

# [A case of bwera sub county economics essay](https://assignbuster.com/a-case-of-bwera-sub-county-economics-essay/)

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Global population is expected to continue growing over the next decades and this will be more in the cities. There is need to increase agricultural production so as to be able to feed estimated population of 9 billion people by 2050. Most of the increase in population is expected to occur in Africa and Asia (Horizon, 2009). There is need to improve food production in order to be able to meet the food demands of this increased population, in an effort to avoid food insecurity. Unfortunately, young educated people in emerging countries, who would provide labour to the agricultural sector, are migrating from rural areas to cities for better living due to fewer rewards obtained from smallholder farming activities.

## 1. 2 Motivation

Two-thirds of Sub-Saharan Africa’s population lives in rural areas, whose main activity is small scale farming. In spite of agriculture activity being seen as a key driver to economic growth, the activity has failed to offer enough food for consumption and provide sufficient incomes to the smallholder farmers. There is therefore need to link smallholder farmers to the market and also increase agricultural production (Toenniesen et al., 2008). To address this alarming situation, there is need to come up with new concepts of innovation that will be able to drive agriculture into a profitable commercial activity, hence making agriculture more attractive to the young educated people. Against this background, the study will be carried out to investigate the suitable business model that would facilitate commercial farming in rural areas in emerging countries, in an effort to foster food security.

## 1. 3 Relevance of the study

(i)The study will add to the existing knowledge about financing smallholder farming(ii)The farmers will appreciate the role of Intermediaries in the promotion of commercial farming in an effort to promote food security in Uganda.(iii)Significantly, the researcher will suggest to the policy makers how government and other subsidiaries can help farmers to participate in commercial farming in an effort to foster food security through increased agricultural production.

## 2. Literature review

## 2. 0 Introduction

The literature will provide a guide to the study: ‘ financing commercial farming in emerging market countries: Undertaking the Business model concepts, a strategy for fostering food security’. It will also provide information related to the Business model that will be relevant to smallholder farmers in their effective use of finance. Furthermore, the literature will help in the identification of the gaps needed to be filled in the study. The review will base on journals and articles relevant to the study. The literature will be categorized according to sections.

## 2. 1 Obstacles faced by smallholder farmers in their involvement in emerging markets in an effort to foster food security

-Smallholder farmers are faced by insufficient access to finance. This is basically due to lack of collateral security and lenders’ low-risk appetite.-Smallholder farmers are lack farm inputs such as fertilizers and hybrid seeds that could be used to improve food production.-Food production is heavily affected by climatic change, weather vagaries, pests and diseases.-Lack of sufficient infrastructure, such as roads, especially in the rural areas.

## 2. 2 How to boost the relationship between financial institutions and smallholder farmers in an effort to foster food security

-The relationship between borrower and lender can be boosted through the use of group lending- Lending institutions should not only see land as the only key collateral, but also look at the acceptance of ‘ symbolic’ forms of loan collateral such as the pledge of the future agricultural produce.-Use of a three-way agreement between the producers, buyers and financial institutions.

## 2. 3 The role of the Government in making a successful linkage between smallholder famers and the emerging markets in an effort to foster food security

-Investment in public infrastructural development; road construction, Power supply, railway construction and irrigation-Provision of research and agricultural extension services- Provision of agricultural input subsidies in form of fertilizers, improved seeds and manure, to reduce smallholder farmers’ costs of production-Provision of incentives to farmers and subsidizing transport costs on the agricultural produce.

## 2. 4 The role of the buyers in a successful linkage between smallholder farmers and the emerging markets in an effort to boost food security

-To link smallholder farmers to the market-To provide clear knowledge to the smallholder farmers about the market.

## 2. 5 The role played by smallholder farmers in meeting quality, quantity and safety expectations of the emerging markets in an effort to foster food security

-Provision of proper storage of agricultural produce-Create better linkages and alliances with intermediaries so as to access finance and market in time-To organize themselves into groups in order to reduce transport costs and deliver agricultural produce to the market in time.

## 2. 6 Determinants of an effective Business model for a successful linkage between smallholder farmers and emerging markets in an effort to foster food security

For the smallholder farmers to achieve their objectives, there should be a sufficient linkage between them and Intermediaries (Vorley and MacGregor, 2008). The determinants of an effective Business model are in reference to GAIF2008 Business model for smallholder farmers and SMEs, which include; government, financial institutions, buyers and producers(smallholder farmers). In order to achieve improved agricultural performance, each stakeholder in the agricultural sector should effectively play its part. The Business model concepts will therefore help in solving the existing problem of lack of access to finance by smallholder farmers. Once this is solved, together with ease access to markets, there will be increased agricultural production and hence fostering food security, specifically in emerging countries.

