

Role of agriculture in the economy economics essay

[Economics](#)



Definitions of terms 2

CHAPTER ONE

.....
**3**

INTRODUCTION

.....
 **3**

1. 1

Background

..... 31. 2 Problem

Statement..... 91. 3

Objectives of the Study 101.

3. 1 Main Objective 101.

3. 2 Specific Objectives 101.

4 Research Questions.....

101. 5 Justification of the Study.....

..... 111. 6 Significance of the

Study..... 111. 7

Limitations..... 12

CHAPTER TWO

.....
.....**13**

LITERATURE REVIEW

..... **13**
2. 1 Theoretical Literature
132. 2 Empirical Literature.....
13

CHAPTER THREE

.....
...**23**

RESEARCH DESIGN AND METHODOLOGY.....

.....**23**
3. 1 Conceptual Framework.....
233. 2 Analytical Framework.....
243. 3 Expected Output.....
253. 4 Research Design
253. 4. 1 Sample Size.....
253. 4. 2 Sampling Technique.....
.....253. 5 Data Collection Method
..... 263. 6 Expected
Limitations.....26

REFERENCES..... **...27**

OPERATIONAL DEFINITION OF TERMS

Agriculture: Art and science of crop and livestock production
Modern farming methods: Technological improvements in agricultural techniques
Food security: Measure of ensured access to essential nutrition

ABBREVIATIONS

GDP Gross Domestic Product
MDGs Millennium Development Goals
WDR World Development Report
WTO World Trade Organization
WTO World Trade Centre
EU European Union
KACE Kenya Agricultural Commodity Exchange Limited

CHAPTER ONE

INTRODUCTION

1. 1 Background of the study

Understanding the nature and structure of Agriculture within the economies of developing countries is fundamental towards the understanding of the overall development process within these economies. This is simply because 2/3rd of the world population poor is concentrated within the rural agricultural areas. For the first time in over 25 years, the World Bank's World Development Report (WDR 2008) focuses on the agricultural sector. It distinguishes between three types of developing countries - agricultural-based, transforming and urbanized - and it outlines policies designed to help facilitate three pathways out of poverty: farming, labour and migration. Policy recommendations vary somewhat according to each country type, but

the guiding principles remain the same: trade liberalization and privatization. Across these three worlds of agriculture, the Bank conceives of three major pathways out of poverty: farming, wage labour in the rural non-farm economy, and migration to urban centers. In this view, a few entrepreneurial farmers are able to increase their landholdings, adopt modern technologies (including genetically modified seeds), and plug into transnational supermarket chains. Subsistence farmers are essentially doomed to extinction. However, the Bank suggests that subsistence farming can and should be enhanced in order to help the rural poor meet their basic needs while they acquire new skills for the labour market. In this way, for the vast majority of rural dwellers, non-farm employment and migration from the countryside represent the greatest opportunities for overcoming poverty. In the developing countries, 85% of the human population is either directly or indirectly engaged in agricultural activities while 40% of foreign exchange earnings originate mainly from primary export earnings. This implies while working out strategies towards poverty eradication there is need to focus more on rural agricultural development. Such strategies need to focus towards accelerating productivity in agriculture, causing overall output growth and creating necessary interventions in agricultural research, education and development.

Role of agriculture in the economy:

Agriculture plays a very important role in the overall development process through various activities related to livestock production, crop production, fishing, forestry and mining. Agriculture enhances food security both to rural and industrial population. It also plays a very important role in establishing a

<https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

framework for industrialization within economies of developing countries. Agriculture is the main source of employment in developing countries to a tune of 75%. It's the main source of generating GDP within these economies to a tune of average 35%. Above all it is the main source of foreign earnings averagely tops a tune of 40%. Agriculture promotes various off farm activities for example wielding of farm tools.

Modern Farming

A remarkable shift in agricultural practices has occurred over the past centuries in response to new technologies and response of world markets. This has led to technological improvements in agricultural techniques, such as the haber-bosch method of synthesizing ammonium nitrate which made the traditional practice of recycling nutrients with crop rotation and animal manure less necessary. Modern agronomy, plant breeding, pesticides and fertilizers and technological improvements have sharply increased yields from cultivation but at the same time have caused widespread ecological damage and negative human health effects. Modern farming, as we know it, began to develop, particularly in the West, from the 1920's. It is typified by a more intensive use of land and buildings, mechanization and the use of artificial chemical fertilizers and weed and pest control. Labor was increasingly being replaced by machines and chemicals. Specialization in crops and animals became the norm and reliance built up on bought-in chemical and processed inputs. This was farming becoming industrialized and large companies developed to stimulate and supply its needs.

