



UNIVERSITY OF AGDER

# Sustainable Development in the Making:

Assessing the changing role of agriculture in the transition from  
subsistence to commercial production.

A case of Nakisunga Sub-County, Uganda.

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*This Master's Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.*

University of Agder, 2011

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## **Declaration by Candidate**

I confirm that this work has not been previously submitted, either in whole or in part for a degree at this University or any other institution of higher learning. To the best of my knowledge the thesis is original and contains no materials previously published or written by any other persons except as acknowledged in the text and reference list.

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Kampala, 1<sup>st</sup> June 2011.

**(Date)**

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## Abstract

Sustainable development has become a catch phrase in almost all global development agendas. With more than 60% of Africa's active labour force earning a livelihood in the agricultural sector (World Bank 2011; UNEP 2007), progress in the agricultural sector is prioritized as key to attainment of sustainable development for different countries in Africa. This study considered how a state-authored plan to transform the majorly subsistence agriculture into commercial agriculture, was being implemented in five parishes of Nakisunga Sub-County in Mukono, district of Uganda. This largely qualitative study involved interviewing farmers, their leaders and coordinators of the state programme. The study generally established that the *changing role of agriculture* hinges around the state's agricultural development plans being able to address contextual factors that challenge peasant farmers in the transition from subsistence agriculture to commercial production. The key contextual factors requiring attention include: dynamics of marketing amidst globalization; poverty, gender, cultural and land dynamics in production/marketing; preconditions regarding the use of participation as a management strategy; and finally the possibility of using a mix of traditional and scientific knowledge in the pursuit of sustainability. Such contextual issues would better be addressed using emancipatory farmer education taking place within an environment of fully functioning state institutions as watch dogs for accountability at all stages. The current decentralization system in Uganda's local governance and the irrigation potential availed by rivers would further engrain agriculture as the indispensable key in unlocking sustainable development in Nakisunga or Africa in general. Finally, the study recommends further research into possibilities of using a mix of traditional and scientific knowledge as a way of improving subsistence agriculture to promote sustainable development for poor countries in Africa.

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## Abbreviations and Acronyms

CNRM	Community Natural Resources Management
CSO	Civil Society Organization
DAO	District Agricultural Officer
DESD	Decade for Education for Sustainable Development
DFID	Department for International Development
EC	European Commission
FAO	Food and Agricultural organisation
GM	Genetically Modified
GoU	Government of Uganda
IFAD	International Fund for Agricultural Development
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
MDG	Millennium Development Goal
NAADS	National Agricultural Advisory Services
NEMA	National Environmental Management Authority
NGO	Non-governmental Organisation
OECD	Organisation for Economic Co-operation and Development
PEAP	Poverty Eradication Action Plan
PMA	Plan for the Modernization of Agriculture
PRSP	Poverty Reduction Strategic Papers
S/C	Sub-County
SAP	Structural Adjustment Policies
SD	Sustainable development
SSA	Sub-Saharan Africa
UN	United Nations
UNBS	Uganda National Bureau of Standards
UNEP	United Nations Environment Programme
UNESCO	United Nations Education Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation
WTO	World Trade Organisation



## **Chapter 1: Introduction**

The topic for my study is “Sustainable Development in the Making: Assessing the changing role of agriculture in the transition from subsistence to commercial production; a case of Nakisunga Sub-County, Mukono district, Uganda.” This section gives the background and related information upon which this topic was selected and studied.

### ***1.1 Background to the study***

For long governments in developing countries have been active followers of international *prescriptions* to improve wellbeing of their citizens. One of these international development paths which developing countries have taken on is sustainable development (SD), which according to Brundtland Commission is “development that meets the needs of today without compromising the ability of future generations to meet their needs (UNEP 2007:7). This concept mainly covers sustainability in terms of “social and economic issues as well as environmental sustainability”. World meetings and conferences about SD especially the Rio de Janeiro Earth’ Summit and Agenda 21, called for the diffusion and practice of SD in all countries, on the assumption that such declarations “once stamped with the seal of the UN, would generate a moral momentum that would somehow compel the world’s governments to carry them out” (Anderson 2004:3). Thus, practices aimed at achieving sustainable development have been formally and informally carried out in different countries and in a variety of sectors more so in agriculture.

Agriculture seems to play a key role in achieving sustainable development. At a global level, Agenda 21 as the main blue print for SD emphasizes the importance of farmers as one of the nine major implementing groups of SD, and this trend is further promoted by the UN which recognizes agriculture as the main pivot for achieving the Millennium Development Goals (MDGs), especially MDG-1 which aims at “halving by 2015, the proportion of those suffering from extreme poverty and hunger” (UNEP 2007:8-11). Thus, agriculture-led economic growth and improved nutrition are suggested as likely ways of achieving this first MDG.

At a local level, like for many developing countries in Africa, agriculture forms the backbone of Uganda’s economy with more than 80 percent of Uganda’s population directly involved in and deriving their livelihood from agricultural production (NEMA 2004:72). Agriculture seems to directly or indirectly determine progress in other areas including economic growth, poverty alleviation and social welfare. Specific national efforts aimed at putting agriculture at

the top of development agendas in Uganda are led by the Plan for the Modernization of Agriculture (PMA). The Government of Uganda (GoU) initiated the PMA in 2000 as part of the Poverty Eradication Action Plan (PEAP) which is Uganda's planning framework for the struggle against poverty. PEAP is the equivalent of Poverty Reduction Strategic Papers (PRSP) developed in other countries as a World Bank requirement. PMA mainly targets subsistence farmers who form the bulk of the poor in Uganda's rural areas. The overall goal of the Plan for Modernisation of Agriculture is poverty eradication through agricultural transformation and sustainable natural resource-based livelihood. The PMA set out to transform agricultural production for greater productivity and to re-orient subsistence farmers from producing predominantly for household consumption to producing for the market. Thus, the study set out to establish how Uganda's agricultural priorities especially market-oriented agriculture, stakeholder participation and the sustainable use and management of natural resources were being addressed in Nakisunga Sub-County during the implementation of the PMA. The study thus focussed on two levels of implementation of PMA: the district/ Sub-County (as policy level) and the operational level (or farmer's /households level) where information was established by considering the main agricultural activities in which farmers participate.

Despite the inherent epistemological and ontological constraints, this case study employed a mixed methods research strategy making use of mainly qualitative methods and complementing them with quantitative techniques to ensure *completeness* of the data collected as guided by the research questions. The study made use of qualitative data collection techniques like covert participant observation, semi-structured interviews, focus group discussions (FGDs) and document review. These were supplemented by use of self-completion questionnaires, as a quantitative data collection technique. The data was finally analyzed and essential themes established, and presented as findings in this thesis.

I hope findings of the study will go along away in illuminating how well agriculture could be best be positioned to act as an effective engine in the pursuit of sustainable development for the poor rural farmers. The findings are also hoped to be of value to local Nakisunga community, academicians, policy makers and other development practitioners both at locally and globally.

## **1.2 Statement of the problem**

Globally, poverty reduction seems to be the main indicator of sustainable development as many efforts have in the past targeted poverty eradication. Although the number of people living on less than a dollar a day has decreased in regions such as Asia or China in particular; this number markedly rose in Africa from 164 million to 314 million between 1981 and 2001. This is further complicated by studies like the Chronic Poverty Research Centre which warns that even if the 2015 MDGs are met in full; there will still be approximately 900 million poor people, in mostly Sub-Saharan Africa and South Asia (Adams 2009; Erixon 2005). The critical question remains “what has been done to reduce poverty and “how has it been done”? Although there is a multitude of facts about *what* has been done to reduce poverty, there seems to be little critique about *how* the process of poverty reduction has been conducted in differing contexts of the world as a way of ensuring sustainable development. Thus, this study used a case of the transition from subsistence to commercial production in Uganda, to establish how efforts to achieve poverty reduction were being implemented. This was based on the researcher’s conviction that although globally the pursuit of commercial agricultural production as part of the sustainable development agenda is increasingly prioritised, its practical role in seeing Africa’s rural societies move from their largely subsistence livelihoods to sustainable livelihoods based on agriculture, seems unsuccessful. Also, the presence of the different national development policies and plans such as Uganda’s Plan for Modernization of Agriculture (PMA); do not seem to be the only missing link. For instance, Uganda’s rural areas are still homes to majority poor, yet interventions such as PMA have for long targeted such regions (Okech 2004). Following the World Bank and other development actors’ recognition of the complexity and multidimensional nature of poverty; this study aimed at questioning the nature of response by the state to the observed poverty in rural areas of Uganda. The study was to specifically assess how the state’s agricultural priorities promoted market-oriented agriculture, participation of stakeholders and the sustainable use and management of natural resources in Nakisunga Sub-County. Any relationship between farmers’ needs and the state’s agricultural priorities was examined and finally the study ascertained challenges and prospects that lie in the path to attainment of the national prescribed transformation of agricultural sector through the PMA as a way of attaining sustainable development. Thus, the critical question the study set out to answer was how the largely resource-constrained rural farmer will still be able to contribute to food security through production and also be able to survive in the merciless and dynamic demands of commercial agriculture.

### **1.3 Main research objective, specific objectives and research questions**

The main objective of the study was to assess how the state's agricultural priorities in terms of market-oriented agriculture, stakeholder participation and the sustainable use and management of natural resources were being addressed as a way of attaining sustainable development. A case of the transition from subsistence to commercial agriculture in Nakisunga Sub-County, Uganda, was used.

#### **1.3.1 Specific objectives**

- To assess implementation of Uganda's Plan for Modernization of Agriculture (PMA) priorities for agricultural production in Nakisunga Sub-County as a way of pursuing sustainable development through agriculture
- To ascertain farmers' needs with reference to the state's agricultural priorities
- To identify challenges and prospects that exist in the transition from subsistence livelihoods to sustainable livelihoods, through commercial agriculture.

#### **1.3.2 Research questions**

- (i) How have Uganda's Plan for the Modernization of Agriculture (PMA) priorities for agricultural production been addressed in Nakisunga Sub-County as a way of pursuing sustainable development through agriculture?
- (ii) What do farmers perceive as *needs* with reference to the state's agricultural priorities?
- (iii) What challenges and prospects exist in the transition from subsistence livelihoods to sustainable livelihoods through commercial agriculture?

### **1.4 Brief presentation of the study area**

This section briefly introduces the study area and gives some background to "*agriculture as a business*" in Uganda.

#### **1.4.1 From "local to international concerns": A historical perspective to Uganda's socio-economic formations**

This section presents issues of the historical development of Uganda's economy as highlighted by Babikwa in Okech (2004). According to Babikwa, Uganda was colonized from the late nineteenth century and this ran for over seven decades. Prior to colonization, the country was characterized by a diversity of socio-economic, political and cultural systems with varying modes of production. The different societies lived under different pre-capitalist

modes of production. In the north, east and north-eastern parts of the country where communities were organized in smaller units, often clans or families, the ownership of the means of production was mainly communalistic in nature (“primitive communalism”). Such communities had less complex socio-political structures and could as well be referred to as *stateless* due to their decentralized nature and a marked absence of distinct social classes and centralized political structures. Among the more centralized societies of the central, south and western parts of Uganda, a feudal-like mode of production with some elements of slavery and primitive communalism existed. The differences did not, however, imply the superiority of one socio-economic formation over the others. All Uganda’s pre-colonial societies practiced *subsistence economies geared towards meeting people’s basic needs and not to accumulating wealth in the capitalist sense*. Communities living under feudal relations, however, had to pay part of their produce as tribute to the feudal lords. It was mainly this payment of tribute to the feudal lords that distinguished the different communities and buttressed the pre-capitalist exploitative feudal relations in some of the pre-colonial societies.

The pre-capitalist modes of production were overtaken by western capitalism after colonization. The colonial governments took deliberate steps to integrate the local economy into the international capitalist economic structures. Such steps included the introduction of coffee and cotton as cash crops only needed as raw materials in the rapidly growing Western industrial sector by then, and could only be sold in the West and other overseas colonies. The cash crops did not necessarily have direct relevance to peoples’ daily lives. Money was also introduced, not only as a medium of exchange in local transactions but also as a tool for compelling people to work for capitalist enterprises which were the only source of the badly needed cash. The integration process also involved the introduction of legal, political and other socio-economic institutions including education, which played a central role in the deconstruction of pre-colonial socio-economic values and the ultimate inculcation of western capitalist socio-economic and cultural values. The practical result of all this was a distortion of the pre-colonial socio-economic, political and cultural structures. *It in essence compelled pre-capitalist peasants, hunters, collectors and gatherers in subsistence economies to produce for an international capitalist market which they did not control, and to work according to the expectations of this international system.*

Nevertheless, the changes highlighted so far did not lead to a complete transformation of the pre-capitalist socio-economic formations into pure western capitalism. Instead a new socio-

economic formation emerged which represented a distortion and an amalgam of elements of the pre-colonial, colonial and post-colonial political economies. As a result, the Ugandan economy has up to the present been a confused mix of capitalist and pre-capitalist structures, relations and mindsets. For instance, while many Ugandans lead subsistence peasant life often associated with a communalist lifestyle; *their attitudes and orientation is deeply individualistic* in some key aspects of life, a major attribute of capitalism. This element of a *confused mix of priorities* may have far reaching implications in the pursuit of any given development agenda including “*farming as a business*” promoted in Uganda’s Plan for the Modernization of Agriculture (PMA).

#### **1.4.2 Background to Uganda’s Plan for Modernization of Agriculture**

Possibly as a continuation of the integration of Uganda is economy into the international capitalist system, the government of Uganda started implementing the Plan for Modernization of Agriculture (PMA) in 2001. PMA was part of Uganda’s Poverty Eradication Action Plan (PEAP), the equivalent of the World Bank’s Poverty Reduction Strategic Paper (PRSP) developed in other countries. PMA mainly targets subsistence farmers who form the bulk of the poor in Uganda’s rural areas. The overall goal of PMA is poverty eradication through agricultural transformation and sustainable natural resource-based livelihood. According to NAADS (2010), the National Agricultural Advisory Services (NAADS) arm was created to co-ordinate extension provision to subsistence farmers as a way of actualising the PMA. PMA is partly donor-funded and the major donors or “*development partners*” are the European Union, Denmark, Ireland, IFAD, African Development Bank, United Kingdom and the World Bank. Performance reports are the major sources of information for the Joint Annual Reviews as an integral feature of monitoring PMA implementation (PMA 2005). It is out of this joint funding that the government facilitates farmers through provision of state loans in form of inputs. The inputs are provided to the farmers through a private tender (supplier). Repayment of loans to the state is through a circle method where by access of the loan by the next farmer (beneficiary) is only when the first beneficiary repays and the process continues until all members of a farmers group have accessed the loan. It is however, important to note that PMA and NAADS have undergone a lot of changes, that in most cases it becomes difficult to draw a clear line about whether NAADS is only giving advisory services. As noted in the findings, farmers refer to state loans as NAADS loans; and the *NAADS* slogan is now seen by many farmers as equivalent government/political assistance to the farmers. This statement by President Museveni implies that changes in PMA/NAADS are ongoing:



*“The new rules of NAADS are that all adults must be called for a meeting where what is to be done is discussed and agreed on. That meeting has to elect a committee that will monitor the NAADS activities. They must also select their own procurement committees to minimize corruption and delays in the procurement process.”* (Mugisa and Mafaranga 2011:1).