## 3. Problem definition and research questions

## 3. 1 Statement of the problem

The Government of Uganda like other governments of developing economies, through Bank of Uganda is licensing more financial institutions in an effort to boost peoples’ access to loans and other services (Budget speech, 2008/2009). It is observed however; by Fanadzo, et al and Mudhara that small holder farmers are not performing well because of lack of access to credit (Fanadzo, et al, 2010: 3515 and Mudhara, 2010: 4). In addition, World Wide Fund for nature (2011) mentions that the expansion in food production is affected by lack of access to credit. Besides, smallholder farmers and entrepreneurs are being underserved in spite of increased investment in microfinance and commercial institutions (Bill & Felicity, 2008). Therefore, a question is why smallholder farmers fail to access credit from financial institutions and yet Ugandan government is increasingly licensing such institutions with great focus on enabling its people access credit. However, Zeller (2000) argues that some households have not picked interest in borrowing even when they have access to credit. This implies that it is not access to credit that matters but how finance is effectively used. Adapting Business Model would help smallholder farmers to access funding from financial institutions and use it effectively. The Business Model Innovation (BMI) involves thinking and doing things differently in regard to how smallholder farms are set up and managed from the commercial perspective. The Business model will be adapted on the assumption that small holder farmers are small scale businesses.

## 3. 2 Research questions

## 3. 2. 1 Major research questions

(i) What obstacles do smallholder farmers face in emerging market involvement in an effort to foster food security?(ii)How can intermediaries help smallholder farmers benefit from emerging markets in an effort to foster food security?

## 3. 2. 2 Minor research questions

(i)How can the relationship between credit institutions and smallholder farmers be boosted in an effort to foster food security?(ii)How can government make a successful linkage between smallholder farmers and the emerging markets in an effort to foster food security?(iii)How can smallholder farmers meet food quality, quantity and safety expectations of the emerging markets in an effort to foster food security?(iv)What is the role of buyers in a successful linkage between emerging markets and the smallholder farmers in an effort to foster food security?

## 4. Research methodology

## 4. 1 Nature of the study

The study will be deductive in nature and will base on the already existing theories and concepts. Additionally; the study will focus on the GAIF2008 Business Model for smallholder farmers and SMEs. The theories will be referred to as the researcher establishes the relationship between Financing and food security-which results from output sustainability.

## 4. 2 Research strategy

The study will focus on a single case study; Smallholder farmers from Bwera Sub County, in Kasese district-Uganda will be interviewed. A single case study will be used because of limited time and resources.

## 4. 3 Type of data

Both qualitative and quantitative data will be collected from the respondents.

## 4. 4 Data collection

Data will be collected by use of Self administered-closed ended questionnaires that will be designed by the researcher. The questionnaires will contain both demographic and non-demographic questions. Non-demographic questions’ answer options will be designed using a Five-point Likert-type scale, with the following features:= Strongly disagree= Disagree= Neither agree nor disagree= Agree= Strongly agree

## 4. 5 Measurement: Validity and Reliability

The data will be tested for validity and reliability by use of Pretest method. Questionnaires will be administered to a selected number of respondents picked from the population before the commencement of the real research. This is to enable the researcher ascertain where there are any errors in the questions and whether the sequence of the questions in the research questionnaire is proper.

## 4. 6 Data access and ethics

An introductory letter to the field will be obtained from MEO, on approval of the research supervisor. The letter will be addressed to the Chief Administrative Officer Kasese District, who will also introduce the researcher to the Sub county officer Bwera Sub County. The Sub county chief will also introduce the researcher to the Parish chiefs. Additionally, data collected will be treated in a confidential manner and will purely be used for academic purposes.

## 4. 7 Sample size selection

A sample size of 50 respondents will be selected from the population of 7, 962 people, from four parishes in Bwera Sub County. The sample will be selected by use of probability sampling procedure. The probability for every parish will be multiplied by the parish’s population so as to obtain the representative sample for each parish. Thereafter, simple random sampling procedure will be used to come up with 50 respondents.