Food Security

Food security is a measure of ensured access to essential nutrition. It refers to a household's or country's ability to provide future physical and economic access to sufficient, safe, and nutritious food that fulfills the dietary needs and food preferences for living an active and healthy lifestyle. It is a measure of resilience to future disruption or unavailability of critical food supply due to various risk factors including droughts, shipping disruptions, fuel shortages, economic instability, wars, etc. Food security assessment is divided into the self-sufficiency rate and external dependency rate as this divides the largest set of risk factors. It is access by all people at all times to enough food for an active healthy life. The essential 1) Emphasis on access to food rather than supply of food which is consistent with the concept of food entitlement and focuses on whether people have sufficient demand of food. 2) Emphasizes on access to food by all the people implying that an aggregate view of insufficient elements of food security are the availability of food and the ability to acquire it. There are three implications of this definition; and that the situation of individuals and social groups at risk of critical importance. 3) Takes into account both availability and access to food.

Poverty Reduction

The poor in developing countries remain disproportionately rural, with most employed or self-employed in agriculture. There has therefore been a longstanding interest in understanding the relationship between agricultural growth, rural development and poverty reduction. Modern agricultural methods have resulted in spectacular increases in productivity: more cereals

<https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

and animals per hectare, more meat and milk per animal, more food output per person employed. However, the majority of the chronically hungry are small farmers in developing countries who produce much of what they eat, are often too poor to purchase inputs and are marginalized from product markets. Poverty is the state of one who lacks a certain amount of material possessions or money. Absolute poverty or destitution refers to the deprivation of basic human needs, which commonly includes food, water, sanitation, clothing, shelter, health care and education. Relative poverty is defined contextually as economic inequality in the location or society in which people live. Poverty is an economic problem existed in the society blocking individuals from graduating out of it. Poverty is widely seen in the developing countries where agriculture is the dominant source of income. Agriculture has an unpredictable yield in which those who depend their living on it are not secured with subsistence or above subsistence living condition. Production under agriculture is surrounded by full of risk and uncertainty due to the dynamic environmental conditions like erratic rainfall, poor functioning or missing markets, pests and disease (Nigist, 2007). Hence, poverty may prevail in the society in which the ability to reduce poverty through investment decisions may be affected. In such cases, poverty plays significant role at making decisions on the choice and adoption of farming inputs (Mahmud et al., 2009). Poverty is more pervasive in rural areas and seems to more difficult to graduate from it in these areas. Technology adoption, in the form of; use of fertilizers, high yield seeds, and other agricultural inputs, is one of the tools for the reduction of poverty and graduating out of it through raising productivity. In almost all developing

countries, farming is practiced according to their traditions, culture, and natural resources. Despite the impressive economic growth in the last two years, Kenya is among the world's 30 poorest countries, ranking 152 out of 177 countries on the 2006 Human Development Index. Inequalities are wide with the top 10 per cent of Kenyans earning 44 per cent of the national income, whilst the bottom 10 per cent earns less than one per cent. Kenya's poorest regions, including North Eastern Province, have twice the relative poverty headcount of its least poor regions. Years of drought in this region have had a serious impact on the well-being of children, increasing malnutrition rates, morbidity and mortality. Reasons for the persistence of poverty are various. Kenya has one of the world's fastest population growth rates. Over the past 30 years, the population has more than tripled, greatly increasing pressure on the country's resources. Together with a widening income gap, this has eroded gains in education, health, food security, employment and income. There are strong linkages between poverty and environmental degradation, particularly poor water management, soil erosion, declining soil fertility and land degradation. In addition, the effects of climate change are undermining an already fragile resource base and have contributed to declining agricultural yields over the past decades. In recent years, drought has become a perennial problem in parts of Kenya. Episodes in 2009 and 2011 generated food emergencies, while flooding in 2010 affected parts of the country severely. Perhaps the central issue in growth is the extent to which poor countries must rely on producing their own food. If food is essential for consumption, and if there is no effective alternative to countries producing this food domestically, then development