### **1.4.3 Mukono district and Nakisunga Sub-County**

This study was conducted in Nakisunga Sub-County, Mukono district, Uganda. According to NAADS (2002), Mukono District is located in the Central region of Uganda and extends in the West from Namanve, approximately 10 kilometres from from Kampala the Capital City. It borders Wakiso District in the South and North West, Kayunga District in the North, Jinja Municipality and Jinja District in the North East. The district occupies an area of about 12,437.74 sq. km of which 79% is under open water and swamps. It has an estimated population of 763,800 whose density is about 294 persons per sq. km. The dominant land tenure systems are Mailo, freehold, lease and tenancy on public or privately owned land. Agriculture is the key economic activity and trading is a major occupation in urban areas. For some years now the district has had the benefit of being first on many government pilot programmes including the PMA. The major agricultural sub-counties are Nakisunga, Kyampisi and Kasawo. However, since the farmers in each of these sub counties grow almost the same crops, the study targeted Nakisunga Sub-County, whose profile is given below:

#### **The socio-economic situation of Nakisunga Sub-County**

Nakisunga Sub-County is located in Mukono South Constituency of Mukono district. The Sub-County is divided into eight (8) Parishes: Katente, Wankoba, Seeta-Nazigo, Namuyenje, Kyetume, Namayiba, Kiyoola and Kyabalogo. It covers an area of 52,800 sq. km with a total population of 48,795 and a growth rate of about 4.1%. Agriculture involving both crop production and live stock is the main source of livelihood for almost all people in Nakisunga. Agriculture can be said to more of subsistence than commercial, although as figure 3 illustrates, more people fall in the category of mixed-subsistence. The use of the “hoe” and other rudimentary tools in farming is common in this poverty-sickened S/C. There is heavy dependency on natural resources and agriculture is predominantly rain-fed with traditionally two planting seasons in a year. Land seems to be the main resource for all farmers but it remained scarce and with different levels of access and control among the people, a fact

which generally poses challenges to the pursuit of sustainable development agenda through commercial agriculture. It is very common to find farmers who have no land borrowing from the few landowners who also issue unfriendly conditions to the borrowing farmers. The borrowers are for instance not supposed to use inorganic chemical fertilizers on the borrowed land (as these although they act fast; they need continuous application to sustain soil fertility). Farmers borrowing land could only use organic fertilizers especially farm-yard manure. The organic fertilizers take long to act and seem not the best alternative for the poor farmers who badly need the cash to change their poverty situation. Even farmers who use manure on the borrowed land are in most cases disappointed when land owners withdraw the land once the borrowers have made it productive! Small land owners cut trees to burn charcoal or as a means of creating space for commercial crop production especially maize. Weed control is mainly by use of herbicides as many farmers cannot meet the heavy labour cost to cater for livelihood strategies promoted by the PMA especially that of agricultural intensification- extensification and diversification. Literacy rates seem to follow the country rates were more women lack literacy skills than men.

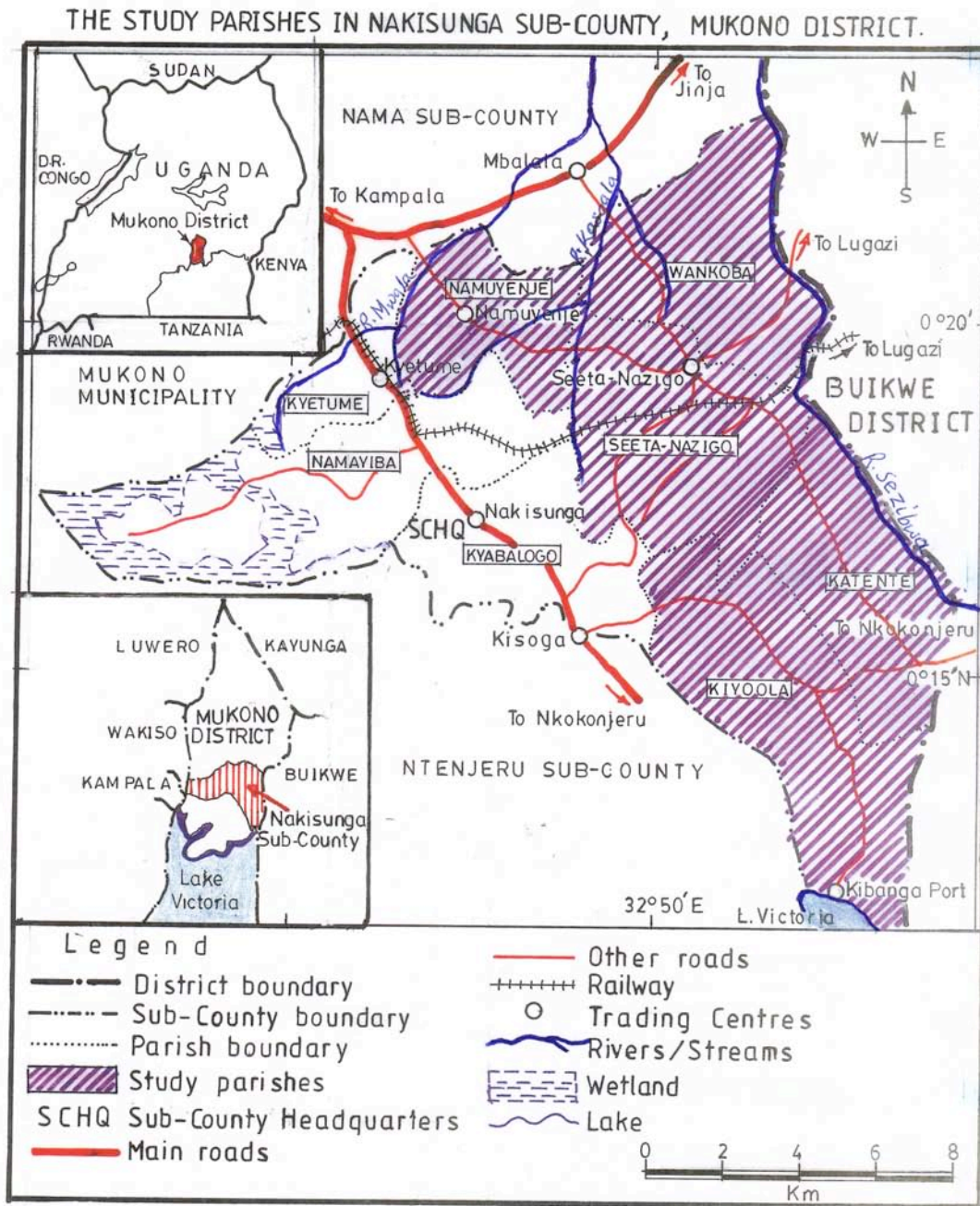


Figure 1: Map of Nakisunga Sub-county

## **1.5 Definition of terms**

- **Sustainable development** According to UNEP (2007:3), the environment provides the home for development. This is especially true for developing countries with subsistence economies. Thus, this study considers sustainable development as a *context-responsive development which ensures the socio-economic well-being of the farmers, within realistically managed natural resources to cater for today and future societal needs*. Such definition is meant to encompass Uganda's agricultural priorities as stated in the PMA where emphasis is put on: (i) increased market oriented production; (ii) management by participation and (iii) the sustainable use and management of natural resources (Okech 2004:58)
- **Poverty:** This study considers poverty as the lack of *financial capital* in form of money to meet basic needs for survival such as food, school fees for children's education; lack of access to resources, tools and implements for production, and with inability to overcome such forces independently. Poverty was the main stumbling block that limited farmers' transfer of the learnt agricultural practices through NAADS into action.
- **Livelihood and sustainable livelihood**  
This study uses Scoones (1998) definition of a livelihood. According to Scoones (1998:5), a livelihood comprises of the capabilities, resources and the activities required for a means of living. A livelihood is thus sustainable when "it can cope with and recover from stresses and shocks; maintain or enhance its capabilities and resources, while not undermining the natural resource base".

## **1.6 Thesis Outline**

This thesis is made up of five chapters. Chapter 1 has presented introductory information. Chapter 2 presents a review of related literature based on the ideas from the research questions, and the chapter closes with a section considering the framework used in analysis of findings of the study. Chapter 3 explains the methodology used in the thesis and outlines the research processes giving justification for choice of research strategy, design, data collection techniques, sampling and data analysis. Limitations in the field appear at the end of the chapter. Chapter 4 gives empirical findings and a discussion of the findings through specific themes. Chapter 5

which is the last chapter of this thesis gives the conclusion and recommendations of the study.



## **Chapter 2: Literature review and Framework for Analysis**

This section considers the main tenets of agriculture and sustainable development as seen from different authors by identifying what has been written, what is missing and the likely contribution of this study. The chapter ends with presentation of the framework for analysis.

### ***2.1.1 The pursuit of sustainable development through the transition from subsistence to commercial agriculture: tracing the challenges and prospects in developing countries***

More than 60% of Africa's active labour force earns a livelihood in the agricultural sector. (World Bank 2011; UNEP 2007) and thus development of the agricultural sector has for long been prioritised as the answer to respective countries developing needs. The majority of farmers in these countries practice subsistence farming associated with low agricultural productivity and low agricultural marketed output and generally associated with poverty (Todaro 1992; Waters 2007). Subsistence farmers are generally poor, and this poverty seems a defining factor for all livelihood strategies they take on. For instance, because of financial constraints, the subsistence farmers are generally limited to low production as they cannot afford costly inputs including mechanization. Such farmers are thus dependent on the "hoe and spade" technology, depending on family labour since they cannot afford hired labour. The situation is further complicated by the farmers' reliance on rain-fed agriculture that makes them more exposed to environmental shocks more so the now proven effects of climate change especially the prolonged droughts. Also the inherent nature of subsistence farmers as primarily working towards family survival makes them less willing to take on greater risk of failure and thus not likely to easily take on large-scale production required for the more profitable commercial production. Such a state of living among subsistence farmers is in most cases seen as highly vulnerable and thus contributing less to sustainable development. Thus, the commercialization of agriculture is in most instances seen as the answer to this fragile subsistence farming, especially because of its being characteristically based on large-scale production, destined for the market and profit-maximization as the sole goal. As Okech (2004) notes, commercializing Uganda's agriculture is hoped to result into increased incomes for majority Ugandans and thus increased incomes to meet other needs, creation of more jobs in rural areas, ensuring food security and the sustainable use of natural resources. Although these projected benefits were to be proved by this study, Balint and Wobst (2006) advises that the only way to reverse subsistence farming is to effectively address the underlying reasons

leading to it rather than just fighting it per se. The following discussion looks at production and marketing as the two main issues in the concept of commercial agriculture; especially in light of the key determinants that may impact on how a small-holder farmer in a developing country in Africa can effectively fit in market-oriented production. These key determinants are in line with what FAO (1997) refer to as factors determining agricultural production and food supply system of a country. The identified key determinants that may affect the transition from subsistence to commercial production include: land policy, ecological potential and level of technology, inputs and also the skills of agricultural producers. Although these factors may take different dimensions in specific countries, they seem to be important determinants of commercialization and I hereby base on them to explore what various authors have presented and therefore be able to identify the various gaps this study is likely to fill.

Land as a major factor affecting agricultural production seems a contested issue determining the extent to which rural farmers can commercialize. Some countries have enabling legislation about land, an issue which according to a study by Batello and Carvalho (2008) was responsible for improvement in livestock production in Brazil. For other cases, access to and control over land is culturally constrained. FAO (2008) notes that for the case of most communities in Niger, society is organized along traditional patriarchal lines and farming land generally belongs to the village/ canton and it is the village/canton chief who allocates the land that belong to the village community. Moreover access to land in Niger can also be through inheritance, though this is limited to only men. The case of Niger seems to tally with conditions in most parts of Africa about access to and control over land. The study was thus meant to among other things, establish how the different levels of access to land have affected the rural farmers' transition to the commercial status and also find out whether farmers have any coping mechanisms in place.

Other than land, there is a growing literature about how the availability and use of better technology or inputs can affect the transition to commercial agriculture. UNIDO (2008) urges that investment in agricultural mechanization and fertilizers use has enabled farmers in countries such as India, China, Brazil and Turkey to intensify production. However, one wonders whether this is a possibility for poor farmers in the case of a developing country like Uganda where what Lerman (2004) refers to as "spade and hoe" technology has for decades been synonymous with rural agriculture. Also, numerous studies including one by



Stockbridge (2006) about competitive commercial agriculture in SSA, note the fact that chemical fertilizers require continuous use and the fact that their long use may deplete soil fertility. One wonders which alternatives may be left for the prospective competitive peasant farmer in rural Uganda; whose likely option would be to use large quantities of organic materials as amendments to chemical fertilizers but is usually constrained by competition from other non-agricultural uses of organic materials such as fuel for homestead lighting and cooking.

In addition to having inputs, farmers in transitioning countries need to have access to extension-education services to ensure efficient production and marketing (Davis 2008; Lerman 2004). As Lerman (2004) observed for the case of Asia, there is need for the state to resume its active role in the provision of agricultural extension services, as extension and education (both public goods) are essential ingredients in the success of commercial agriculture. Although, these services are important in for instance assisting farmers to get technical knowledge and skills about pests and diseases, crop spacing; such services have for long ignored addressing contextual issues in which the farmers are to apply the technical knowledge and skills (Okech 2004). Thus, the study among other issues was to establish whether the provided education is enough and relevant to the needs of the farmers as they do *farming as a business*.

As the Intergovernmental Panel on Climate change (IPCC) notes, climate change has specially ensured the emergence of ecological potential as another serious factor influencing commercial agriculture (IPCC 2007). This is especially so in Africa where agriculture has traditionally been rain-fed. Egziabher and Edwards (2010) in a study about Africa's potential for the ecological intensification of agriculture argue that the present ability or inability of Africa to cope with climate change and improve its agricultural production depends on among other issues the environment and natural resources base of the continent, on the impacts of its past and present and on the nature of its present interactions with the outside world. Although climate change has been documented and debated among the elite, little has been presented about its reality among the rural population. Thus, in this case the study aimed at first establishing whether climate change is a known phenomenon in rural Nakisunga, and then identify coping mechanisms in place and prospects for poor farmers in the transition to commercialization.

Also, while for instance government policy to improve rural infrastructure is usually expected to improve farmers' interest in production (Balint and Wobst 2006; World Bank 2011); Ruijs *et al* (2004) in a study about the impact of transport-transaction-cost on food markets in Burkina Faso, concluded that only if transport and transaction costs are reduced simultaneously, will both the consumers and farmers benefit significantly. Otherwise competition factors created as a result of improved transport may lead to minimal impact of the reduced transport. These studies point at the impact of infrastructure on commercialization but there seems to be limited consideration of coping mechanisms used by poor farmers at the farm-level in a rural area as a way remaining commercially viable.

Production without marketing would make the transition to commercialization an incomplete journey. Adams (2009:183), in a discussion about countercurrents in sustainable development argues that increased production of goods does not always mean assured profits; but it is important to know that increased productivity can lead to production beyond the capacity to consume, resulting in a state of over production, and thus reduced profitability. This implies that a farmer in transition to commercial agriculture should be ready for such market dynamics and price volatility. There is also growing literature indicating that access to markets can be a catalyst for farmers in commercialization (Lerman 2004; World Bank 2011). However, in the face globalization, farmers' access to markets both at local and international level seems a contested issue. Although many current studies show evidence about how globalization is likely to allow easy flow of information among buyers in urban market; there seems to be little consideration so far about how poor farmers in rural areas (who are in most cases constrained by withdraw of state subsidies, as a World Bank and IMF policy to stabilize markets); are managing the price volatility and other challenges inherently associated with globalization and liberalization.

As a way of concluding this section, it is important to note that although different countries may have different development routes to sustainable development through commercializing agriculture; the factors highlighted in this section seem to have relevance in Uganda's context and thus received primary focus of the study though being complimented by other emerging issues.

### ***2.1.2 Management by stakeholder participation: contextual possibilities and limitations of participation as a panacea for addressing farmers' needs and the state's priorities***

As noted from Uganda's agricultural priorities, participation of all stakeholders seems key to attaining the needed agricultural transformation. World Bank in Brinkerhoff and Crosby (2000:53) defines participation as "a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them". This definition addresses the charge usually labelled against the majority of past development projects to Africa, where for years, development packages from the West to the South have come with modernization overtones. As Tucker (1999:1-9) urges, under "*modernization*", people in recipient countries have been turned into '*objects*' and all processes in the countries described as *traditional, backward and primitive* and that developed countries have tended to manage, control and even create the Third World economically, politically, sociologically and culturally. Since local people were not involved in creating their "development", such development framed from the Western world has for long not been sensitive to the realities in the recipient countries in Africa. This spirit is also advanced by Boddy (2009:188) when discussing the importance of participation in management, where he reiterates that the quality of the plan especially the ease of implementing it will be increased if people "familiar with local conditions help to create the plan". Thus, following this argument an agricultural development plan for an area would best benefit from the participation of local farmers (as key stakeholders) where they can act as sources of traditional (indigenous) knowledge. In a study about the use of participatory processes in wide-scale dissemination of micro dosing and conservation agriculture which involved 231 farmers in Zimbabwe; Pedzisa *et al.* (2010), found out that the use of demonstration trials encouraged the most participation and subsequent adoption and adaptation of the technologies to suit specific needs. Also the participatory nature of the process encouraged greater knowledge sharing among farmers and gave them more confidence in the technology.