## Table 1 Representative sample size

## No.

## Parish

## Population

## Probability

## Representative sample

1. Kisaka1, 9230. 24122. Kyogha2, 7150. 34173. Bunyiswa1, 4900. 19094. Rwenguba1, 8340. 2312

## Total

## 7, 962

## 01

## 50

Source: Adapted from Kasese district census register, 2011

## 4. 8 Data analysis

The data to be collected will be analyzed using a statistical package (SPSS). Descriptive statistics will be generated; the mean and standard deviation results will be obtained. The Karl Pearson coefficient of correlation will be used to ascertain the relationship between the dependent variable (Food security) and independent variable (Financing). The correlation that ranges between zero and one will be used to reject or accept the Null hypothesis. A negative value of would imply a negative correlation, while a positive value will imply a positive correlation.

## 4. 9 Data presentation

The results will be presented by use of tables, Pie charts and graphs. These will be drawn by use of Microsoft Word and Microsoft Excel. These will provide a view representation of the results, from which an interpretation will be made to come up with a useful meaning.

## 5. Research work plan

## No.

## ITEM

## PERIOD

1. 1st Thesis writing workshopNovember 28, 20122. 2nd Thesis writing workshopJanuary 30, 20133. Submit Research Proposal Synopsis(1 page)February 18, 20134. Allocation of Research supervisorFebruary 22, 20135. Submit Research Proposal (10 page)March 28, 20136. Research Proposal PresentationsApril 4-5, 20137. Conduct ResearchApril-July 20138. Write Research PaperJuly-Aug 20139. Submit Final Research PaperAugust 12, 201310. Research Paper PresentationsAugust 19-23 , 201311. GraduationSeptember 5, 2013

## 6. References

Barret , C.(2008). Smallholder market participation: concepts and evidence from Eastern andSouthern Africa. Food policy, 33(4), 299-317. Commission for Africa (2005). Our common interest: Report of the Commission for Africa. London: Commission for Africa. Bernard, T. & Spielman, D. (2009). Reaching the rural poor through producer organisations? Astudy of agricultural marketing cooperatives in Ethiopia. Food policy, 34(1), 60-69. Bill Vorley & Felicity Procter (2008). Regoverning markets. Small scale producers in modernagrifood markets: Inclusive Business in Agrifood markets: Evidence and Action. A reportbased on proceedings of an International conference held in Beijing, March 5-6 2008. Doward and Chirwa (2011). The Malawi agricultural input subsidy programme. 2005-6 to2008-9. International Journal of agricultural sustainability, 9(11) 2011Ephraim W. Chirwa (2005): Adoption of fertilizers and hybrid seeds by smallholder farmers inSouthern Malawi. Development Southern Africa, Vol. 22, No. 1, March 2005Fan, S. and X. Zhang (2008). ‘ Public expenditure, growth and poverty reduction in Rural areas’. African Development review, Vol. 20, No. 3, pp. 466-96FAO, 2003. World Agriculture: Towards 2015/2030. A FAO Perspective. Food and AgricultureOrganization of the United Nations/Earth scan, Rome, Italy/USAFoster, V., and Briceno-Garmedia, C. (Eds) (2010). Africa’s infrastructure: A time forTransformation. A copulation of the Agence Francaise de’loppment and the World Bank. Washington, DC. World Bank. Freeman, HA & Silim, SS, 2001. Commercialization of smallholder irrigation: the case ofhorticultural crops in Semi arid areas of Easter Kenya. In Sally, H. & Abernethy, CL(Eds), Private irrigation in Sub-Saharan Africa. Proceedings of regional seminar on private sector Participation and irrigation expansion in Sub-Saharan Africa, 22-26, October, Accra, Ghana. Heinemann, E, 2002. The role and limitations of producer associations. European Forum forRural Development cooperation, 4 September, Montpellier, France. Horizon (2009) Future issues for development. Pilot issue August 2009. Population growth, Environment and food security: What does the Future Hold? International fund for Agriculture development, 2003. Promoting market access for rural poorIn order to achieve the Millennium development goals. Discussion paper. Rome. IFAD. Mudhara, 2010: 4 and Fanadzo et al, 2010: 3515. International Business and Economics Journal. July 2012. Volume 11 issue 7, page 771-789. 14pToenniessen, G., Adesina, A, & DeVries, J. (2008). Building an alliance for a green revolutionin Africa. Annals of the New York academy of Sciences, 1136, 233-242. Valeria Kelly, Akinwumi A. Adesina and Ann Gordon (2003). Expanding access to agriculturalInputs in Africa: A review of recent market development experience. Food policy 28(2003), pp. 379-404Varghese, A. (2005). Bank-money lender linkage as an alternative to bank competition in ruralCredit markets, Oxford Economic papers 57(2), and pp. 315-335Vorley and MacGregor (2008): GAIF 2008 Business model for smallholder farmers and SMEsZeller (2000) . Many borrow, more save, and all insure: Implications for food and micro policy. Food policy 25(2000) 143-167