must begin with a focus on agriculture and agricultural productivity – and specifically with food production. Countries must attain a high degree of food self-sufficiency at present for those parts of Africa that are landlocked, predominantly rural, and have large fractions of their population living at a considerable distance from coastal cities where they might have access to cheap food imports. Agriculture remains the backbone of the Kenyan economy. It is the single most important sector in the economy, contributing approximately 25% of the GDP, and employing 75% of the national labour force (Republic of Kenya 2005). Over 80% of the Kenyan population live in the rural areas and derive their livelihoods, directly or indirectly from agriculture. Given its importance, the performance of the sector is therefore reflected in the performance of the whole economy. The development of agriculture is also important for poverty reduction since most of the vulnerable groups like pastoralists, the landless, and subsistence farmers, also depend on agriculture as their main source of livelihoods. Growth in the sector is therefore expected to have a greater impact on a larger section of the population than any other sector. The development of the sector is therefore important for the development of the economy as a whole, reflected in the relationship between its performance and that of the key indicators like GDP and employment. Trends in the growth rates for agriculture, GDP and employment, show that the declining trend experienced in the sector's growth especially in the 1990s, is reflected in the declines in employment and GDP as a whole. Policies that affect the performance of the sector have important implications for the economy. Improved agricultural production has been seen as one of the overall objectives for poverty

reduction in the country. The objectives of agricultural sector strategy have been increasing agricultural growth, seen as important for increasing rural incomes and ensuring equitable distribution. Due to limited availability of high potential land, it has been envisaged that increasing agricultural production will have to come from intensification of production through increased use of improved inputs, diversification especially from low to high value crops, commercialization of smallholder agriculture, and increased value addition through stronger linkages with other sectors. Agricultural policy in Kenya revolves around the main goals of increasing productivity and income growth, especially for smallholders; enhanced food security and equity, emphasis on irrigation to introduce stability in agricultural output, commercialization and intensification of production especially among small scale farmers; appropriate and participatory policy formulation and environmental sustainability. The key areas of policy concern, therefore, include:

- Increasing agricultural productivity and incomes, especially for small-holder farmers.
- Emphasis on irrigation to reduce over-reliance on rain-fed agriculture in the face of limited high potential agricultural land.
- Encouraging diversification into non-traditional agricultural commodities and value addition to reduce vulnerability.
- Enhancing the food security and a reduction in the number of those suffering from hunger and hence the achievement of MDGs.
- Encouraging private-sector-led development of the sector.
- Ensuring environmental sustainability.

1. 2 Problem Statement

Sustained agricultural growth is critical to uplifting the living standards of our people as well as generating rapid economic growth. However, in spite of the

<https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

importance of the agricultural sector, farming in our country has for many years been predominantly small scale, rain fed and poorly mechanized. In addition, institutional support and infrastructure have been inadequate. Agriculture's contribution to rural employment, foreign exchange earnings and rural incomes are so important that any broad-based improvement in rural living standards will almost certainly require substantial productivity growth in agriculture. Poverty and food insecurity remain concentrated in rural areas among low-income agriculturalists (particularly female-headed households), those who work on other people's farms (agro-laborers) and marginal livelihood groups. Such challenges point to the need for targeted interventions that can improve productivity for resource-poor farmers and improve food security. For many in Kenya, especially those in rural areas, malnutrition is a direct result of low agricultural productivity. Farmers who are largely reliant on home produced food may struggle in some seasons to provide adequate food for their families. More generally, the poor in both urban and rural areas spend large fractions of their incomes on food; low agricultural productivity affects the price of food in both urban and rural areas. Lack of implementation of agricultural policies by the government and the reluctance to invest more on research so as to establish more effective methods of farming and also come up with crops that are suitable and more productive has affected the country as a whole in terms of food security and poverty levels. In 2012, for instance, the country experienced drought especially in arid areas where communities are pastoralists. The drought led to severe deterioration of grazing resources, water scarcity leading to exceptionally long migrations, livestock deaths, increased malnutrition rates

amongst children under 5 years and resurgence of debilitating conflict as communities compete for resources. This project proposal aims to mitigate the devastating effects of repeated drought cycles by changing livelihoods from a traditionally pastoralist mindset to embracing agriculture as an alternative means to ensuring food security and reducing poverty levels. Modern agricultural methods should, therefore, be adopted to meet productivity requirements in all agricultural lands so as to increase food security and also improve livelihoods in all areas of the country especially areas that are dependent on agricultural activities. These modern technologies that have been known to change agricultural production in the western world and spearheaded green revolution in Asia involves, mechanization, increased chemical use, specialization in agri-business and favorable government policies. New technologies should be applied to boost development by leveraging the advantages of new technology to find solutions to development challenges of an environment such as arid areas is a key aspect of this study. This shall require participation of all members of the community and the key stakeholders in the agricultural sector in the planning, management and implementation of these modern methods of farming since individual effort cannot be sustainable and cannot be of help to the whole community.

1. 3 Objectives of the Study

1. 3. 1 Main Objective

To establish the link between application of modern methods of farming and food security & poverty reduction.

