2 = Satisfied 3 = Very satisfied

Q16. Please circle the number that best describes your view about the usefulness of the following marketing related business services provided in TechnoServe’s Banana Program.

a) Linkage to banana traders (output markets) 1 2 3
b) Training on and use of group marketing approaches. 1 2 3

Key:
1 = Not useful at all 2 = Useful 3 = Very Useful

THANK YOU for taking time to fill this questionnaire.
Appendix 2: List of Producer Business Groups in Ntharene MSC

<table>
<thead>
<tr>
<th>No</th>
<th>Name of Group</th>
<th>Year formed</th>
<th>Age</th>
<th>No.of members</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ntharene</td>
<td>2004</td>
<td>5</td>
<td>94</td>
<td>Active</td>
</tr>
<tr>
<td>2</td>
<td>Kanyakine</td>
<td>2004</td>
<td>5</td>
<td>51</td>
<td>Active</td>
</tr>
<tr>
<td>3</td>
<td>Baraga</td>
<td>2005</td>
<td>4</td>
<td>67</td>
<td>Active</td>
</tr>
<tr>
<td>4</td>
<td>Mwichuine</td>
<td>2007</td>
<td>2</td>
<td>41</td>
<td>Active</td>
</tr>
<tr>
<td>5</td>
<td>Nkumari</td>
<td>2006</td>
<td>3</td>
<td>51</td>
<td>Active</td>
</tr>
<tr>
<td>6</td>
<td>Yururu</td>
<td>2004</td>
<td>5</td>
<td>72</td>
<td>Active</td>
</tr>
<tr>
<td>7</td>
<td>Bidii</td>
<td>2008</td>
<td>1</td>
<td>41</td>
<td>Active</td>
</tr>
<tr>
<td>8</td>
<td>Miruriri</td>
<td>2004</td>
<td>5</td>
<td>234</td>
<td>Active</td>
</tr>
<tr>
<td>9</td>
<td>Igoji</td>
<td>2008</td>
<td>1</td>
<td>51</td>
<td>Active</td>
</tr>
<tr>
<td>10</td>
<td>Igandene</td>
<td>2004</td>
<td>5</td>
<td>129</td>
<td>Active</td>
</tr>
<tr>
<td>11</td>
<td>Ngongo Kigwarri</td>
<td>2008</td>
<td>1</td>
<td>16</td>
<td>Active</td>
</tr>
<tr>
<td>12</td>
<td>Wangwana</td>
<td>2008</td>
<td>1</td>
<td>20</td>
<td>Active</td>
</tr>
<tr>
<td>13</td>
<td>Ngongo Arimi</td>
<td>2007</td>
<td>2</td>
<td>31</td>
<td>Active</td>
</tr>
<tr>
<td>14</td>
<td>Koothine</td>
<td>2004</td>
<td>0</td>
<td>60</td>
<td>Active</td>
</tr>
<tr>
<td>15</td>
<td>Kairaa</td>
<td>2006</td>
<td>3</td>
<td>24</td>
<td>Active</td>
</tr>
<tr>
<td>16</td>
<td>Nthunguri</td>
<td>2009</td>
<td>5</td>
<td>72</td>
<td>Active</td>
</tr>
<tr>
<td>17</td>
<td>Kianjogu</td>
<td>2004</td>
<td>5</td>
<td>101</td>
<td>Active</td>
</tr>
<tr>
<td>18</td>
<td>Kuirri</td>
<td>2006</td>
<td>3</td>
<td>59</td>
<td>No active</td>
</tr>
<tr>
<td>19</td>
<td>Kinoro</td>
<td>2004</td>
<td>5</td>
<td>70</td>
<td>No active</td>
</tr>
<tr>
<td>20</td>
<td>Mituune</td>
<td>2009</td>
<td>0</td>
<td>27</td>
<td>No active</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>1311</strong></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3: Project Areas - Banana Growing Zones in Central and Eastern Kenya.
## Appendix 4: Budget

<table>
<thead>
<tr>
<th>ITEM</th>
<th>COST (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer usage expenses (typing, emailing, browsing)</td>
<td>4,000.00</td>
</tr>
<tr>
<td>Photocopy and printing expenses</td>
<td>6,000.00</td>
</tr>
<tr>
<td>Report Binding costs</td>
<td>6,000.00</td>
</tr>
<tr>
<td>Transport expenses</td>
<td>5,000.00</td>
</tr>
<tr>
<td>Data collection costs (hiring &amp; training of assistant researcher)</td>
<td>10,000.00</td>
</tr>
<tr>
<td>Telephone expenses (follow-up)</td>
<td>3,000.00</td>
</tr>
<tr>
<td>Miscellaneous expenses</td>
<td>3,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37,000.00</strong></td>
</tr>
</tbody>
</table>