Despite having a wide range of literature about the success associated with participation (Evan 1996; Boddy 2008; Brinkerhoff and Crosby 2002; Tadesse *et al.* 2006), there seems to be limited studies investigating issues that at times limit full scale use of participation as a management strategy in development rooted in commercialisation of agriculture.

Kellert *et al.* (2000) in a study about the implementation of Community Natural Resource Management (CNRM) based on five case studies in Nepal, the United States (U.S) of Alaska and Washington, and Kenya, concluded that despite being a local people-centred strategy, institutional, environmental and organisational factors determine the success or failure of CNRM as a participatory strategy. This rhymes with the argument of Brinkerhoff and Crosby (2002:53) who in a clarification of requirements for participation call for the consideration of the “*who, what and how*” questions, which are important when identifying the interests of stakeholders and the resources they bring to the participation process. For instance, poor farmers and other marginalised groups may not participate to their full capacity in a given process since they are thought to have fewer resources they bring to the participation process and thus should have little impact. This scenario is also illustrated by Oringa and Nakato (2002), who in a study about the role of adult education in Uganda’s development noted that although women carry out 70-80% of all agricultural work, they have little control over decisions concerning land use since traditionally land belongs to men, who also control the sale of agricultural produce cultivated on the land. This study was thus also meant to question the extent and limitation of participation as management strategy which as Boddy (2009:45-58) observes upholds *human relations models* of management rather than *rational goal models* which are characterised by *centralised planning and control*.

Anheier *et al.* (2002) basing on case studies of Civil Society Organizations (CSOs) to trace the impact of globalization on available management procedures, observed that organizational structures that are appropriate for specific purposes may be disabling for other purposes. Thus, the extent of use of participatory methods of management may be constrained by organizational structure such as demands from the financing donor and the need to achieve a vast number of objectives at the same time. Thus the study was meant to question the extent to which the use of participatory methods during the implementation of Uganda’s Plan for Modernization of Agriculture (PMA) was constrained by such external demands, well knowing that many projects in developing countries are donor-funded and also that *He who pays the piper calls the tune!*

### **Towards a state-civil society development synergy**

This section specifically uses literature from Evans (1996) concerning possibilities and challenges across the public-private divide. The Plan for Modernization of Agriculture

(PMA) being a state-authored idea is in this literature likened to (public side of the divide) and the rural farmers to (private side of the divide). Evans (1996:1034) observes that;

*“Civic engagement strengthens state institutions and effective state institutions create an environment in which civic engagement is more likely to thrive.”*

Thus, ideally none of either state or local people (farmers) can effectively claim development without each other's efforts, and therefore the need to join hands.

Ostrom (1996) in a study about state-civil society synergy considers such a situation in her theory of *coproduction* which is a “process in which inputs used to produce goods and services are contributed by individuals not in the same organisations” (p.1073). These different organisations in this case are state and farmers. However, for coproduction to thrive in order to achieve a synergy, certain pre-conditions promoted more so in polycentric rather than monocentric political systems need to be in place:

Firstly, technologies which generate *complementary* rather than *substitution* production are encouraged. Ostrom (1996) illustrates this with the sanitation project in Brazil, where citizens had local information, skills, time and other local resources which the government complimented by providing capacities to construct public works and connecting the feeder lines to the trunk lines and treatment plants. In such a case, a substitution input for instance involving government officials imposing “urban knowledge” intended to suppress local knowledge gathered through *neighbourhood meetings*; would result in reduced cooperation or little support for the project and eventual non-sustainability, as local people will tend to disown a project which does not reflect their input.

Related to complementary inputs; synergy partly involves considering complementarity where each of either state or farmers performs a task the other cannot do well. It is however noted that in most cases, situations of “*do your part and then keep your hands off,*” although important as a starting point for creating synergy; they do not completely wash away the state-civil society divide. It is thus recommended to take complementarity further through *embeddedness*, whereby there is a “*division of labour but it is among a set of tightly connected individuals who work closely together to achieve a common set of goals*” (Evans 1996:1121). Thus, the established networks help in the effective implementation of initiative.

In local communities, embeddedness for sustainable development has for long been promoted by “norms of trust and reciprocity together with networks of repeated interactions that sustain them” or what Evans (1996:1033) refers to as *social capital*. Although not completely faultless, the success of many projects by local people has been a result of them having a rich source of social capital, and thus the intended symbiotic relationship between state and farmers would have targeted this asset even in the case of implementing PMA in Uganda.

It would seem that areas with natural *endowment* of social capital are likely to remain fertile grounds for synergy. However, it is also evident that social capital can be contextually constructed to create synergy for development more so in many Third World countries where both *pronounced inequalities* (more so economic), cut across all societies and powerful state bureaucracies dominate, and would thus impair any collective action towards a common goal. Last but not least, *legal institutions* encouraging both local and official initiatives need to be in place in order to encourage trust and credible commitment from both citizens (farmers) and government officials. Here emphasis needs to be put on the honouring of contracts agreed upon for a development initiative at all levels. The laws should for instance be able to help enforce payment of an agreed fee from a farmer purchasing improved bean seeds from a local government supplier (shop); and at the same time be able to make the supplier/provider give quality service (viable seeds). Although at the start of a project, some citizens may not be willing to pay for a service, Ostrom (1996) notes that when services are of good quality, citizens will always be willing to pay and will be less willing to “*break the promise they make*” (Ostrom 1996:1082). All this, will finally have a positive influence on the social and economic activities of the people.

Based on literature from Evans (1996) and Ostrom (1996), this study among other issues examined the extent of synergy between farmers and the state and also found out any of the preconditions for coproduction that promote or limit synergy.

## ***2.2 Framework for analysis***

This section largely illuminates on the tool used in analysis of concepts from findings and also discusses the major tenets of sustainable development and agriculture.

## 2.2.1 Conceptual framework

Based on the ideas expounded in both the literature review and section 2.2.2, the researcher used Scoones (1998) *Sustainable Rural Livelihoods: Framework for Analysis* (See figure 2), to analyse findings of the study. The framework shows how a state of sustainable development can be achieved through access to a range of livelihood resources such as natural capital, economic/financial capital, human capital and social capital; the processes being contextually influenced. Such resources operate in combination in order to achieve different livelihood strategies such as agricultural diversification. The framework also specifically puts emphasis on the analysis of the formal and informal organisational and institutional factors that influence or determine the sustainable livelihood outcomes such as poverty reduction / and natural resource base sustainability. The main concepts in the framework in relation to the study are thus expounded below:

**Moving from a subsistence livelihood to a sustainable livelihood:** As with sustainable development, various contextual definitions can crop up for a sustainable livelihood, despite this; all definitions have coherent elements of poverty and the environment. To understand a sustainable livelihood, it is important to know what constitutes a livelihood. According to Scoones (1998:5), a livelihood comprises of the capabilities, resources and the activities required for a means of living. A livelihood is thus sustainable when it can *cope with and recover from stresses and shocks; maintain or enhance its capabilities and resources, while not undermining the natural resource base*. Capabilities in this case refer to what people can do or be entitled with both materially and intrinsically such as abilities, skills, knowledge, good health or happiness. A subsistence livelihood in this case is one which does not possess the above elements of a sustainable livelihood. The study thus aimed at establishing how agriculture can best be used as an engine to ensure such sustainable livelihoods. Depending on the context, the above definition of sustainable livelihood manages to give five indicators of sustainable livelihoods many of which this study will use. These include livelihood indicators such as the creation of increased number of working days, poverty reduction, well-being and capabilities improved as well as sustainability indicators such as enhancement of livelihood adaptation, vulnerability and resilience in addition to ensuring natural resource base sustainability. All these indicators are however obtained through a combination of different livelihood resources.

### **Livelihood resources**

The Plan for Modernization of Agriculture (PMA) encourages farmers to sustainably shift from subsistence to commercial production by adopting livelihood strategies such as agricultural diversification. However, the ability of the farmers to pursue these livelihood strategies depends on a combination of the different resources (both tangible and intangible) that farmers possess. Scoones (1998:7-8) identifies four of these livelihood resources/assets/capitals. These include: natural capital such as soil (land), water, air; human capital such as the skills, knowledge, good health, ability to work; economic or financial capital such as cash, credit/debit, savings and other economic assets such as basic infrastructure, production equipment and technologies essential for the pursuit of any livelihood strategy; and social capital or social resources such as networks, social relations, associations. The list is not exhaustive as other resources can empirically arise in different contexts. These resources as noted above work in combination in pursuit of a given livelihood strategy. For instance, even in the case of abundant human capital such as good spacing knowledge for a new variety of beans, a farmer's efforts to diversify may be constrained by lack of access to land (physical capital). The study was among other issues meant to establish the extent of availability of the different resources and how they had been applied to achieve sustainable livelihoods through agriculture.

### **Institutions and organisations**

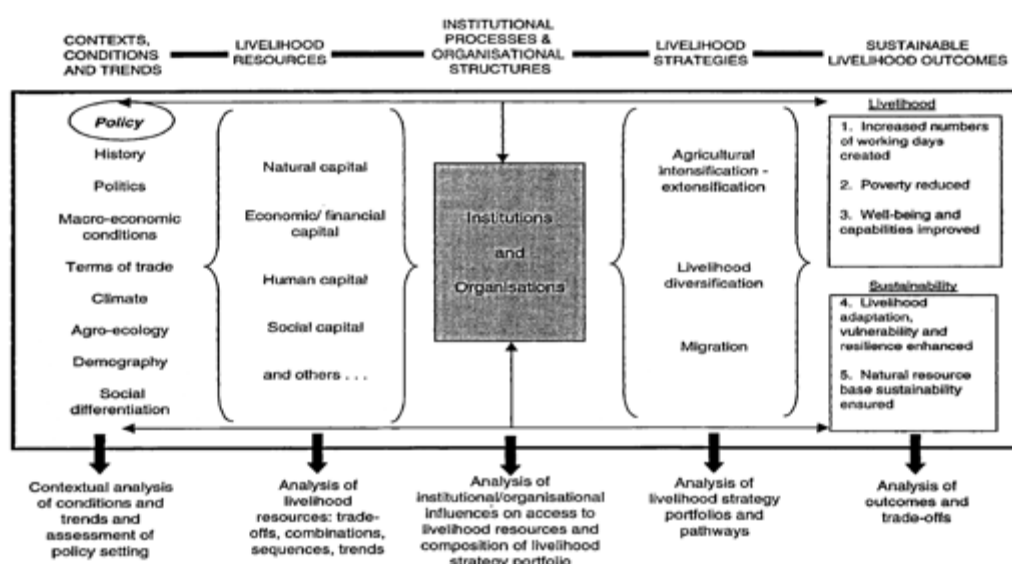
These include formal and informal regularised practices or patterns of behaviour structured by rules and norms of society and of persistent and wide spread use. They are important to put under consideration in this study since they *ultimately determine* access and control to different resources or capitals. Davies, in Scoones (1998: 12) notes that institutions are the *social cement which link stakeholders to access capital of different kinds; and to the means of exercising power*. Therefore institutions define the gateways through which resources pass in the pursuit of positive or negative livelihood adaptation. These institutions would in turn determine the type of livelihood strategy adopted by the farmers. For instance, a farmer's ability to increase working hours may be hindered by a religious belief which restricts farm activities to specific days of the week. Also as an example, in Uganda land is a resource where traditionally men and women have differing extents of *access to* and *control over* and this is likely to define the type of livelihood strategy adopted by men and women farmers and which eventually will have a bearing on the extent to which poverty will be reduced in a given society.



### External or contextual conditions and effect on livelihood components

Scoones (1998) indicates that the components of a livelihood so far mentioned operate within and are influenced by an external policy context over which for instance farmers in Uganda may not have direct control. Such context may include politics, macro-economic conditions, terms of trade, climate change. For instance, a farmer with almost all the different forms of capital, and who is ably following an intensification or diversification livelihood strategy, may be frustrated by abrupt changes in world market prices of his crop produce as he has to adhere to the merciless global dictates of liberalisation and globalisation. Such external context was considered in analysis of findings from the study

**Figure 2: Framework for analysis (Adapted from Scoones 1998)**



### 2.2.2 Conceptualising sustainable development and agriculture

Sustainable development seems to be the ultimate state established when a transition from subsistence to sustainable livelihood takes place. However, efforts to establish a single context-free definition of sustainable development (SD) have for long registered almost no success. Like development, the term sustainable development can have different contextual meanings as defined through different lenses by different people to serve different contexts. Adams (2009:2) considers SD as “the challenge of paying attention to global climate change and other global issues, while simultaneously tackling global inequality and poverty and not

letting the wheels off the world economy”. This definition tends to bring out the three major items considered by majority development practitioners to constitute SD: that is; the economic, social and the environment concerns. These component items are sometimes likened or compared to the three essential management requirements of contemporary corporations, termed as the *Triple Bottom Line (3BL)* in which corporations are required to ensure economic prosperity while at the same time paying attention to environmental quality and social equity (Adams *et al* 2004:17). However, as UNEP (2007:7) notes this delicate balance of development efforts traces its roots in the proposals of the Brundtland Commission which defines sustainable development as “development that meets the needs of today’s generation without compromising the ability of the future generation in meeting their needs.” This thus calls for careful management of resources to allow continuous use. Although seemingly a good theoretical stand, there seems to be no global consensus about these intentions of SD and thus what is taken as sustainable in one society may not be in another based on priorities in the different contexts. To illustrate this, many rural areas in Uganda harbor the most economically poor. This situation in Uganda’s case may lead to a different conceptualization of SD. The poor for instance would first prefer to solve today’s needs before they can think of the future. Thus, the poor is likely to consider development to be *sustainable* when it can be able to ensure present society’s well-being (a fact running against Brundtland’s definition). To further complicate this position, some politicians in developing countries, have expressed suspicion at the whole idea of sustainable development. They claim that such definitions and prescriptions of sustainable development are merely Western devices to suppress the economic growth of developing countries, as these are “engineered by rich countries to prevent the emergence of competitors” (Anderson 2004: 2). Although this might not be taken as an interests-free argument; such political statements might weaken the poor people’s belief in policies aimed at meeting “the needs of future” generation. Moreover, this suspicion is likely to affect even the way different sustainable development practices (including agricultural) are carried out. This however, does not imply that all farmers may dislike the intentions of sustainable development. Some farmers may for instance be aware that properly managed sustainable agriculture can in the long run register benefits as can be seen in contemporary global need for organic foods rather genetically modified (GM) foods. Since according to UNEP (2007:3), the environment provides the home for development, especially so in developing countries with their subsistence economies; this study considered sustainable development as development which ensures the socio-economic well-being of the farmers, within realistically managed natural resources to cater for today and future societal

needs. Such definition is meant to encompass Uganda's agricultural priorities as stated in the PMA where emphasis is put on: (i) increased market oriented production; (ii) management by participation and (iii) the sustainable use and management of natural resources (Okech 2004:58).

### **Agriculture and sustainable development**

Three out of every four people in developing countries live in rural areas, and most of them depend directly or indirectly on agriculture for their livelihood (World Bank 2008: v). Agenda 21 as the main blue print for sustainable development (SD) emphasizes the importance of farmers as one of the nine major implementing groups of SD. The UN recognizes agriculture as the main pivot in realizing global development, through the Millennium Development Goals (MDGs). According to UNEP 2007:8-11); MDG 1, which points at globally eradicating extreme poverty and hunger by 2015, relies mostly on agriculture. It can in this case be argued that a hunger-free world is one which will be more likely to achieve the rest of the MDGs. Thus, agriculture seems to have a key role in achieving sustainable development. This is amplified further even at local level, where countries like Uganda put in place the Plan for Modernization of Agriculture (PMA) as a development strategy aimed at turning subsistence farmers into commercial farmers in order to fight Uganda's rampant poverty.