1. 3. 2 Specific Objectives

To identify cost-effective strategies likely to promote future agricultural intensification and productivity growth in Kenya's crop sector and application of modern farming methods. To assess the direction and magnitude of changes in agricultural productivity in Kenya in relation to food security and poverty reduction. To establish policy recommendations based on variables used in the study and suggest areas of further study.

1. 4 Research Questions

Does a link exist between agriculture and poverty levels? Why has there been so little improvement in productivity levels in agriculture over the past several decades? How much improvement in poverty and economic growth can be achieved through agricultural development? What are the government policies most directly affecting agricultural investment and growth? Does a modern agriculture practice affect productivity of small scale farmers?

1. 5 Justification of the study

Most rural areas in Kenya depend on farming for the daily income and as a source of food. The urban population also is dependent on agriculture directly or indirectly. The Millennium Development Goals' target of eradicating extreme poverty and hunger by 2015 must be met and agriculture is a major factor in the realization of this Goals and it also plays a role in achieving environmental sustainability. In the Kenyan Vision 2030 blue print, the economic pillar also states that it targets increase in value in agriculture. In order to achieve the said goals, modern methods of farming

must be adopted so that our food basket is sufficient and able to sustain the country in times of disaster. These methods of farming include use of green houses, mechanization, land reclamation and more so adequate and high technology research. There is also need to focus on agriculture in rural areas and support of small scale farmers. This will in the long run improve the livelihoods of this population and, therefore, eradicate poverty and ensure economic growth. This study, therefore, should be done to research on the application of modern methods of farming so as to come up with measures and policies that can help in the realization of these MDGs and also the Vision 2030 economic pillar.

1. 6 Significance of the study

The findings of this study are essential to policy makers in agricultural sector to draft appropriate policies for implementation to ensure sustained productivity. The ministry of Agriculture and other key stakeholders had earlier initiated plans to put more land under irrigation especially in arid and semi arid areas and also increase funding aimed at financing farmers to buy modern farming equipment. The Kenya Red Cross initiated projects in the arid and semi arid areas that were affected by drought in 2012 under the initiative Kenyans for Kenya. These projects were aimed at influencing the pastoral communities to embrace farming to ensure that incase of another disaster, there will be adequate food reserve. The project focused on irrigation and also dug boreholes. They have already started harvesting. This report will be helpful to them in designing appropriate and effective policies to further such projects and ensure food security and poverty reduction.

1. 7 Limitations

The study may encounter the following challenges: Unwillingness by communities to embrace modern farming methods. The study may face challenges in trying to convince the pastoralist communities to embrace farming as a source of income.

CHAPTER TWO

2. 0 LITERATURE REVIEW

2. 1 Theoretical literature

The early development literature offered two different views of the structural transformation – and more generally of the role of agriculture in development. One influential early view was that of Lewis, who along with influential scholars such as Rosenstein-Rodan (1943) and Rostow (1960), viewed modern economic growth as essentially identifiable with industrialization. These authors, like most of the early growth and development economists, tended to view subsistence agriculture as a default source of employment and as a pool of reserve labor. The challenge of development, in their view, was to create and expand employment in the modern industrial sector. An alternative view, also present in the early development literature, was that many poor economies suffered from what T. W. Schultz (1953) characterized as the " food problem." Simply put, Schultz argued that many poor countries are in a situation of " high food drain," in which they have " a level of income so low that a critically large proportion of the income is required for food." Schultz took it as given that countries in this situation must produce the bulk of their own food to satisfy subsistence needs, presumably because imports are prohibitively costly and <https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

because these countries have few goods or resources to exchange for food. Until they can meet their subsistence needs, Schultz said, they are unable to begin the process of modern economic growth.

2. 2 Empirical literature

The impact of modern farming practices on soil fertility and quality in England and Wales was a research that was done in Cambridge University that concluded modern farming practices are sustainable in respect of the soil itself. While overall SOC concentrations have decreased in arable soils, this does not appear to be having any major adverse effect on soil structural stability or crop yields. Moreover extractable nutrients (P and K) in soil are increasing. Modern agriculture does, however, lead to pollution of water and air and these issues are increasingly being addressed by legislation e. g. EU Nitrate Directive (Anon. 1991), Integrated Pollution, Prevention and Control Directive (Anon. 1996a) and Codes of Good Agricultural Practice. Reduction in pollution is, for the most part, more likely to be achieved by changing practices to conserve potential pollutants in the soil, rather than across-the-board input reductions which may have little effect on losses but cause significant reductions in crop yields. Miguel A. Altieri from University of California, Berkeley researched on Ecological impacts and the possibilities for truly sustainable farming and highlighted that the nature of modern agricultural structure and contemporary policies have decidedly influenced the context of agricultural technology and production, which in turn has led to environmental problems of a first and second order. In fact, given the realities of the dominant economic milieu, policies discourage resource-conserving practices and in many cases such practices are not privately