## Annex 1: Literature review report

## 1. 0 Introduction

The literature will provide a guide to the study: ‘ financing commercial farming in emerging market countries: Undertaking the Business model innovation perspective, a strategy for fostering food security’. It will also provide information for developing a Business model innovation that will be relevant to smallholder farmers in their effective use of finance. Furthermore, the literature will help in the identification of the gaps needed to be filled in the study. The review will base on journals and articles relevant to the study. The literature will be categorized according to the following sections;-Obstacles faced by smallholder farmers in their involvement in emerging markets-The role played by smallholder farmers in meeting quality, quantity and safety expectations of the emerging markets-How to boost the relationship between financial institutions and smallholder farmers-The role of the state in making a successful linkage between smallholder famers and the emerging markets-The role of buyers in a successful linkage between smallholder farmers and the emerging markets.-The determinants of an effective Business model innovation that can enable smallholder farmers benefit from the emerging markets.

## 1. 1 Obstacles faced by smallholder farmers in emerging market involvement in an effort to foster food security

## 1. 1. 1 Insufficient access to finance

Mudhara, 2010: 4 and Fanazo et al, 2010 argue that poor performance of small holder farming is largely attributed to lack of access to credit. This therefore affects the farmers’ seasonal agricultural output since his/her ability to meet the agricultural requirements will be affected. Kirsten and Van Zyl (1998: 564) put key weight to finance. They indicate that lack of finance affects agricultural output. Van and Kirsten attribute the inability of the farmers to access credit to the lender’s low-risk appetite. The few farmers who are able to meet the requirements of financial institutions are charged high interest rates. Zindi (2005) accepts that most stallholder farmers lack access to credit. This is attributed to the lack of fixed assets that can be used as collateral for the loans. Additionally, Zindi indicates that smallholder farmers lack agricultural inputs, knowledge and skills; which are influenced by the lack of extension advice and limited access to livestock manure. Zeller (2000) recognizes that households are unable to access due to lack of physical capital, such as land and collateral, social capital, such as reputation and networks- that can extend information and support on how to access credit from financial institutions. Social and physical capital information facilitates credit providers in making decisions relating to the clients’ ability to borrow and repay back. Additionally, Eller observes that inadequate access to information regarding agricultural credit frustrates smallholder farmers from financial credit from financial institutions. Besides, Zeller argues that most smallholder farmers have low risk-bearing capacity and are frustrated by the transaction costs associated with loans. This constrains most farmers from taking a step to obtain micro credit from financial institutions. Agra et al., 2009 put across a number of reasons as to why financial institutions are reluctant to lend to smallholder farmers in the agricultural sector. They mention that smallholder farmers lack collateral that can be used as security for the loans applied for. Still, because of the clients coming from remote areas, it becomes costly for the financial institutions to extend credit to them. Also, since agriculture is rain fed, it is associated with risks emanating from unreliable rainfall. Finally, they mention that due to lack of irrigation, price fluctuations of agricultural products, and the availability of pests and diseases, agriculture becomes a risky sector to extend credit to. Kydd et al (2001) provide that agriculture is hindered by lack of communication infrastructure, which makes it hard for agricultural transformation to occur in many poorest areas. They further mention that lack of human capital remains a challenge to agricultural smallholder farmers, hence leading to low agricultural production. Additionally, they mention that agricultural production is affected by soil infertility. Soil fertility can be boosted by the use of fertilizers. Still, lack of irrigation system is indicated as another challenge to agricultural productivity, especially to areas affected by drought; resulting from poor climatic conditions. Unless addressed, agricultural productivity would remain low in the affected areas.

## 1. 1. 2 Lack of farm inputs

Keydd et al. (2002) argue that smallholder farmers are unable to meet their desired agricultural output due to the lack of modern inputs. This is particularly severe on the rural farmers, whose areas of operation are hit by transport infrastructure insufficiency, hence leading to increased input and output prices. Whereas the use of fertilizers has been taken as solution to infertility, Poulton et al. (2005) indicate that smallholder farmers in many developing countries have limited capacity to access such farm inputs. This may be attributed to lack of funds for investment. In addition, smallholder farmers lack the knowledge on how to use the farm inputs. Still, due to small scale production, transportation and marketing costs tend to be high, hence frustrating smallholder farmers from accessing sufficient market for their agricultural products.