Belatedly, although agriculture is set to contribute to sustainable development, there are however more concerns among smallholder farmers who dominate rural agriculture in developing countries. The concerns arise especially in the shift from subsistence to commercial farming, as the two systems have different and sometimes contradictory objectives: with commercial farming aiming at profit maximisation while subsistence farmers aim at producing just enough food for the family. One wonders whether the pursuit of commercial agriculture may not ultimately cause food insecurity among smallholders. This concern for the smaller holder farmers was also advanced by Nyikai (2003), in a study about the future of smallholders in Kenyan agriculture, when she notes that smallholders in Kenya (and in many other developing countries) are known to be resource poor and thus operate below their potentials while at the same time liberalisation and globalisation (as promoters of commercial agriculture) threaten the existence of such farmers as the poor farmer is increasingly demanded to compete in local and international markets. The critical question the study was to address was how such a resource-constrained farmer will still be able to

contribute to food security through production and also be able to survive within the merciless and dynamic demands of commercial agriculture.

### **Awareness/education and sustainable development**

UNESCO (2005) argues that Education for Sustainable Development (ESD) is meant to help people develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future and to act upon these decisions. Thus, this access to information and education would seem to serve an important vehicle to achieving sustainable development (SD). The UN Decade of Education for Sustainable Development (DESD), whose overall goal is to integrate the principles, values and practices of sustainable development in all aspects of education and learning; seems to carry this forward. Ideally, it would be expected that farmers at both local and international level, who have received this form of education, would show changes in behavior (noted from their farming practices) aimed at creating a more sustainable future in terms of environmental integrity, economic viability and a just society for present and future generations. However, one wonders the extent to which this education aimed at unfolding sustainable development, has reached the rural farmers in Nakisunga. Although UNESCO seems to assume an official diffusion of SD knowledge; some authors tend to suggest that local knowledge systems (loosely called *indigenous knowledge*) can form the basis of sustainable development, as can for instance be seen in farmers who develop resilience to climate change based on local knowledge (Oxfam 2009). However, having just access to education may not seem the answer, but the kind of knowledge also matters. As Freire (1970) observes knowledge *is not neutral*; since it can either be domesticating or emancipatory in nature. Thus education and the specific type of education may be responsible for how SD is interpreted and practiced by rural farmers.

### **Decisions for sustainable development practices: tracing the rationality**

From the management point of view a decision is usually *a specific commitment of resources to action*; and the commitment is determined by several factors (Boddy 2008: 208; 212). Many decisions among rural farmers about agricultural practices to take on will in most cases be guided by criteria with components such as profit maximization, risk avoidance, meeting subsistence household demands, being in line with socio-cultural demands or any other emerging factors considered important by the society in question.

Ideally, decisions to ensure sustainable development may be guided by the criterion based on the extent to which they help to ensure wellbeing for both present and future generations.

However authors guided by neo-classic economics, see the restricted resource use implied by sustainable development as meant to lower economic growth. They thus decide to allow economic growth to take root first and then clean-up the environment later. This view is what UNEP (2007:405-411) summarizes in the scenarios of “*sustainability first*” and the “*markets first*” scenario. On the contrary, FAO (1999) in a report about how farmers in Zambia and Tanzania can integrate aquaculture and small scale irrigation, notes that in the farmers’ activities risk avoidance rather profit maximization determined decisions about practice. Interestingly, Øyhus (1993: 4) notes in a study about the Didinga people in Sudan; that socio-cultural (“*nyipite*”) priorities were key, in decisions about development including agricultural practices. Thus, the logic onto which a decision is based is likely to influence the agricultural practice carried out. For instance, a farmer guided by profit maximization may use chemical (inorganic) fertilizers in order to have bigger yields for the market within a short period of time.

### **Challenges and opportunities on rural sustainable agriculture**

Achieving sustainable agriculture especially in developing countries seems a journey riddled with constraints in almost all domains especially the political, environmental, socio-cultural and economic concerns. European Commission (2007) notes that although agriculture appears the only viable answer to many nation states’ economies in Africa, it is constrained especially considering small farmers who lack access to land and markets; lack of extension services and training. Individual small scale farmers especially women seem to be even more constrained as in most cases they lack land rights and because of their reproductive roles, women always miss out even in instances of sustainable development training. Okech (2004:221) illustrates this point in a study by Babikwa whereby despite the high degree of women’s participation in community-based environmental education programmes; existing gender relations at community and household levels have continued to militate against women’s ability to implement the acquired skills. For example, access to and control over land, the main resource among most of the farming communities in Uganda continues to be skewed in favour of men. This situation leaves women in a powerless state to apply the newly acquired skills and this is ultimately likely to affect the way agriculture will contribute to sustainable development in such a case.

As a final note in this section, although the use of local knowledge systems embedded in cultural beliefs is now known to compliment official SD education to create state-civil society synergy in development efforts (Evans 1996:1119); in cases where technocratic or scientific

knowledge is privileged over local knowledge some resistance to such indigenous paths to SD may be registered.

## **Chapter 3: Methodology**

The methodology for conducting the study was in all parts meant to find answers to the overall objective and research questions designed for the study. The study was generally meant to establish *how* Uganda's agricultural priorities were being implemented in Nakisunga Sub-County. The main source of knowledge was people's personal interpretation of reality and thus the following guidelines directed the study.

### **3.1 Research strategy**

Despite the inherent epistemological and ontological constraints, this study adopted a mixed methods research strategy making use of mainly qualitative techniques and supplementing these with quantitative techniques to ensure completeness of the data collected.

### **3.2 Research design.**

As a framework for collection and analysis of data, this study employed a case study design. As Bryman (2008:52) notes, a case study involved "the detailed and intensive analysis" of agriculture in Nakisunga Sub-County as a single case. The case involved farmers and agricultural officers implementing the Pan for Modernization of Agriculture (PMA) as target respondents. Although, the design is generally criticized for lack of external validity; its use in this study was meant to act as what Bryman (2008:56) calls an "*exemplifying case*" since Nakisunga is one of the few Subcounties where PMA has been implemented since 2001 and thus findings are hoped to deliver better lessons regarding the practice of agriculture in other locations in Uganda where PMA is implemented.

#### **3.2.1 Data collection**

As Bond (2006:30), notes the key test here is appropriateness, whereby the method chosen should be able to generate data for the set research questions. The study made use of the following qualitative data collection techniques: covert participant observation, semi-structured interviews, focus group discussions (FGDs) and document review. These were complimented by quantitative data collection techniques especially self-completion questionnaires. Below is a brief explanation of each technique and its appropriateness in this study:

- (i) **Semi-structured interviews:** This was the main tool of the study. The study specifically used semi-structured interviews in which the questioning was guided by a list of topics to cover (Bryman 2008:437). Although not very open, it remains the appropriate technique since the researcher had to allow for learning more from the respondents by letting “the drift of the conversation dictate both the order and content of the specific questions” on the interview guide (Bond 2006:35). Although this might be thought of as a technique which might require a lot of time to conduct since respondents sometimes divert from the topic under investigation, I ensured that it is well conducted and therefore yielded more and important information about agriculture and sustainable development. This technique enabled rural farmers to express their divergent opinions in a more relaxed way. Despite the constraints of transcription into English text, the oral nature of the interview conducted in a local language (*Luganda*, is a widely spoken language in central Uganda) was as an answer to rampant illiteracy evident in many rural areas of Uganda.
  
- (ii) **Focus group discussions (FGDs):** According to Bryman (2008:473), the focus group method is an interview with several people on a specific topic or issue. As a way of supplementing the data collected from one-to-one interviews, the researcher carried out three FGDs consisting of 3-5 key informant farmers in order to get a more broad and realistic account about the transition from subsistence to commercial production as a way of achieving sustainable development. To ensure gender sensitivity, one of the groups consisted of only women farmers. Men farmers were also separately met in addition to a group of local farmers. Due to women’s increased workload constraints in the Sub-County, I met the women group as opportunity set in at the end of a farmers’ group meeting which had been called by the Sub-County programme coordinator.
  
- (iii) **Observation:** In order to have a more comprehensive picture of what the other techniques had collected, I also got involved in “covert participant observation”. Here through my interaction with farmers I observed activities and processes they were involved in and therefore was able to collect more data in addition to refining contributions made from other data collection



techniques. Since I did not let them know that they were being observed they did not in most cases modify their behaviour to suite my purpose and thus the data collected is likely to be of a better quality in terms of reliability and validity.

- (iv) **Document and texts:** The study was also guided by data from appropriate documents and texts in all accessible forms including electronic media. For this case, I got access to farmers' seasons records, minutes of farmers' meetings (at village, sub-county and district level); national and international documents about agriculture and sustainable development. However, although documents serve to open "closed worlds"; in doing this review I had to assess and critique their content as in most cases they are "not impartial and autonomous accounts of particular events and processes" (Bond 2006:40). I was for instance, provided with NAADS pictorial magazine showing pictures of successful farmers, I however followed up some of these farmers to cross check the information provided in the magazine; my findings are presented in the next chapter.
- (v) **Self-completion questionnaires:** These were meant to supplement qualitative data collection techniques in order to objectively refine or get clarification of some issues raised. Questionnaires were meant to be used to collect data from agricultural officers at the Sub-County and at the district, and also from leaders of farmers associations. However, my efforts (as a student) to interview the agricultural officers at the district were fruitless, as the officers were not ready to release "politically sensitive information of whatever nature". I was instead referred to the officers at the Sub-County, whom I interviewed together with leaders of farmer groups in the different parishes. The technique fits well within the busy and the tight schedule of these personnel and since in most cases they are educated, no problems of illiteracy would prevent understanding of the items in the questionnaires and writing the respective response. However, where constraints of item interpretation arose; efforts were be made by researcher to clarify the questions to the respondents.

### **3.2.2 Sampling**

The sample involved at least 35 respondents (including 24 farmers who participated in individual interviews purposively selected from five out of the eight parishes in Nakisunga Sub-County; leaders of farmers associations and agricultural officers in charge of PMA also locally known as NAADS's coordinators). Four of the parishes under focus were quite remote from Mukono town; whereas the fifth parish (Namuyenje) was not far from the main road to Mukono Town. The study employed *snowball sampling* as a form of non-probability sampling “*where the researcher makes initial contact with a small group of people who are relevant to the research topic, and then uses these to establish contact with others*” (Bryman 2008:184). Snowballing was relevant in this context since it enabled securing easy introduction to subsequent key informant, especially considering the fact that the agriculture affects almost all sectors especially in the rural context but its role in the transition to sustainable development, received different interpretations from different people in different contexts. The sampling method also seems to allow *learning the depth of the problem from those who are most affected*, and thus supports current development practices which assert that the genuine participation of target beneficiaries should shape development decisions in order to achieve sustainable development (Adams 2009:130). This is possibly because the “affected” are more likely to better know their problem, and when guided by the researcher, they have the potential of suggesting ways of reducing its severity (Lockett and Lockett 1999:176-177). Critics can argue that a sample of this nature may not have been representative enough, and probably probability sampling may be an alternative. However, probability sampling does not seem to be a viable escape route here, because of the fact that populations are naturally not homogenous. Conversely, the snowball effect seemed to meet the required stance of qualitative research, as the sample does not always need to be representative but emphasis is put on theoretical sampling, where the emerging theory dictates or “controls the direction of the process of data collection, until no more new information can be obtained(Bryman 2008:415). In this case, therefore, the use of snowballing sampling was conventionally dictated by emerging concepts/themes during the analysis of qualitative data basing on grounded theory.

### **3.2.3 Data analysis**

Qualitative research strategy is mainly rooted in the *inductive* approach whereby research is meant to generate theory. This fitted well with the intentions of the study which aimed at establishing how agriculture can best be practiced so as to contribute to sustainable

development. So, to analyze qualitative data, grounded theory, which according to Bryman (2008:541) is “theory that was derived from data systematically gathered and analyzed through the research process;” appeared to be a suitable choice. Since data collection and analysis occurred concurrently until the stage of theoretical saturation, it can be urged that the many steps involved in analysis by grounded theory, are vital in illuminating or discovering more meaning out of the collected data. For instance, the study had set out to mainly target remote parishes in the Sub-County and also to look at crop producing farmers; however in the initial analysis of collected data, it was found necessary to include both livestock and crop production since all farmers interviewed produced both crops and reared some animals. Also, as a means comparing urban and rural farmer’s interpretations about agriculture’s role in sustainable development, the study included a semi-urban parish in addition to the four rural parishes previously targeted. Data from collected was continuously edited in light of the emerging concepts, and finally organized. During the final stages of organization of data, I carefully read through the responses, coded them and grouped them into sections with similar issues. It is from these sections that I finally extracted or established the themes or “combining ideas”. These major themes were then presented and analyzed based on the literature review and other emergent sources of literature and as guided by the analysis framework. Findings are also here by reported or represented in form “quotations from the respondents”, photographs, and also tables and pie-charts (in cases where categorization of concepts was possible).

### ***3.3 Limitations and other field experiences***

Although issues presented in this section may not have worked against the quality of work produced in the thesis (as at all stages there were coping mechanisms in place); it is important to mention that the study was constrained by the following issues:

#### **3.3.1 The extended period of Uganda’s 2011 elections**

The local government elections in some areas took longer than scheduled, making interviewing officials almost impossible. This was also not helped by the fact that many officials moved along with the President since November 2010 as a way “soliciting votes for the chairman of their party”. The researcher had to persist and was able to meet such officials after several appointments, and sometimes away from their offices. However, these unforeseen issues constrained the researcher’s time and financial resources.

### **3.3.2 District officer's fear to disclose "sensitive information"**

NAADS is now used as a political slogan to mean "state assistance to the farmers". Just before I started my data collection, there were unconfirmed reports that the President criticised officers who mismanage state funds and many such officers were arrested and prosecuted in Courts of Law (Mugisa and Mafaranga 2011). Thus, my efforts (as a student) to interview the District Agricultural Officer (DAO), were fruitless as the officer was not ready to release *politically sensitive information of whatever nature*. I was instead referred to the officers at the Sub-County, whom I interviewed together with leaders of farmer groups in the different parishes. Although I got enough information from these officers, I feel that my interaction with the DAO as a politically-appointed head of agriculture in the now decentralised service delivery system would have added more points of view.

### **3.3.3 Inability to offer "enough" technical assistance to farmers**

Although I tried to introduce myself as a social science student, on several occasions farmers demanded technical help from me especially regarding "names of pests and diseases affecting their crops/animals and how to avert the situation". Using my earlier background as a natural scientist, I could offer some help in case I knew. Where I could not offer immediate assistance I took photographs of the affected plants/ animals; a copy of which I delivered to National Agricultural Advisory Services (NAADS) coordinators at the Sub-County so that they follow-up the farmers' concerns.

## Chapter 4: Empirical Findings and Analysis

This chapter presents findings and analysis of findings in accordance with the research questions as summarised in different emergent themes. Although the main ideas used in analysis of findings are from “Sustainable rural livelihoods: framework for analysis” adapted from Scoones (1998); emphasis on how contextual factors can affect attainment of sustainable development through agriculture is considered. Thus, some relevant literature other than Scoones (1998) is used in the analysis of findings which is done along with the presentation of each theme, as seen in the various sections of this chapter.

**Table 1: Socio-economic/demographic characteristics of 24 respondents: semi-structured interviews conducted in Nakisunga Sub-County.**

<i>Characteristics of respondents</i>																	
<i>Parish</i>						<i>Age</i>									<i>Education level</i>		
	<i>Wankoba</i>	<i>Seeta-Nazigo</i>	<i>Katete</i>	<i>Kiyoola</i>	<i>Namuyenje</i>												
<i>Category of parish</i>	rural	rural	rural	rural	Semi-urban	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	Before secondary	Secondary	Tertiary
<i>Male</i>	4	4	2	2	2	0	2	2	1	2	2	1	4	0	0	16	2
<i>Female</i>	2	2	4	2	0	1	4	1	0	0	1	3	0	0	6	0	0
<i>Total</i>	6	6	6	4	2	1	6	3	1	2	3	4	4	0	6	16	2

In this chapter, presentation, interpretation and discussion of findings appear research question by research question. Thus, a section about implementation of state’s priorities is followed by farmers’ needs and finally prospects of commercialisation as an engine to sustainable development are presented.

### **4.1 Implementation of Uganda’s agricultural priorities: assessing the process and inherent challenges**

The study focussed on three main priorities which included: market-oriented agriculture, the participation of farmers as primary stakeholders and the use and sustainable management of natural resources. It is from these issues that the following themes are extracted.

#### 4.1.1 “Market-oriented agriculture”: tracing the extent and pursuit of intensification-extensification and diversification as livelihood strategies for rural farmers

According to Okech (2004), the main goal of the Plan for Modernization of Agriculture (PMA) was farmers’ transformation from subsistence to commercial production through livelihood strategies of agricultural intensification-extensification and diversification. Thus, as a primary point of interest, the study established how far farmers were on the road to commercialisation. Attempts were made to categorize farmers into subsistence, emergent and commercial types. Although these cannot be held as very conclusive categories, the results indicate that there was none among the 24 individual farmers interviewed across the study parishes of Nakisunga Sub-County who was practicing purely subsistence production. Most farmers in the sample produced for household consumption and just an addition portion of the produce for sale in order to meet other basic needs or purchase farm/household essential commodities. As figure 1 illustrates; of 24 farmers interviewed, 18 (75%) of farmers were categorised as *mix-subsistence* who sell at least 20% of their total production; 4 (21%) are *emergent* farmer who sell at least 50% of their total production and only 1 (4%) are commercial farmers who sells at least 80% of total production.

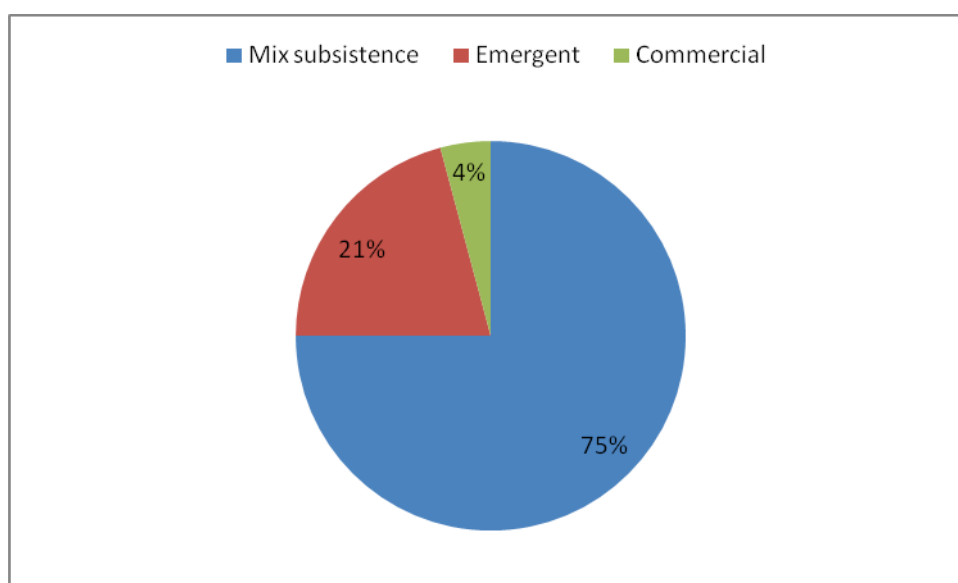


Figure 3: Extent of commercialisation among farmers in Nakisunga Sub-County

#### The challenge of agricultural intensification-extensification and diversification as livelihood strategies

The enterprises for commercial production in the Sub-County included bananas (locally known as *Matooke*), maize, coffee, poultry, vegetables (especially tomatoes and cabbage), cassava, cattle, beans, sugarcane, vanilla, passion fruits and sweet potatoes. No single farmer was involved in producing only non-food crops; possibly because of the bad history of vanilla

as a non-food crop which left many farmers in the Sub-County poor and hungry because of the national drastic fall in vanilla prices a decade ago. These enterprises are based on the rationale of “marketability” or “profit-maximisation” as promoted by government of Uganda through the National Agricultural Advisory Services (NAADS) training programmes. It was also noted that what farmers produce serves as both food and can also be sold; and thus in most cases either the surplus is sold or just a small percentage of the farm produce is reserved for sale. One farmer clearly illustrates this situation:

*“Unlike my brother in town, for me I have no other job: I have to work extraordinarily hard to meet set agricultural targets since I solely depend on agriculture both as a source of food for my family and as a business so that I can pay my medical bills and other needs apart from food”.*

Agricultural diversification to achieve profits from *marketable* produce raised a number of concerns among the poor farmer in Nakisunga: Among the most salient were: increased workload to meet the market “quality” demands and then marketing challenges.



**Photo 1: “Merciless nature” and labour constraints: A disappointed farmer shows off untransplanted cabbages due to lack of labour to till the field.( Source: Researcher, 21<sup>st</sup> January, 2011)**

### **Increased workload and “quality” demands**

All farmers interviewed appreciated that “farming as a business” was a right scheme to take on. However, almost all farmers expressed concerns of increased workload as the majority of farmers noted that the many marketable enterprises they are involved in demanded a lot of care and strict management procedure in order to meet the “quality” demands required at both local and international markets. The World Trade Organisation (WTO) quality demands had been replicated by the NAADS training that emphasised that market success depended much on quality of product the farmer presented (PMA 2005). This has made poor farmers who only have to rely on personal labour, to spend more time in the garden as a quality assurance measure to meet market demands. This comment from the following farmer illustrates this situation:

*“With this need for quality from my produce, I have become a prisoner of my own garden since I no longer have time to spend talking with my friends at the local bar; I have to be in the garden the whole day from 6 o’clock till evening since in addition to cultivating the land, I have to stay here and scare-off birds and monkeys which might destroy my maize crop. The need for more money makes me work like “a machine” otherwise the market seems to have no mercy to farmers who produce poor quality items!”*

Further still, although the farmers were spending all their efforts in achieving quality, the vagueness of the definition of *quality* which is only set by the buyer leaves many farmers with little to do about their poverty situation however hard they labour. Quality standards set were in most cases described by farmers as either “*inconsistent*”, “*unrealistic*” or just “*difficult to attain*” by majority poor farmers who in addition to lacking agricultural inputs, they still depended on rain-fed agriculture during the pursuit of such quality standards. Farmers in most cases had very few or no coping mechanisms in place to reverse the effects of adverse weather especially prolonged droughts that usually decreased the quality of their produce despite having invested all their meager income in buying the required inputs. The following disappointment of one informant illustrates the confusing definition of quality which is keeping most farmers in poverty despite their hard work:



*“In the previous season, I lost all my cabbage produce because of a quality standard that I only got to know of at the market place: the buyer ruled that he could not buy my cabbages because I had grown and harvested poor quality varieties: he wanted “Gloria F1” variety which is “small” in size but “stays for longer periods after harvesting” ... the buyer definition of quality went counter to how I had for many years as a farmer understood good quality: that is “big size cabbage”! Even at the farm-gate as a selling point, middlemen tend to unrealistically sort out cabbages in search of quality. For instance, where you expected to sell five cabbages, you end up selling only one which is said to have passed the quality test administered by the middlemen themselves”.*



**Photo 2: Poverty makes quality demands unattainable in rural areas: Many farmers dry harvested produce like beans on bare ground (Source: Researcher, 25<sup>th</sup> January, 2011)**

The problem of increased workload and quality demands has been compounded by the fact that Nakisunga Sub-County like most rural areas in Africa has old people as the key participants in agriculture (See table1). Such people have less energy to offer in a labour-

demanding commercial agriculture (Todaro 1992; Lerman 2004; UNIDO 2008). An inquiry about youth's lack of participation revealed that they detested agriculture as they considered it time-consuming and not likely to reward quickly. Many youths have either resorted to quick-fix environmentally unfriendly jobs like firewood cutting, brick-baking and many had migrated to towns in search of better paying jobs. This situation rhymes with what Leavy and Smith (2010) present in a DFID policy briefing about youths' aspirations about African agriculture where, they note that across the continent many young people reportedly choose not to pursue livelihoods in agriculture especially as farmers. Leavy and Smith partly attribute the dwindling popularity of agriculture among the young generation to an increasingly globalised world with fast-evolving communication and media. This therefore implies that young people in remote areas are ever aware of urban-rural inequalities and aspire to standards of living not typically associated with agricultural livelihoods. Such conditions therefore put the pursuit of sustainable development through the transition to commercial agriculture a mirage to achieve, if state programmes like the Plan for Modernization of Agriculture (PMA) do not consider these contextual impediments.

### **Markets dynamics in rural areas**

The study revealed that main and common method of selling point used by almost all farmers is the *farm-gate* method or what is commonly known as *on-farm* selling, where traders (middlemen) buy farm produce at the farm as the selling point. Buyers, who are mainly men, use bicycles as the main means of transport to access the farmers (See photo 3). On the surface, the farm-gate method seemed a convenient method for the farmer as it saves the farmer incurring transport costs to selling points to distant towns like Mbalala, Kayanja, Kawolo and Mukono.

However, a further inquiry revealed that such a method remained the last available option left for the poor farmer in Nakisunga who in addition to having limited knowledge about the dynamics of the market, s (he) is constrained by the generally poor road network in the Sub-County. This leaves the middlemen as (Ruij *et al* 2004; Balint and Wobst 2006) predict, as key determinants of the price of the farmers' produce which price they claim to involve "transport inconvenience". This exploitation is not helped by the fact that many farmers in the study area *individually* produce *small quantities* of almost the *same types of crops and livestock* and they are at *different levels of poverty*. Such situation breeds little local demand for farmers' produce and thus many farmers fall prey to middlemen's exploitation. One may argue for a possibility of a collective marketing strategy to save the situation, as it is the case



**Photo 3: Middlemen are main buyers using the Farm-gate Method (Source: Researcher, 25<sup>th</sup> January, 2011)**

at Pampaida Millennium Village in Nigeria, where a local farmers' collective weekly market is helping to curtail the activities of the many middle men, who had helped to pauperize the hardworking people of Pampaida for decades (Bala 2009). However, this collective marketing is still a mirage due to the rampant poverty in Uganda's rural areas coupled with a largely negative attitude towards collective action (partly and softly dictated by global capitalism). This turns many farmers into individual small producers who are ready to sell at any price to get the badly needed cash to solve "a burning problem at home"!

One farmer from Seeta-Nazigo Parish illustrates the poor farmers' plight:

*"We poor farmers are left with no choice about middlemen's exploitation: our production is sparsely distributed: the middleman can manipulate us in price basing on the small quantities we individually produce: he can ably manage to offer different price for a kilogram of beans from different farmers, since many of us seem disorganised and have different magnitudes of problems we want to solve at any given time ... A farmer with her daughter on death bed and suffering from Malaria is likely to accept any price offered by the middleman in order to save the life of her daughter!"*

#### **4.1.2 Rural farmers “thinking globally acting locally”: The Plight of poor farmers under Globalization**

##### **Globalization in the “Structural Adjustment Policies (SAP) Pack” to farmers**

Although the term globalization may elicit different meanings to different people at the same time, Eriksen (2006) explains it as a belief that we are all living in an increasingly *interlinked world* where national borders are being erased, and where investment, trade, and financial transactions are integrated into a global economy. Globalization is seen in almost all aspects of life including but not limited to agriculture. Globalization conventionally requires among other things that nations open up their sectors to allow free flow of the elements of globalization such as agricultural goods and services. These requirements have been part of the structural adjustment policies (SAPs) authored by the World Bank and IMF which many developing countries including Uganda have been following for the last three decades. Thus, globalization has for long been an implied fact especially in SAPs components like the liberalization and the removal of state subsidies. Thus the poor local farmer in Nakisunga had to bow to these global requirements and below is a discussion of the plight of the farmer under these global forces:

The World Trade Organization (WTO) as the global engine of trade is mainly premised on the promotion of fair, freer trade without discrimination aimed at encouraging development, especially in developing countries that form three quarters of WTO membership (WTO 2009). Globalization under WTO’s principles of freer trade and trade without discrimination, seem to have promoted trade and ultimately the development of some countries in the world both in the West and other parts of the world, and can be partly responsible for China’s and India’s high economic growth (Businessweek 2000). However, critically looked at, freer trade gives rich countries a higher chance of penetrating the global market. While richer countries flood developing countries’ market with their agricultural goods and services, many developed countries put unnecessary and unrealistic “quality” controls on imported agricultural products, which situation leaves the poor countries like Uganda at the edge of development despite embracing global freer trade.

This poverty trap was expressed by farmers in Nakisunga where by although they appreciated that there was easy flow of information about prices especially encouraged by the presence of

radio communication; they did not have the power to resist cases of low prices offered by buyers who seemed not in a hurry to offer high prices for goods which they could easily access from neighboring districts and sometimes countries like Kenya and Tanzania. However, the irony of this freer trade for the farmers was that the price of imported agricultural inputs especially imported herbicides, drugs, pesticides remained high and thus the low prices offered by crop buyers could not enable the farmers acquire the *expensive* inputs; a fact that reinforces rural poverty which globalised commercial agriculture had set out to fight. This farmer from Kiyoola parish illustrates this duplicated poverty through globalization:

*“We as farmers in the village are hit hardest whenever there is fluctuation in price, because agriculture is the beginning and end of our livelihoods. For instance, in the previous season, the prices of maize were exceptionally low even in places away from this parish....many of us were helpless, as we had spent all our money in buying fertilizers and looking after the maize crop; since we had heard over the radio that there was a high demand for maize and we fought hard to meet the ‘demand’ which unfortunately we could not find afterwards!...Some three friends of mine who tried to collectively sell their maize to a private school in Mukono town also ultimately failed, because the school management was only ready to pay them by a post-dated cheque via bank; yet none of the farmers had a bank account!*

As Bello (2008) illustrates with a case of Malawi, the situation would have been relatively better at the local level if Uganda’s government was not religiously implementing SAPs in terms of withdrawing government subsidies to farmers especially on inputs. Bello considers Malawi’s case where in a bid to avert food crisis and poverty between 1998 and 1999, the government gave small-holder farmers “a starter pack of fertilizers and seeds”. Although this subsidy was there after termed as “a trade distorter” by the World Bank, IMF and WTO, the programme boosted food security in Malawi and its eventual barn may have been the greatest contributor to the country’s food crisis in 2005. Although one can argue that subsidies distort market forces but the paradox is that developed countries like the USA are still giving subsidies to their farmers (European Commission 2011; World Bank 2011). WTO is unfairly imposing subsidy removal to farmers in poor developing countries where the need for such state assistance is even more pronounced, and where even food security seems to count more as a basic need than trade. Thus, a healthy, well-fed farmer is better positioned to work for

the market than a sick, malnourished one. Scoones (1998) would thus argue that the achievement of sustainable livelihood is in this case constrained by such external policy dictates which the poor farmers has little or no control over; despite the availability of well combined livelihood resources and having followed crop or livestock diversification as a livelihood strategy.