## 1. 1. 3 Climatic change, weather vagaries, pests and diseases

Tracy (2010) provides that agriculture in Uganda was affected by climatic change. The situation was worsened by the increase of crop pests that destroyed crops before reaching harvest stage, hence leading to reduced agricultural production. On a sad note, Tracy indicates that 80% of Uganda’s population depends entirely on agriculture and yet there is land inadequacy. This may call for improved methods of agriculture that can boost agricultural production. Savesscu & Plotiz, (2010) agree with Tracy (2010) that agricultural production is greatly affected by weather vagaries, pests and diseases. These retard agricultural production. They further mention that since agricultural productivity depends on seasons, the lending institutions’ decisions end up not favoring the smallholder assessment for the credit service. This is worsened by the fact that smallholder farmers do not diversify their production since production of a single crop retards output volume. This would therefore call for the governments’ assistance to provide agricultural extension workers, who have technical knowledge relevant to the smallholder farmers. Peter frost et al. (2007) mention that agricultural productivity is hindered by insufficient rainfall and soil infertility in most developing countries. They further indicate that low agricultural productivity has led to chronic food shortages. The local agricultural markets are small, hence unable to meet the smallholder farmers’ market demands. There is lack of access to the large markets. Also, smallholder farmers lack sufficient agricultural extension advice, hence lacking the knowledge on how to improve agricultural productivity. Sarah and Ibrahim (2010) agree with the argument that water shortage leads to food insecurity. They strongly believe that Uganda’s food worrying status is attributed to the famine that hit some districts in the year 2009, due to the delayed rains that led to severe effects onto the agricultural sector, hence exposing the country to chances of food insecurity. According to them, the average caloric intake was currently 1, 970 and yet the normal one is supposed to be 2, 200. Nicholas Hanjra et al. (2009a), Hanjra et al. (2009b) and Rosegrant (2003) indicate that water is a key factor for agricultural production. Water shortage can adversely lead to low agricultural production, hence leading to food insecurity.

## 1. 2 The role of the Government in making a successful linkage between smallholder famers and the emerging markets in an effort to foster food security

On a positive note, John et al. (2003) observe that India’s agricultural productivity increased due to the offer of agricultural subsidies to the farmers. In addition, the Indian government’s public investment into infrastructural development; road construction, Power supply and irrigation, and in research and agricultural extension services. Chirwa (2005) concurs with the previous writers who aired out that the government should strengthen the smallholder farmers’ access to agricultural inputs by providing agricultural input subsidies in form of fertilizers, improved seeds and manure, in an effort to increase agricultural production. Additionally, agricultural education should be extended to smallholder farmers on the proper usage of fertilizers and other farm inputs. Jayne (2012) mentions that food security is influenced by price fluctuations, which frustrate the interactions between public and private sectors, and specifically, the grain market. Also, Jayne argues that food security can be boosted by provision of credit programs that fetch low repayment rates. Jayne suggested that government assistance can be obtained through the provision of agricultural input subsidies so as to reduce the smallholder farmers’ cost of production. Doward and Chirwa (2011) observe that instability in market prices emanates from increased transaction and marketing costs of agricultural products. They suggest that this can be curbed by the improvement of public infrastructure through the investment in roads and railway infrastructure. Additionally, they suggest that government’s investment in irrigation schemes would facilitate agricultural production in dry seasons. Agricultural forecasts and provision of information related to agricultural prices need to be strengthened. This can be through the provision of support to professional agencies that generate such information, thus reliable predictions would be made. It is observed that some countries’ crop forecasts and prices are politically influenced, consequently a hurdle to the agricultural sector (Doward and Chirwa 2011). V. Kelly et al. (2003) agree that there is need to expand farm input usage in an effort to boost agricultural productivity globally and Africa in particular. Effective and sufficient use of fertilizers can be boosted by the involvement of governments, NGOs, donors and commercial sector (buyers) through the facilitation of the demand and supply of fertilizers. Still, they propose special programmes that can promote input usage, like offer of input subsidies, in an effort to achieve food security objectives. Furthermore, farmers’ input use constraints result from demand and supply, and they are categorized into; knowledge and financial constraints, and risk issues. Some farmers lack knowledge pertaining the availability and use of the farm inputs. Smallholder farmers lack collateral to enable them obtains loans from financial institutions. Additionally, risks associated with agriculture hinder financial institutions from offering credit to stallholder farmers, such as weather vagaries, pests and diseases and price fluctuations. FSRP-Zambia (2002) supports the government’s involvement in the agricultural activities of stallholder farmers, through the offer of farm input credit. This would be a relief in situations where commercial banks find it costly to handle due to proximity of the farmers to the operational areas. In Zambia, the government-run input credit programme has faced low repayment rate of between 30-40%, hence calling for strict monitoring and follow up. Population globally is on the rise. This has caused a great challenge to developing countries’ decision makers in as far as feeding such a growing number of people is concerned. This therefore calls for Governments of developing countries to foster market access for agricultural products, provide incentives to farmers and subsidizing transport costs on the produce in an effort to enable farmers from remote regions transport their agricultural outputs to the near and far markets (Academic press 2009). Government needs to make infrastructure investments, and provide subsidies and agricultural technologies, for the rural market development. Additionally, the government should offer sufficient policies geared towards agricultural production (Toenniesien et al., 2008). National Dept of agriculture (2000) indicates that agriculture is a key activity in boosting economic growth and eradicating poverty. These objectivities can be obtained by increasing agricultural productivity and output, hence leading to increased incomes of the poor in society. The smallholder and medium farmers once helped to raise their productivity for their own consumption and market, can foster employment and improve food security through expanded production. Government has a role to play to ensure that smallholder farmers achieve the desired production levels by putting into place systems pro farmers’ development. Shiferaw et al., 2008 observe that transaction costs are the major hurdle to smallholder farmers, hence limiting them from participating effectively in the market. Once rural infrastructure is addressed, extension services provided, credit markets easily accessed and market information availed, transaction costs would be lowered for the smallholder farmers and in the end be able to increase their agricultural production output. Furthermore, smallholder farmers should be encouraged to form groups as this would increase their bargaining power and ease access to agricultural inputs and services. This therefore calls for the governments’ helping hand to ensure that systems are put into place to boost the smallholder farmers’ activities. Fan and Zhang (2008) observed that smallholder farmers do not access credit from financial institutions due lack of collateral. They lack land ownership evidence (Title) that can be presented as security for the loans applied for. On a positive not, as a way of promoting agricultural activity, they recommended that the government should do an investment into public infrastructure on rural roads construction. This would ease movement of agricultural products from the rural areas to the near and far markets. Furthermore, they recommended that should invest in agricultural research and extension services, hence leading to improved agricultural production.

## 1. 3 How to boost the relationship between financial institutions and smallholder farmers in an effort to foster food security

Savescu and Plotiz (2010) mention that the poor borrower-lender relationship affects the smallholder farmers’ access to credit. This is as a result of moral hazard associated with smallholder farmers’ specific personal characteristics, and this affects the credit institution’s decisions. The writers recommended the use of group lending since group members would ensure that loan repayments are made. Additionally, they observed that lack of collateral was yet another obstacle to access to credit. Like Fan and Zhang (2008), Savescu and Plotiz recognize that land is the most important security for loans. Savescu and Plotiz recommended that the lending institutions should not only see land as the only key collateral, but also look at the acceptance of ‘ symbolic’ forms of loan collateral such as the pledge of the future agricultural produce. Vermeulen et al.,(2008) observe that there is need for financial institutions to provide credit to smallholder farmers so as to enable them to meet their liquidity requirements, hence participating sufficiently in the supply chain. This calls for a better relationship between financial institutions and the smallholder farmers, other than credit lenders relying on only collateral assets as security for loans. They recommended a 3-way agreement between the producers, buyers and financial institutions.

## 1. 4 The role of the buyers in a successful linkage between smallholder farmers and the emerging markets in an effort to foster food security

Wood (2001) provides that stagnant agricultural productivity results from unpleasant agricultural prices, weak access to agricultural supporting services and high costs of inputs. There are few buyers of agricultural produce who are distributed within the producing region. Smallholder farmers fail to obtain buyers from far places due to shipping costs; the fact that agricultural produce is bulky and/ perishable. This may call for the existing buyers to create links with far buyers in an effort to expand the agricultural produce market. Access to agricultural markets is observed to be factor for the boost of agricultural productivity and living standards of smallholder farmers. There is insufficient access to the market, and this has been attributed to the high levels of remoteness, hence leading to high marketing costs and unpleasant supporting services to smallholder farmers((Commission for Africa, 2005). Market access is considered to be a crucial requirement for the success of farmers. Presence of market for agricultural products could allow new farmers to be attracted into the activity and hence agricultural production would be boosted. (National dept of agriculture, 2000). Smallholder farmers have no clear knowledge about the market, how it operates and why prices keep on fluctuating. To make it once, smallholder farmers are not collectively organized so as to boost their organization powers (Freeman & Silim, 2001: International Institute of Agriculture, 2001: Heinemann, 2002). International fund for Agricultural Development (2003) stresses that market access can be viewed in three dimensions, namely, physical access to markets, producers’ inability to understand the market in terms of prices and bargaining power, and the entire structure of the markets, which reflects the relationship existing between farmers, consumers, buyers and intermediaries.