### **Climate Change as a global natural dictate:**

The Intergovernmental Panel on Climate Change (IPCC) in a Summary report to Policy Makers warns that:

*“By 2020, between 75 million and 250 million people will be exposed to increased water stress due to climate change. If coupled with increased demand, the situation will adversely affect livelihoods and exacerbate water-related problems. Agricultural production including access to food, in many African countries and regions (including Nakisunga S/C) is projected to be severely compromised by climate variability and change. The area suitable for agriculture, the length of the growing seasons and yield potential....are expected to decrease. This will further adversely affect food security and exacerbate malnutrition in the continent. In some countries, yields from rain-fed agriculture could be decreased by up to 50% by 2020” (IPCC 2007:7).*

As if to prove IPCC’s prediction, the lives of farmers in Nakisunga which are primarily based on rain-fed agriculture, were also challenged by the now changing and unstable seasons especially drought that has ultimately led to poor quality yields or no yields at all. This has often led to a worsened poverty state of the farmer. These farmers were especially at risk because there are no safety nets for Ugandan farmers. This is however not the case in developed countries like the United States of America and Japan where there is as European Commission (2011) observes, a whole-farm insurance which covers against all climatic hazards for all crops on the farm. Thus, the ability to attain sustainable livelihood outcomes like reduced poverty among Nakisunga farmers may be frustrated by what Scoones (1998) calls contextual factors such as climate change, which in this case discourages accumulation of economic /financial livelihood resources, even amidst an enabling environment of institutional processes and organizational structures. One male farmer participating in a Focus Group Discussion (FGD) held in Katente parish clearly illustrates climate change and the plight of the rural farmers in Nakisunga:

*“We are at the point of discarding our locally developed calendar which traditionally guided us about when to do different farm activities for the year as the names of the calendar months were named after the season they represented: “Mugulansigo” literally meant “buying seeds” which corresponded to the month of March where farmers were being encouraged to prepare for the planting season as rainfall was around the corner! However all this has changed: we are in most cases very unsure about when to plant; many of us just put the seeds in the soil and pray that ‘Mother Nature’ brings the rains! During drought, the soil becomes hard to till and many of us who use personal labour find it hard to till the land with the available ‘traditional hand hoe’... we are left with either to resign or expensively hire labour, yet we are not sure whether even this investment will yield profit! Sometimes the rains are too much, and this makes the produce just rot; these are issues that have kept us in poverty despite our continued hard work... we are not ‘just lazy’ as some of you have often labeled us!”*

Although not very common among the many farmers interviewed, some adaptation mechanisms to climate change were in place especially that addressing water retention through terracing and mulching (See photo 4). However, many farmers expressed possibility of using small scale irrigation to change drought conditions to “rainy seasons”, but many saw it as a big project where the state’s help in terms of initial capital to pump the water from the rounding rivers to convenient pressure regions was required. This state-farmer synergy is likely to register success as Ostrom (1999) illustrates with a case of a sanitation project. Ostrom notes that the success of the sanitation project in Brazil was mainly a case of coproduction, where citizens contributed local resources which the government complimented by providing capacities to construct public works and connecting the feeder lines to the trunk lines and treatment plants (p.1082).



**Photo 4: Increasing resilience to climate change by using mulching to improve soil water retention capacity (Source: Researcher, 13<sup>th</sup> January, 2011)**

#### **4.1.3 Battling with poverty, land dynamics, gender and other socio-cultural issues on the road to sustainable development through commercial agriculture**

Poverty as a multidimensional concept attracts different definitions in different situations. UNEP (2007: 523) precisely defines poverty as “the pronounced deprivation of well-being”. In development terms, this *well-being* is relative and also affects the way development actions are implemented by the various actors. This study considered this deprivation of well being as rooted in *individual farmer’s lack of money to meet basic needs* for survival such as food, clothing and shelter; school fees for children’s education and also inadequate access to and control over resources of production. Poverty reduction is one of the targeted outcomes of a sustainable rural livelihood obtained through varied but successful livelihood strategies. As illustrated in the previous sections, poverty reduction was the ultimate goal of the Plan for Modernization of Agriculture as contained in its goal of transforming subsistence farmers to commercial farmers. However, as the study noted, poverty was again the most stumbling



block in farmers' sustainable transformation to commercial production: This was illustrated in situations such as the failure to work together because farmers claimed to have different magnitudes of poverty; the lack of money in order to implement the learnt knowledge and skills of sustainable development through the buying of required inputs, production resources; and also poverty being a driver of environmental degradation (See Box 1).

**Box 1: Farmers' views about poverty and sustainable development through agriculture**

*“Through the state trainings we attended about marketing, the trainers encouraged us to plant crops at the same time as farmers of this village so that we can be able to harvest and sell collectively as a group harvest in order to get a better price and thus be able to solve the problem of middlemen exploitation. Although this was a good proposal by the trainers; I unfortunately failed to be part of collective selling: I have different problems to solve with the money I get from selling my farm produce and I could not wait for group selling ... maybe those with enough money (the rich) can wait for the group selling date...I had a sick child, and therefore I had to sell my two bunches of matooke (bananas) that day to whoever was willing to offer a price that could just save my son's life!”*

*“It was a condition from the state, that one to access state loan for a selected enterprise, the intending beneficiary must have prepared a clean and well cemented brooder for chicken! I am a poor man, how can you expect me to build a new good house for chicken even when myself I am living in a dilapidated one!”*

*“Many of us who attended trainings and attained knowledge and skills about 'farming as a business', have become laughing stocks in the community because we have failed to implement the skills and knowledge we learnt (we have just failed on the way to success); because we lack money to meet labour costs or even buy inputs like pesticides! Our state of poverty is even worse than before because we tried using the little money we had to buy manure and we are now left with no money to complete the process; and thus we are not good examples to those who did not participate in the trainings! Because of poverty, many of us will silently die with our unrecognised and unutilized knowledge!”*

*“Because of our poverty it has also not been easy to respect the rules we learnt about*

*environmental protection; for instance we all know that deforestation invites drought (a part of climate change) but many of us have continued to cut trees so that we sell the timber to get money to pay school fees for our children in better quality (private) schools in urban areas”.*

Thus, poverty among the farmers curtails both the production and marketing processes of agricultural development; and thus any programme aimed at using agriculture as a way to sustainable development should first take the prevailing poverty situation as an issue to address.

Other than lacking money to meet basic needs, many people in Nakisunga are landless and just a few have small plots of land. This problem of land scarcity may generally be attributed to Uganda’s high population growth rate averaging at 3.4 percent per annum, and the Sub-County’s history of being fertile and naturally surrounded by rivers; a pull-factor that attracted a significant proportion of Ugandans to Nakisunga (NEMA 2004). This land scarcity is a challenge for commercial agriculture which is traditionally associated with large-scale land utilisation. The few farmers with small pieces of land had no option but to take on agricultural intensification which ultimately led to over-cultivation evidenced through complaints of lost soil fertility. Apart from the growing of perennial crops like coffee and bananas which took a significant portion of the already small land leaving a small area for other crops and livestock; the lost soil fertility was also not helped by the poor farmers’ use of rudimentary tools especially the *hand hoe* which allowed them to only repeatedly access the same small soil depth each season.

As a way of overcoming landless condition, some farmers took on the option of borrowing land from the few available landlords. However, the usually *verbal* borrowing option seems to pose a variety of challenges to the farmers: landlords only lent out unproductive parts of their lands and moreover with strict instructions to the farmers not to “burn the land” or degrade it by using inorganic/chemical fertilizers. So many farmers who badly need fast cash are frustrated and the few patient tenant farmers are left with the option of using slow-acting organic fertilizers especially farm yard manure on the borrowed land. However, as the following farmer laments, borrowing land is not a permanent solution to the plight of many poor farmers:

*“Borrowing land has not helped me fight poverty for the last three years! I borrowed land from my neighbour, and also “fed it” with heaps of manure which I bought expensively from Mr. X who owns pigs and chicken! The unfortunate bit happened when the landlord evicted me from his land on realising that it had started being productive! This incident and the losses I sustained leave me sceptical about any further borrowing of land or even improving it once borrowed and thus my poverty state is worsening each day!”*

Since, as NEMA (2004) notes, access to land which is a limiting factor for production, is increasingly becoming difficult especially for the poorer segments of society in Uganda, the state’s agricultural improvement programmes need to be ready to address these evident dynamics of land scarcity. These findings in Nakisunga rhyme with Cotula *et al.* (2009) conclusion, in a FAO study about agricultural investment and international land deals in Africa where it is noted that land is so central to identity, livelihoods and food security.

Like it is the case in most developing countries in Africa, women in Uganda form the bigger percentage of the population participating in agriculture (See Table 2). For the case of Nakisunga, the women who had participated in elements of *agriculture as a business* claimed to have gained training about *value for money* (which traditionally was a productive role squarely on men) and also reported being able to meet some basic household needs. Also as partners in business, women unlike men were considered more trustworthy in money matters and many showed more willingness to pay back state loans. However, a critical scrutiny about how women were progressing on the road to sustainable development through commercial agriculture revealed some significant challenges. These challenges are especially rooted in the socio-cultural settings of the largely patriarchal Buganda society with norms that dictate women’s extents of access to and control over property. For instance, although married women were the major participants in trainings about improved agricultural production and many were also the main tillers of land, they traditionally did not have ownership rights to land. This factor frustrated many women as they always had to seek permission from their husbands so as to use part of the land to practice the learnt skills and knowledge about sustainable development. Ironically where permission was granted, the produce harvested was deemed as either food crop or cash crop for sale as a joint-enterprise between the husband and wife where the husband as owner of the land had more control. The plight of widows was even more alarming as comments by this woman farmer from Wankoba Parish illustrate:

*“I now survive on borrowed land where I grow cash crops to facilitate my daughter’s education. When my husband died of HIV/AIDS two years ago, I was evicted out of the late husband’s land; since in addition to labelling me as the cause of death of their brother, male relatives to my late husband reminded me that culturally as a woman I had no land inheritance rights”.*



**Photo 5: More women attend “poverty reduction trainings” but more are still poor (Source: Researcher, 11<sup>th</sup> January, 2011).**

Other than at the production stage, gender issues also cropped up during marketing. For instance, in addition to ensuring household food security, majority of women who had chance to engage in any money generating activity were also supposed to meet almost all basic household expenses including paying school fees for children. Performing such traditionally *men roles* was the only security women had to continue using the husband’s land for commercial purposes.

**Table 2: Role of Women in Africa’s Agriculture**

Benin	70% of the female population live in rural areas, where they carry out 60-80% of the agricultural work and furnish up to 44% of the work necessary for household subsistence.
Burkina Faso	Women constitute 48% of the labourers in the agricultural sector.
Congo	Women account for 73% of those economically active in agriculture and produce more than 80% of the food crops.
Mauritania	Despite data gaps, it is estimated that women cover 45% of the needs in rural areas (further details not specified)
Morocco	Approximately 57% of the female population participates in agricultural activities, with greater involvement in animal (68%) as opposed to vegetable production (46%). Studies have indicated that the proportion of agricultural work carried out by men, women and children is 42%, 45% and 14% respectively.
Namibia	Data from the 1991 census reveals that women account for 59% of those engaged in skilled and subsistence agriculture work, <sup>a</sup> and that women continue to shoulder the primary responsibility for food production and preparation.
Sudan	In the traditional sector, women constitute 80% of the farmers. Women farmers represent approximately 49% of the farmers in the irrigated sector and 57% in the traditional sector. 30% of the food in the country is produced by women.
Tanzania	98% of the rural women defined as economically active are engaged in agriculture and produce a substantial share of the food crops for both household consumption and for export
Zimbabwe	Women constitute 61% of the farmers in the Communal areas and comprise at least 70% of the labour force in these areas.

Source: FAO (1994) *“Women, agriculture and rural development: A synthesis of the African region”*

In the market, cultural barriers negatively affected the women of Nakisunga, as these incidents (findings) illustrate: Almost all women in the Sub-County sell their produce using the exploitative farm-gate method, since culturally, they are controlled by their husbands and women cannot therefore expect permission to move long distances away from their home in search of better market prices. Worse still many middlemen prefer buying from women since women are described by middlemen as “more considerate and traditionally have fewer needs to meet than men and thus will always sell at relatively low prices”. Also some women reported inviting their husbands to negotiate price with the middlemen; “let my husband tell you the price”, was a common phrase among women during business transactions.

Women leaders who champion the gender/ women emancipation are hated by men (and some old women) and are labelled “agents of cultural/family breakdown since they train wives to be rebellious”! Some women, who have tried to jump the cultural barriers, do some business but they do not seem supported by majority people in the Sub-County. For instance, a woman

who took on to trade in buying coffee beans using the farm-gate method was unsuccessful as she was outcompeted by the male buyers who used to ride bicycles and reach farmers faster and before the “culturally slow, weak woman pulling a cart”. Another woman recalls having failed in a related business due to cultural barriers:

*“Having got some profit from the sale of my crop produce, I decided to take on another business as a butcher. However, my business did not last a week as I registered almost no buyer...I later on learnt the hard way that culturally, it was a taboo for a woman to sell beef (a men’s job); and that is why the whole village mobilised against my business (including women), and any prospective buyer would become a laughing stock because of buying from a woman-operated butchery!”*

These findings are consistent with those of Chandima and Binns (2010) who in a study about importance of cultural values in attaining rural livelihood sustainability in two villages close to Kandy, Sri Lanka; note that although conventional development planning has frequently ignored importance of culture; individuals and communities have their own values, meanings, customs and knowledge systems that affirm identity and diversity and play a key role in sustaining livelihoods. Thus, state-authored sustainable development programmes like the PMA need to address economic, as well as socio-cultural impediments to development; otherwise silence to these issues may leave many targeted beneficiaries especially the poor landless women out of the development equation. Whereas Squire (2010) in a paper about enhancing women participation in sustainable agricultural development and environmental conservation in SSA, argues that women and girls should have access to educational opportunities and training programmes; the finding of this study suggest that such trainings although important as entrance into communities, they should however address the contextual socio-cultural, economic and political structures that may prevent women implementation of the learnt skills and knowledge.

#### **4.1.4 Management by “participation”: the need for “first things first”**

Stakeholder participation was a key element of Uganda’s Plan for Modernization of Agriculture (PMA). The study set out to investigate elements of management by participation since as it is not usually enough to just get the right technical content down on paper; but achieving policy results and sustainable impacts often requires action by large numbers of people affected (Brinkerhoff and Crosby 2002; Boddy 2008 ). However, as the following

study findings demonstrate, although participation has almost been seen as a panacea for rural development, there seems to be certain preconditions/prerequisites that must be fulfilled if efforts to expand participation are to yield positive results and not just turn out to be manipulation or participatory “window dressing”.

Majority of the farmers interviewed expressed interest in participation as “influencing and sharing control over development initiatives (such as PMA) that affect them”. Although, many people had participated in the state’s initial training about *doing agriculture as a business*; few people were willing to get involved in activities that were meant to be avenues for sharing ideas required for successful implementation of learnt skills and knowledge. As Box 2 illustrates, this lack of participation among the farmers was generally rooted in the culture of *individualism or lack of participation tradition* among majority farmers and also the prevailing poverty or *lack of resources* to contribute to the participation process.

**Box 2: Views about barriers to participation**

<i>“I prefer working alone: in a group some people do not work and just want to ride on backs of the few who work! I am now more successful working alone than I was as a member in a group. As a group we set up Nabuka farmers’ dairy but the few literate members who comprised the executive mismanaged the group finances, and the majority of us ended up losing. I am now better off selling a few litres of milk to individuals than expecting a lot from a group venture and finally ending up in losses”</i>
<i>“We have different magnitudes of needs. For me as a poor man, joining a group will be like “adding insult to injury” as I will have almost nothing to contribute even in a simple fund-raising activity for group members! Given the fact that I only have personal labour to contribute, don’t you think I will even be worse off if I participate just to “enrich the already rich through working for them in addition to sharing with them my good ideas about poverty reduction?”</i>
<i>“I find it difficult to participate in implementing decisions which do not reflect my interest. The projects we are supposed to implement are usually formulated away from us and by experts in Kampala (where the PMA Secretariat is located). For instance in the previous season, those who were to benefit from state loans were required by the</i>

*state coordinating officers to choose from either maize or cattle as enterprises; however this area is traditionally known as “a banana producing area”; and thus I could not select anything from the available menu. Thus, my efforts to participate even in this simple option were frustrated!*

The observed *individualism* was further complicated by capitalism as the dominant mode of production in the world today (Okech 2004:37) which *selfishly* hunts for profit maximisation, and thus frustrated the expected collective sharing of knowledge and skills right from the planning stage, as a targeted participation benefit.

As noted from the above findings, apart from physical actors, success in participatory commitments is also largely dictated by the resources participants have and are willing to commit to securing their preferred outcome (Kellert *et al.* 2000; Kalu 2004; Brinkerhoff and Crosby 2002). In light of this, poverty (in form of scarcity of financial resources) among majority farmers constrained their willingness to participate. Thus, there is need to address such impediments if participation is to yield the expected management advantage in agricultural transformation.