## 1. 5 The role played by smallholder farmers in meeting quality, quantity and safety expectations of the emerging markets in an effort to foster food security

Joyce Cacho (2003) recognizes the presence of supermarkets as a source of market for agricultural products. However she expresses fear of smallholder farmers being risked out of the new market with specific requirements, such as quality, and yet agricultural products are associated with a high risk of perishability, hence a threat to food security. It is therefore the role of the smallholder farmers to ensure that systems are put into place to the competitiveness of their agricultural products so as to benefit from the emerging markets. This might be the reason why the King of the Rwenzururu Kingdom, His Majesty Wesley Mumbere urged people of Kasese to revive the traditional culture of putting up granaries in the region (Kasese District News, September 8th 2010). In the study carried out on smallholder farmers’ cash crop cultivation decisions by Lukanu et al., 2004, it was indicated that profitability of crops, reliability and availability of buyers, access to credit and extension services, and availability of agricultural inputs influenced the farmers’ decisions on food crop cultivation. Profitability motive by farmers is evidence that smallholder farmers are business persons, hence should be facilitated by intermediaries, such as financial institutions, buyers and government to enable them increase their output production and access better markets. Vermeulen et al., (2008), indicate that a sustainable and equitable involvement of smallholder farmers in agriculture can be achieved through the creation of alliances and linkages with all stakeholders of the agricultural sector, namely; buyers, NGOs and financial institutions, and the government. These linkages can help smallholder farmers to obtain credit and farm inputs, hence leading to an effective value creation. Bill and Felicity (2008) provide the importance of smallholder farmers’ involvement in the market. This results from the ever increasing prices for food stuffs and oil, hence leading to questions relating to agricultural production and reliance on business for food security. There is a rapid growth in agricultural markets, such as supermarkets, food manufacturing industries, food service firms, groceries, hence a need for the smallholder about market inclusions. The smallholder farmers should mind about how to increase food production and how to improve the quality and safety of their productions, as well reducing the agricultural risks and transaction costs, so as to meet the requirements of the emerging markets. Additionally, Bill and Felicity indicate that training and organization of farmers enable them to increase their productivity and quality of agricultural products in a cost effective and efficient way. Furthermore, conducive environment, such as good infrastructure, financial services and contract enforcements stimulate agricultural production, hence enabling farmers achieve their objectives. Markelova et al., 2009: Poulton & Lyne, 2009, indicate that the major way of getting rid of market failures and maintain a good position in a given prevailing market is for the smallholder farmers to organize themselves into groups. By their collective effort, smallholder farmers are able to reduce transaction costs associated with market exchanges, get the key market information and are exposed to new markets.

## 2. Determinants of an effective Business model innovation for a successful linkage between smallholder farmers and emerging markets in an effort to foster food security

## 2. 0 Introduction

For the smallholder farmers to achieve their objectives there should be a sufficient linkage between them and other agricultural stakeholders (Intermediaries). Every stakeholder has a role to play (Vorley and MacGregor, 2008). The determinants of an effective Business model are in reference to GAIF2008 Business model by Vorley and MacGregor (2008).

## 2. 1 The Government

According to Vorley and MacGregor(2008), the government is expected to play the following roles: Improvement of Agricultural infrastructure; provision of rural roads to link smallholder farmers to far and near markets for agricultural produce, health services, effective communication system to link buyers and farmers, water systems to boost irrigation, and rural electrification services, for processing agricultural produce. Furthermore, the government is expected to invest in agricultural advisory services and research, so as to meet the needs of smallholder farmers are concerned, such as accessing knowledge about application of fertilizers, better methods of farming, and encouraging the farmers to form associations so as to strengthen their voice in the market. Additionally, the government is expected to offer agricultural subsidies and farm inputs to smallholder farmers, create market stability and formulate policies geared at enforcing contract laws; for a better working relationship between the farmers and other stakeholders. Bill and Felicity (2008) support the GAIF2008 model by indicating that the government indeed has a role to play in the inclusive markets. The government is expected to set rules of the game that will enable all the stakeholders in the agricultural sector relate with each other sufficiently. Among others, the government should formulate cooperative laws and also provide rural infrastructure and agricultural extension services to the smallholder farmers. Besides, the government should engage in the liberalization of credit policies so as to enable smallholder farmers to access credit, which is a pertinent factor to the smallholder farmers’ inclusion in the modern markets. Furthermore, Bill and Felicity (2008) suggest that the playing field for smallholder farmers should be leveled. This involves the eradication of barriers faced by smallholder farmers, which include, among others; price volatility for agricultural outputs, high input costs, climatic changes, lack of market choice and credit access. This necessitates government’s inclusive involvement in putting up systems that fuel smallholder agricultural activities, such as setting up irrigation schemes in water disadvantaged areas, promotion of low interest rate credit facilities and offer of farm inputs to the farmers. Munir and Ejaz (2010) concur with Bill and Felicity by indicating that it is crucial to focus on climatic change by carrying out climate monitoring so as to boost food security. Additionally, they suggest the use of irrigation as a remedy for controlling drought and hence boosting agricultural production.