Also, findings tend to imply the use of top-down approaches by state officers, as evidenced from the *restricted menu* of choice of agricultural enterprises; yet the programme set out to encourage participation. An inquiry, into this revealed that sometimes this was an inevitable method of doing work as the NAADS’ officers were only *required* to implement the state’s plan within strict *time deadlines and guidelines* as authored by the PMA secretariat (state) and donors also known as “*development partners*”. The major donors included the European Union, Denmark, Ireland, IFAD, African Development Bank, United Kingdom and the World Bank (PMA 2005). This case of *hurried participation* fits the explanation of Boddy (2008:426), where he acknowledges that participative models of change take time and effort and may not be appropriate when “decisions are needed urgently to meet deadlines set elsewhere”. Thus in most cases, the cases of hurried participation were just desperate strategies by state officers to meet demands outside their control. For instance, NAADS officers were usually required to submit Sub-County (S/C) performance reports as sources of information for the Joint Annual Reviews as an integral feature of monitoring PMA implementation and a condition for the next release of financial help to the S/C (PMA 2005). This is however not to underplay the importance of participatory agendas in development



work but to suggest that the application of participation as a management strategy in sustainable development, should address contextual conditions for it to register success for all stakeholders. This is more so in most developing countries where as Mubangizi and Gray (2010) observed in a study about community development; community development workers (CDWs) as state employees are meant to foster support for and participation in government-initiated programmes as well as serve within the expectations of the local community. In essence such workers are torn between loyalties.

#### **4.1.5 “Modernization” of agriculture: the dilemma of sustainability**

Although the implementation of Uganda’s PMA started in 2001, its roots can be traced in the Modernization theory of development. Modernization as a development theory developed after World War II, as a response to the under development in the Third World, and has its roots in Western development actors who proposed that the Third World had to transform itself from *tradition* to *modernity* by following the footsteps of developed West (Tucker 1999; Mc Neill 2003; Okech 2004). Among the expected changes in the Modernization project, included but was not only limited to social changes such as getting rid of the perceived ills of traditional beliefs and practices and revamping educational systems with an emphasis on modern science. This is possibly why modernising agriculture as seen from the Asian Green revolution (1960-70) involved promotion of commercial agriculture, monoculture and the use scientific knowledge including pesticides, herbicides, and chemical (inorganic) fertilizers among others. However for the case of Nakisunga, the study findings revealed mixed feelings from farmers about modernising their agriculture and some seemed confused about the whole concept and its applicability to the poor rural farmer’s conditions.

On a positive note, all farmers interviewed expressed awareness of the need for sustainable development especially pursuing economic goals while at the same time avoiding abuse of the environment and social issues. However the need for doing “*agriculture as a business*” or maximizing profits as an objective of the PMA, in most cases left the farmers helplessly abusing ecosystems balance. Firstly, Modernization as a concept religiously followed in this rural part of the country theoretically meant using scientific knowledge and ignoring all traditional (indigenous) or local forms of knowledge in the transition to commercial production. However, because of the rampant poverty among majority farmers, this aspect of Modernization seems to have put a lot of stress on the farmers. Some of farmers’ views about the use of inputs illustrate this:

### **Box 3: Views about modernization and the use of inputs**

*“Chemical fertilizers act fast and give bigger maize cobs if applied strictly following the instructions; and whenever I use them I get more buyers for my maize. However, I am not sure whether I will be able to afford them next season because they are expensive to buy and since I have been using 2kg, from experience; I will need more money to acquire a bigger amount next season if I am to get the same big yields next season otherwise my soil (small piece of land) can no longer support maize without applying fertilizers”*

*“From the little money I get, I have to save a portion for herbicides! I know very well that herbicides in addition to helping kill the weeds, they unfortunately destroy top soil-forming organisms (part of biodiversity)...but I fill I have no option because we aged, poor people cannot manage the high costs of labour, so the sprayer is our relatively cheap labourer!”*

One farmer, who was not using chemical inputs, seemed to see their use as not sustainable especially among the poor:

*“My neighbour who used to apply chemical fertilizers in her garden does not seem to offer a good example for me! The season maize prices were low she failed to buy fertilizers for the next season. She cannot grow anything from her plot of land since the soil “turned into dust” and now has poor water retention capacity ...many people say chemical fertilizers can easily burn the crop if you don’t follow instructions on the container labels: but many of us are almost illiterate; how do you expect us to take that risk? I also don’t use herbicides because this would force me to use all my small land in one season; I have to fallow some part for the next season!”*

Generally as the findings indicate, many farmers were helplessly contradicting *Modernization* intentions and using the relatively cheap “slow-acting” *tradition* fertilizer options especially farm yard manure (Photo 6). Although, farmers feel this is a cheap option which also promotes the global spirit of organic agriculture; the option runs counter to the profit maximisation rationale of commercial agriculture. The manure takes long to act; and increased production for commercial purposes demands having large quantities of manure

which poor farmers cannot afford. A farmer in Wankoba parish observed that even the option for organic fertilizers should not be a “one-size-fits-all:

*“The option of manure would best fit the western region of this country where the major economic activity is cattle rearing. Here in the central region (Buganda), we traditionally grow bananas and rare very few cows! I am blessed to have these two cows but still I have to buy more manure from farmers away from here to be able to continue with farming as a business!”*

Although the organic option seems better for sustainable development; especially as far as balancing sustainability is concerned; farmers were at times tempted to use the chemicals option especially pesticides, to fight resistant pests and diseases on vegetables. However, during the use of chemicals as alternatives to the less effective traditional options, farmers’ lives were at risk since majority of farmers were too poor to afford any protective gear and many complained of headaches every after pesticide use.

The challenge of development in form of extractive Modernization and the environment seem a global concern (Adams 2009; UNIDO 2008; UNEP 2007; Okech 2004). The case of Nakisunga farmers and the dilemma for sustainability; suggests that capitalism through Modernization is likely to deplete the Earth’s resources since the Earth has thresholds or carrying capacity beyond which it cannot be stretched. Thus, what Green Growth (2009) refers to as the “*grow first; clean up later*” axiom promoted by selfish economic interests seems to have limits. That is why there is need as OECD (2004) observes, for coming up with ways of meeting the challenge of making agriculture effectively produce food to meet the over time growing world demand without degrading natural resources. There is thus need to ensure productive soils, clean and sufficient supplies of water, conserved habitats, biodiversity and landscapes; and doing so in ways that are socially acceptable. Although not to be suggested as “a- one- size- fits- all”; the case of Nakisunga illustrated that the socio-cultural environment may provide local solutions that can be carefully merged with scientific knowledge to ensure a symbiotic existence between the environment and realistic economic improvements. Various authors retaliates that environment is the home of development and thus the need to sustainably use it if advances in agriculture are to be kept for generations (UNEP 2007; Adams 2009). Such a spirit will thus be strengthened by not addressing

development and environmental problems separately but by tackling them in an integral way within a political context-specific process.



**Photo 6: Locally available alternatives may carefully blend with “Modernization”:** Farmyard manure being applied “one metre away” from the plant (Source: Researcher, 21<sup>st</sup> January, 2011)

## **4.2 Farmers’ Needs**

Basic needs simply defined as needs *for survival* such as access to food, shelter and clothing may seem a right to all farmers in Nakisunga. However, as the findings in the previous sections illustrate, the road to full attainment of these needs is riddled with challenges, which require addressing before sustainable development through agricultural transformation may be considered a success in respective areas. The findings reveal a multitude of farmers’ needs which are hereby presented as two essential themes.

### **4.2.1 Strong and functioning state institutions**

The Plan for Modernization of Agriculture (PMA) as a response to observed biting poverty in rural Uganda seems a majorly good intention. However as the findings of the study so far

have revealed, the success of the PMA is being challenged by limited or no active state institutions to ensure accountability at all levels of its implementation. As Evans (1996: 1034) observes: “...*effective state institutions create an environment in which civic engagement is more likely to thrive.*” Thus, the state institutions may in this case share responsibility for the observed slow pace of poverty reduction among even the hard-working Nakisunga farmers. Active state institutions are in this case essential in actualising agriculture’s role in Uganda’s development. Active institutions would among other issues: ensure affordable farmers’ inputs and guidance on market opportunities despite pursuit of liberalisation; ensure corruption free-implementation process including ensuring that the right quantity and quality of inputs are supplied to farmers, all farmers get access to state loans (not a few with “personal political *connections* with the state”); ensure that extension services reach the farmers (and not just remain a benefit of the few politically connected farmers). Also, functioning legal institutions would ensure credible commitment and honouring of contracts. One farmer noted that “*we need to be followed up... sheep without a shepherd are likely to wonder about and possibly end up destroying the neighbour’s crop!*”

The need for strong institutions in Africa is also a concern of the World Bank (2010:1), which notes that:

*“Quiet corruption – the failure of public servants to deliver goods and services paid for by governments is pervasive and wide spread across Africa and is having a disproportionate effect on the poor, with long term consequences for development...Tackling quiet corruption will require a combination of strong and committed leadership, policies and institutions at the sectoral level, and most important – increased accountability and participation by citizens.”*

#### **4.2.2 Context-responsive education for farmers**

Majority peasant farmers expressed need for trainings programmes that address their situation as poor farmers. Many poor farmers who attended the initial NAADS trainings about “*doing agriculture as a business*” reported having gradually stopped attending. S/C officials interviewed, blamed this non-participation as “*the major cause of the poverty problem among rural farmers*”. However a further inquiry into the training and how it was conducted revealed a number of contradictions and thus a source of lessons for future training of adult farmers. According to Okech (2004:58) PMA’s major goal was to “*transform*” subsistence framers’ production from household consumption to producing for the market. One would subsequently have hoped that the type of farmer training carried out by NAADS would be

laden with these *transformation intents* of PMA. Many farmers reported that NAADS trainings transmitted facts, technical knowledge and the skills the farmers needed for greater agricultural production. However, the trainings seem not to have taken into account the need to *transform* the socio-political and economic dynamics of society and the existing power relations more so in terms of access to and control over land (the major production resource), gender related issues and social class. The following comment from a female farmer illustrates this inherent absence of transformation:

*“I learnt how best I can space cassava for better yields needed in the market, but it is now two years I have not been able to practice my new knowledge since my husband could not allow me to grow anything for sell on his land”*

It was possibly in reaction to this observed lack of response to their immediate needs that many farmers stopped participating in NAADS trainings. Drawing from the work of Habermas (1972) about knowledge-constitutive interests; Babikwa (2010:2) would explain the missing transformation element in PMA implementation as a failure to deliver the emancipatory knowledge-constitutive to enable the disadvantaged (farmers) to *transform* their situation for the better. Such emancipatory knowledge would empower farmers to set themselves free from ideological, socio-political and cultural forces undermining their individual and collective freedoms. Babikwa’s explanation resonates well with Freire (1970) argument that education may function as either an instrument which is used to facilitate integration to bring about conformity or it may become the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world. Thus, such emancipatory education becomes the anticipated need for the seemingly helpless farmers of Nakisunga if the dream to sustainable development through agricultural commercialization is to actualize.



Photo 7: “Paper tigers”? State institutions need to go beyond “sign posts” and let their presence be felt through the demand for accountability (Source: Researcher, 15<sup>th</sup> January, 2011)

### **4.3 Prospects**

Any consideration of the prospects of commercialisation as an avenue to making sustainable development a reality in Uganda’s agriculture, must take into account of the present situation in the country and the opportunities that exist to practice “agriculture as a business”. Thus, the consideration of prospects will focus on the decentralisation policy, local physical conditions and available training opportunities.

#### **4.3.1 Decentralisation policy breeds more opportunities for agriculture**

Uganda as a way of “*bringing services closer to the people*” has since 1993 been pursuing decentralisation as a new approach to local governance. The decentralisation process has led to expansion of the private and non-governmental organisations sectors in the districts and encouraged local communities to become active participants in their own development. In the agricultural sector, developments due decentralisation have increased demand at district level for functioning district institutions that ensure accountability especially for all funds released by the central government. As a way of exploiting the decentralisation option, farmers may be

able to access inputs such as pesticides, drugs at the Sub-County offices without spending the little money they have to meet transport costs to far away veterinary shops. Also close and fully-functioning state institutions would ensure that extension services reach the farmers and farmers' concerns like new or resistant pests and diseases may be arrested in time. Since decentralisation system empowers communities to have a greater share in their development, there is a likelihood that given this opportunity, farmers and officers will dialogue and finally come up with solutions to challenges facing the commercialisation of agriculture. Challenges addressed may include but not limited to those implied in Table 1, such as creating youths' attractions in rural agriculture as a form of revising the 2001 Uganda National Youth Policy (which is almost silent about youths and agriculture). As a way of addressing markets and price volatility at farmers' level, the existing state institutions like the Uganda National Bureau of Standards (UNBS) can easily be replicated at district level, in order to enforce observance of quality standards for both farmers' produce and agricultural inputs supplied to rural farmers.

#### **4.3.2 “Gifted by nature”: the irrigation option for Nakisunga**

As noted from the previous sections, rain-fed agriculture has challenged most developing countries, especially in times of extended droughts. However, Nakisunga Sub-County is surrounded by tributaries of River Sezibwa (Latitude: 0.2700; Longitude: 33.0050), which flow through Mukono District. This presents a natural opportunity to turn Nakisunga farmers into *all-year harvesters* through irrigation. Although some farmers close to the river had embarked on the irrigation option using watering cans; they seemed ill-equipped to pump water to villages away from the river. Thus, if the government was to complementary support the farmers by providing the large scale simple technology needed; this would create new hope (in terms of food security and agriculture as a business) for Nakisunga and the country at large amidst the now “scientifically proven reality of climate change” (IPCC 2007).

#### **4.3.3 Adding flesh to “facts”: contextualising farmers' training**

On a final note, the presence of the National Agricultural Advisory Services (NAADS) as a capacity building arm for farmers is a rich opportunity from which the methods of training farmers may be improved. Although farmers may need to be equipped with technical scientific knowledge and skills in order to “fix” problems of production and marketing, it would make the training more relevant to the farmers if such training responded to the socio-economic dynamics of production such as issues of access to land and the socio-cultural and



gender dynamics of production and marketing. This additional focus may however, necessitate training staff with social science skills more so adult education, since as Okech (2004) and Lerman (2004) observed, for decades agricultural extension has tended to lay more emphasis on the technical aspects of scientific agriculture than on education.



## **Chapter 5: Conclusion and Recommendations**

This section is a reflection about the main tenets of my topic based on lessons from findings, analysis and the various sources of information I have interacted with. The topic of the thesis was: *Sustainable development in the making: Assessing the changing role of agriculture in the transition from subsistence to commercial production*. It is generally noted that the *changing role of agriculture* lies in agricultural development plans' being able to address contextual factors that challenge peasant farmers in the transition from subsistence agriculture to commercial production. The key contextual factors requiring attention include: the dynamics of marketing amidst globalization; poverty, gender, cultural and land dynamics in production/marketing; preconditions regarding the use of participation as a management strategy; and finally the mix of traditional and scientific knowledge in the pursuit of sustainability. Moreover, the need for strong and functioning state institutions as a way of ensuring accountability among both farmers and the state was also indentified. This is important if agriculture is to be the indispensable key in unlocking sustainable development in developing countries, especially in Africa.