## 2. 2 The Financial institutions

Financial institutions play a role of providing credit to the farmers. Agra et, al (2009) indicate that smallholder farmers are un able to access credit due to lack of collateral, the Business model innovation advocates for a better relationship between financial institutions and the farmers through farmers organisations, to enable them offer group loans that require less collateral. The credit offered by financial institutions is to enable smallholders farmers meet agricultural requirements, such as farm inputs, transport and hire of labour. Bill and Felicity (2008) observe that there is a wide gap between financial institutions and smallholder farmers, hence a major obstacle to credit access, and finance is a key determinant of market access. The smallholder farmers and entrepreneurs are being underserved in spite of increased microfinance and commercial institutions’ investment. The financial institutions believe that smallholder rural farmers’ activities are more risky. It is therefore an urgent issue that a gap between smallholder farmers and financial institutions be bridged by the developing financial products that suit the smallholder farmers’ requirements and ability.

## 2. 3 The buyers

Vorley and MacGregor (2008) further provide that buyer should ensure that a better relationship exists between them and the smallholder farmers. This can be through good trading agreements and prompt payment of agricultural produce. The buyers can also help in developing a bridge between the market needs and the smallholder farmers through the formation of producers’ network. Additionally, they are expected to offer fair prices and provide sufficient information about the market situations to the smallholder farmers, hence motivating them to produce more. Jonathan and Udry (2007) indicate the significant role played by contracting firms in as far as marketing the producers’ harvest is concerned. They sometimes provide technical assistance and farm inputs to the farmers at less collateral requirements. They recommend the government’s engagement in the provision of sufficient enforcement laws so as to create harmony between the agricultural stakeholders. If contracting firms are strengthened by the governments of development countries, smallholder farmers would be facilitated and encouraged to increase output.

## 2. 4 The producers (smallholder farmers)

Vorley and MacGregor (2008) mention that producers also need to play their part in the supply chain. GAIF2008 is supported by Manfred Zeller (2000), who mentions that Smallholder farmers should ensure that physical capital, such as land, human capital; vocational skills and good health status, social capital; social networks and majorly good reputation are available. Smallholder farmers should also ensure that basic seeds and agricultural tools are available. Additionally, the farmers’ economic benefits in relation to dynamic market would be boosted if the smallholder farmers joined cooperatives societies. Smallholder farmers’ access and involvement in the market can raise agricultural productivity and income growth. Due to increased productivity, food security can be enhanced through increased agricultural output (Barret, 2008: Bernard & Spielman, 2009: Fafchamps, 2005). In spite of the establishment of many policies to improve the functioning of small scale agricultural production in South Africa, smallholder farmers have not been able to access resources, market for their output and farm inputs (Makhura & Mokoena, 2003). Additionally, Van Schalkwyk et al., 2003 mentions that the integration of emerging farmers can be facilitated by access to markets and credit. This there necessitates the development of a Business model that can address the gaps between the smallholder farmers and the emerging markets.

## 2. 2 Tentative Business model innovation for smallholder farmers

## Smallholder farmers

(Producers)Intermediaries: Government, Financial institutions and buyers

## Out comes:

Sustainable production, reliable supply, quality and increased output and lower pricesSource: Adapted from literature review: GAIF 2008 Business model for smallholder farmers and SMEs

## Out comes

A better relationship between the intermediaries and the smallholder farmers leads to the following results:-Increased agricultural production-Reliable supply-Lower prices since scarcity will be reduced-Sustainability of the agricultural sector-Quality and safety of agricultural products and customer assuranceAbove all, better linkages between smallholder farmers and intermediaries will lead to sustained food security in developing countries.

## Annex 2: Full list of references