### **5.1 Conclusion**

The study set out to assess the implementation process of the Plan for Modernization of Agriculture (PMA) as a state-authored plan to foster sustainable development through the transition from subsistence to commercial production. Thus, there was need to look at how the key aspects of the implementation process of the plan addressed issues such as market-oriented agriculture, participatory management and sustainable use and management of natural resources. The study also paid attention to the needs of subsistence farmers as key stake holders, process challenges and prospects. Based on Scoones (1998), the analysis of findings has generally proved right the assertion that for sustainable livelihood outcomes such as poverty reduction and natural resource base sustainability to be achieved, there is need to have well combined capital assets or livelihood resources, working within enabling institutional norms and pursuing the right livelihood strategy and all these being controlled by a permissive external policy setting. This external setting is usually beyond the control of individual farmers. Thus, as the following thematic summary illustrates, successful transition from subsistence to commercial production should address inherent political, socio-economic and cultural impediments:

- Although many farmers were labelled as ‘mixed-subsistence’, there were signs of market- oriented agriculture among farmers in the Sub-County. The farmers all of whom almost depended on rain-fed agriculture for production had both local and global process constraints. Locally, buyers (middlemen) exploited farmers through unrealistic quality demands and low prices, despite of poor farmers having experienced increased workload during production process. Moreover, globalisation as a global dictate seemed to have put more stress on the poor rural farmers especially due to the ‘unrealistic’ global quality demands which had been locally replicated and the inevitable price volatility; yet farmers in Uganda remained orphans of state subsidy.
- Despite some little progress to *farming as a business*, poverty among most farmers compounded the already existing problems of land scarcity and socio-cultural issues such as gender especially the women’s lack of access to and control over productive resources. Poverty, especially the lack of lack of financial capital, constrained most farmers in as far as putting in practice the learnt sustainable development practices was concerned, whereas scarcity of land or its different extents of access to and control over especially among women, limited farmers’ progress to commercial agriculture.
- Moreover, even in cases of where some women managed to *produce for sale*, patriarchal cultural relations proved a major barrier to women’s versatility in marketing their produce.
- Although participatory management was a favoured approach, its application in the implementation of the donor-funded Plan for Modernisation of Agriculture (PMA) was always contradicted by the need to satisfy the usually externally-framed top-down demands and deadlines. The situation was not even helped by the individualistic attitude among the majority of farmers partly promoted by global capitalism. This lack of willingness to work together unfortunately provided a fragile foundation for participation as a management strategy. Also, the Plan for Modernization of Agriculture seemed deficient of any functioning rural youth’s attractions or programmes, a factor that miserably left agriculture to the less active and older section of the rural population.
- Farmers’ efforts to ensure environmental sustainability through the use of organic inputs like farm yard manure were in most cases contradicted by the pursuit of ‘modernization’ and the overriding rationale of quick profit maximisation. Poverty

and land ownership dynamics further complicated the pursuit of environmental sustainability.

- Farmers' needs focused mainly on the presence of strong and functioning state institutions to critically follow up both farmers' and state's services as a way of ensuring accountability and thus establish an active state-farmers synergy. In addition to technical knowledge, farmers expressed the need for emancipatory education that empowers them and sets themselves free from ideological, socio-political and cultural forces undermining their individual and collective freedoms as a way of achieving the transformation intents of PMA.
- The future of agriculture could easily be anchored in the active use of the current decentralisation environment in Uganda by bringing agricultural services *closer to the people*; exploitation of irrigation potential and making the state's advisory services offered more responsive to the political, socio-economic and cultural settings in which the poor rural farmers operate.

## **5.2 Recommendations**

From the findings of this study and the conclusions drawn, it is clear that a *deficiently conducted* implementation stage in the programme/ project cycle can make good state programmes appear a burden to farmers. Thus, the *changing role of agriculture* should be able to prepare for and address contextual issues that may affect implementation rather than exclusively focussing on technical details. I therefore highlight the following as key recommendations from this study:

- It is usually important to first analyse the philosophical orientation of programmes before they are implemented. The findings of the study tend to imply that “*modernization*” as a phrase in Uganda's PMA is used uncritically, because of the many contradictions it is creating in Uganda's majorly peasant subsistence agriculture. The critical question remains, whether peasants can easily jump into international markets preached by ‘modernization’ without genuine state's assistance amidst inherent political, socio-economic and cultural constraints.
- The use of participation in both theory and practice should respond to contextual realities. Otherwise, manipulated participation to serve self-interest of the state or donors turns the farmers into *objects*; yet many studies have shown that intended

beneficiaries of project have the capacity to advise on how programmes can effectively yield good results.

- Other than using none of either tradition or modern knowledge, sustainable development in agriculture can seek for a mixed approach. Although not to be suggested as “a-one-size-fits-all”; the case of Nakisunga illustrated that the socio-cultural environment may provide local solutions that can be carefully merged with scientific knowledge to ensure a symbiotic existence between the environment and realistic economic improvements.
- I finally recommend further research into possibilities of using merged traditional and scientific knowledge as a way of improving subsistence agriculture to register sustainable development for poor countries in Africa.

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## Appendices

### Appendix 1: Research Plan

Paul's Research Plan: (01.11.2010-23.05.2011)

<i>Task description</i>	<i>No. of Week</i>	<i>Periods/ Deadlines (Week ending Friday are indicated)</i>	<i>Follow-up comment</i>
<b>1.Obtaining permissions</b>	3wks	05. 11- 19.11.2010	Contact Mukono district security officers and PMA coordinators
<b>2. Establishing field contacts</b>	1wk	26.11.2010	PMA coordinators, farmers' groups and NGO coordinators
<b>Create questionnaire and/or interview guide</b>	2wks	03.12 - 10.12.2010	Design tools and seek any improvements from supervisor
<b>Pilot-test the questionnaire and/or interview guide</b>	1wk	17.12.2010	Pretesting and making adjustments (if any)
<b>Christmas break</b>	<b>2wks</b>	<b>24.12 - 31.12.2010</b>	<b>Finalize any pre-field issues</b>
<b>Draft literature review</b>		5.11.10 - 07.01.2011	Literature will be continuously done in the process. However, first draft of literature is to be submitted by 7 <sup>th</sup> January, 2011.
<b>Data collection</b>	6wks	07.01. - 11.02.2011	Due to the Feb-March 2011, National elections activities in Uganda; data collection has been scheduled for this early period <a href="http://www.ec.or.ug/docs/Roadmap_June%202010.pdf">http://www.ec.or.ug/docs/Roadmap_June%202010.pdf</a>
<b>Data organization</b>	3wks	18.02. - 04.03. 2011	
<b>First draft</b>	4wks	11.03- 01.04.2011	
<b>Feedback on draft1</b>	1- 2wks	8.04- 15.04.2011	
<b>Improving draft1+EASTER break</b>	2wks	22.04- 29.04.2011	
<b>Any other feedback</b>	1wk	06.05. 2011	
<b>THESIS Submission</b>	2wks	13.05- 20.05.2011	

Approved by Supervisor: Christian Webersik (Associate Professor) -University of Agder, Norway.

## **Appendix 2: Field data collection tools**

### **SEMI-STRUCTURED INTERVIEW GUIDE FOR FARMERS**

*(Section A of this Form applies to individual farmers' interviews: however other sections will also be used in Focus group discussions).*

Form A

Code No.....Date of interview.....

Dear Sir/ Madam,

I am a student in my final year of study pursuing MSc.degree in Development Management, at the University of Agder, Norway. I am undertaking a study entitled: **Sustainable Development in the Making: Assessing the changing role of agriculture in the transition from subsistence to commercial production**. You have been identified as one of the respondents and hereby kindly requested to help by providing answers to the questions as honestly as possible. Please note that the information you will give will be treated confidentially and anonymously and only used for the purposes of writing the research report.

Thanking you for your cooperation.

.....  
Lubuulwa Paul Senkubuge

**RESEARCHER**

#### **SECTION A: INTRODUCTION (Where necessary, tick the appropriate option)**

1. Name of parish/village to which farmer is attached .....
2. Sex
  - (i) Male
  - (ii) Female
3. Age of respondent: .....
4. Period (in terms of years) taken as a farmer: .....
5. Marital status: .....
6. Education level: .....
7. House hold size.....
8. Agriculture activity:
  - (i) Crop production
  - (ii) Livestock/ poultry
  - (iii) Both (i) and (ii)
  - (iv) Others (specify).....
9. Which is the main source of income for the household/ farmer?
  - (i) Agriculture (ii) Others (specify).....

10. Find out if response to question (9) varies with seasons?

**SECTION B: (Uganda’s agricultural priorities: market production, participation and sustainable natural resource base management).**

**Part 1: (market-oriented production)**

11. What is the main purpose of your agricultural production? Probe to find out whether farmer is on :subsistence, mixed subsistence /emergent or commercial)

12. Which produce is particularly valuable for the market?

13. Where do you sell your produce?

14. Who buys your produce?

15. Do you see any difference in activities between producing for subsistence and now when producing for the market? **Elaborate on the difference.**

16. What steps have been taken to prepare you for market oriented-production? By who?

17. With reference to question 16; what can you do now that you could not do before you were prepared for market-oriented production?

18. How has production for the market in any way affected your assets? *Probe with:*

(i) *Natural assets: soil (e.g. soil fertility) and species diversity; water; air and environmental services (rainfall patterns);*

(ii) *Social capital (any essential networks, social relations, associations; any significant social changes in demography, traditional lifestyles or employment?)*

(iii) *Economic /financial assets: cash, credit/debit, savings.*

(iv) *Human capital: skills, knowledge, (attitudes) good health, etc*

(v) *Physical capital, such as roads, buildings*

19. What specific constraints exist or are associated with market-oriented production?

20. What benefits are associated with market-oriented production?

21. Briefly show how the following external factors have affected market-oriented production?

(i) Changes in produce prices on the world markets

(ii) Changes in seasons (Climate change effects). Any coping mechanisms in place?

(iii) State policies such as (i) collapse of farmers’ cooperatives unions (ii) effect of reduced subsidies; regulated markets, and (iii) effect of past “political promises” like “*Entandikwa* (Start-up capital); “Prosperity for All”

22. Do men and women share equal access and control over the market? Seek a detailed picture.

**Part 2: (participation and gender-focused intervention)**

23. Do you as participate in decisions that guide the way you carry out your activities? Why do you think it is important for you to participate? In what activities do you participate? At what stage do you as a farmer participate? *Probe: Is it at identification of agricultural inputs such as seeds to use? Or in planning/policy making? (iii)Implementation of projects? or monitoring and evaluation?*

24. How much do you participate? (*Probe and rate whether it is: information-sharing; consultation; collaboration and joint decision-making (partnership) or empowerment/ control*). Do the poor and rich or men and women have equal chances of participation? Elaborate. Any participation differences due to age (old, young)?

25. From the farmers' perspective, what constraints and opportunities of participation exist?

**Part 3: (sustainable use and management of natural resources)**

26. How has the transition from subsistence to commercial production affected the environment especially the natural resource? *Probe to find out:*

(i) *Effect on physical locality such as intensity of land use*

(ii) *Any over use of non- renewable natural resources such as undeveloped land, water, forests/timber, or any other resources?*

(iii) *Any use of substances or materials which could be harmful to human health or the environment?*

(iv) *Any production of solid toxic and wastes?*

(v) *Any contamination of air, land or water from releases of pollutants?*

27. What efforts are in place to sustainably manage the environmental effects

**SECTION C: (Awareness of sustainable development, Agricultural practices and rationale)**

28. As a farmer are you aware of official sustainable development? (Probe: i.e. The balance between economic, social and environment? And how did you get to know?

29. Which agricultural inputs do you use in commercial production?

(*Probe using: improved (hybrid) seeds, chemical/inorganic fertilizers, manures, veterinary drugs, pesticides/herbicides/fungicides; Animal feeds or any other (specify)?*

What reasons are given for use; non-use or limited use of agricultural inputs during commercial production?

30. **FGDs:** What agricultural (crop farming) practices/ activities are you involved in from preparing the land up to marketing? (*Consider activities at preparing the land/planting, looking after the plant, harvesting and marketing*).*Ask farmers to develop a Farm- activity profile from land preparation to marketing.*

31. Why do you do the activity (practice) identified above?

(*Probe with rationale such as (Profit maximization, government policy requirement, and avoidance of crop failure, cultural demand or any other reason)*).

32. What are the farmers' agricultural needs? Gaps? Priorities? (*To be compared with government priorities to see level of agreement*).



**SECTION D: Constraints and opportunities for sustainable development in the making through agriculture**

33. What constraints affect the transition from subsistence livelihoods to sustainable livelihood through commercial production?
- (i) At government level
  - (ii) (ii) At farmer's level
34. What opportunities can be exploited in the transition from subsistence livelihoods to sustainable livelihood through commercial production?
- (i) At government level
  - (ii) (ii) At farmer's level
35. Would you as a farmer, like to engage in the transition from subsistence to commercial agriculture? **Elaborate**
36. Is there anything else you want to share?

**The End! Thank you for your time!**

**SEMI-STRUCTURED SELF-COMPLETION QUESTIONNAIRE TO AGRICULTURAL OFFICERS**

Form B

Code No.....Date of interview.....

Dear Sir/ Madam,

I am a student in my final year of study pursuing MSc.degree in Development Management, at the University of Agder, Norway. I am undertaking a study entitled: **Sustainable Development in the Making: Assessing the changing role of agriculture in the transition from subsistence to commercial production**. You have been identified as one of the respondents and hereby kindly requested to help by providing answers to the questions as honestly as possible. Please note that the information you will give will be treated confidentially and anonymously and only used for the purposes of writing the research report.

Thanking you for your cooperation.

.....  
Lubuulwa Paul Senkubuge

**RESEARCHER**

**SECTION A: INTRODUCTION (Where necessary, tick the appropriate answer)**

1. Name of parish/village to which officer/leader is attached .....
2. Sex
  - (i) Male
  - (ii) Female
3. Age: .....
4. For how long have you been farmers' coordinator / leader in Nakisunga, Mukono? .....

**SECTION B: (Addressing Uganda's priorities for agricultural production)**

5. Why was it necessary to implement the Plan for Modernization of Agriculture (PMA) in Nakisunga, Uganda?
6. What have you done to increase awareness amongst Nakisunga farmers about Uganda's agricultural priorities addressed in the PMA?
7. How have you addressed Uganda's priorities for agricultural production in the transition from subsistence to commercial production? In terms of...
  - (i) increased market oriented production;
  - (ii) participatory gender-focused process interventions
  - (iii) the sustainable use and management of natural resources

8. How do you contribute to farmers’ agricultural activities (practices) in the whole agricultural chain from preparing the land to marketing? *(Are you relevant and how?)*

9. (a) How do you rate the alignment of farmers’ needs and motivation to the Uganda’s agricultural priorities?

<i>Answer</i>	<i>Reason</i>
(i) Well aligned	
(ii) Loosely aligned	
(iii) Not aligned	

10. Suggest constraints that affect the transition from subsistence livelihoods to sustainable livelihood through commercial production?

(i) At government level

(ii) At farmer’s level

11. What opportunities can be exploited in the transition from subsistence livelihoods to sustainable livelihood through commercial production?

(i) At government

(ii) At farmer’s level

12. Would you as an officer like to engage in the transition from subsistence to commercial agriculture? Elaborate.

13. Is there anything else you would like to share?

**The End! Thank you for your time.**

## **STRUCTURED OBSERVATION SCHEDULE**

### **Sustainable Development in the Making:**

### **Assessing the changing role of agriculture in the transition from subsistence to commercial production; in Nakisunga Sub-County, Mukono district, Uganda**

Parish/ village: .....

Farmer type :( Tick appropriately):

(i) Leader

(ii) Farmer

Observe farmers' activities and processes:

Evidence of

1. Market oriented production: observing the selling, transportation processes
2. Participation and gender evidence
3. Sustainable use and management of natural resources: see evidence of mulching, use of fertilizers
4. Farm activities in relation to rationale
5. Farmers' needs and constraints
6. Any opportunities to be exploited.

### **FOCUS GROUPS DISCUSSION ISSUES:**

Parish.....Group composition.....Date.....

1. Group's comments on Uganda's priorities for agriculture production:
  - Market-oriented production
  - Farmers' participation issues
  - Sustainable use and management of natural resources.
2. *Farmers will develop a Farm- activity profile from land preparation to marketing. (Consider practices/activities from preparing the land/planting, looking after the plant, harvesting and marketing). Probe why farmers do the activities (practices) identified.*
3. What are the farmers' agricultural needs (in the transition from subsistence livelihoods to sustainable livelihood through commercial production)? *Pay attention to Gaps? Priorities? (To be compared with government priorities to see level of agreement).*
4. What constraints affect the transition from subsistence livelihoods to sustainable livelihood through commercial production?
  - (i) At government level
  - (ii) At farmer's level

5. What opportunities can be exploited in the transition from subsistence livelihoods to sustainable livelihood through commercial production?
  - (i) At government level
  - (ii) At farmer's level
6. Is there anything else you want to share?

**The End! Thank you for your time.**