<https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

profitable for farmers. So the expectation that a set of policy changes could be implemented for a renaissance of diversified or small scale farms may be unrealistic, because it negates the existence of scale in agriculture and ignores the political power of agribusiness corporations and current trends set forth by globalization. A more radical transformation of agriculture is needed, one guided by the notion that ecological change in agriculture cannot be promoted without comparable changes in the social, political, cultural and economic arenas that also conform agriculture. Dr Nafis Sadik Director of the United Nations Fund for Population Activities (UNFPA) did a research on Population growth and the food crisis and concluded that a country's ability to feed itself very much depends on three factors: availability of arable land, accessible water and population pressures. The more people there are, especially in poor countries with limited amounts of land and water, the fewer resources there are to meet basic needs. If basic needs cannot be met, development stalls and economies begin to unravel. In some poor countries, attempts to increase food production and consumption are undermined by rapid population growth; migration from rural to urban areas; unequal land distribution; shrinking landholdings; deepening rural poverty; and widespread land degradation. Lower birth rates, along with better management of land and water resources, are necessary to avert chronic food shortages. John C. Beghin, Jean-Christophe Bureau, and Sung Joon Park did a study on food security and agricultural protection in South Korea. They computed second-best distortions which minimize the welfare cost of meeting observed levels of self-sufficiency and production. They tried to show that food security via production targets and reliance on imports

would be more palatable to consumers and trade partners, while preserving income transfer to the farm sector. They recommended that members of the World Trade Organization who endorse food security should advocate deficiency payments for their agricultural production and open their borders. This strategy, which mirrors U. S. policy, would be much less antagonizing than strict self-sufficiency objectives for trade partners and more beneficial to consumers and small producers who are net buyers of food. Policy rents to farmers and landowners would be unaffected, which might help transition toward deficiency payments. Deficiency payments are therefore a defensible second-best policy if the constraint is food security. Darcy Victor Tetreault analyzed the three pathways out of rural poverty proposed by the World Bank in its 2008 World Development report (farming, labour and migration). He highlighted the proposals of independent peasant organizations which are argued to point towards an alternative pathway out of rural poverty and create favourable conditions for small-scale farming in Mexico. The objectives of the study were to find out if there has been a reduction in the incidence of income poverty in rural Mexico during the neoliberal era and, if so, what are the main contributing factors; to find out whether labour migration is the best pathway out of poverty, taking into consideration the labour conditions faced by rural migrants; To establish the extent fair trade and organic production represents a pathway out of poverty for Mexico's peasantry; to recommend policies that would make farming a more viable alternative for Mexico's rural poor to the Mexican government. The study found out that under neoliberal reforms, economic conditions had greatly deteriorated in Mexico's agricultural sector. Small-scale commercial

farmers had been especially hard hit with increased production costs with virtually no access to credit and lack of marketing support. Without jobs or commercial-farming opportunities in rural areas, peasants migrated en masse towards urban centers and to the United States. Migration implies many risks and sacrifices. Mexico's cities are over-saturated with families living in slums and working in the informal sector, and the US government is trying desperately to prevent more illegal immigrants from entering the country, making it progressively more dangerous to cross the border. Furthermore, once across the border, illegal immigrants face job insecurity and generally form part of the most marginalized segments of the US population. In the international level, the neoliberal agenda has created a situation in which a handful of large and powerful trans-national corporations (TNCs) have come to dominate the agricultural-inputs markets, food processing and supermarket chains. Under these conditions, there has been a sensational rise in the cost of fertilizers and seeds. Food prices have also skyrocketed, driven by a host of factors, including increased interest in biofuels, rising demand for beef and cereals in developing countries, and market speculation. The result is a global food crisis. The 2008 World Development Report promotes a continuation of the neoliberal policy agenda, with some modest proposals for reform. This agenda is geared towards strengthening the corporate food regime. In contrast, independent peasant and indigenous organizations have articulated demands and proposals designed to make small-scale farming the cornerstone of an integrated rural development strategy. Modern Agriculture and Its Benefits-Trends, Implications and Outlook by William C. Motes examines the benefits

of modern-day agriculture and thus understand the nature of farming, especially the modern advances that are both helping to better feed the world's people and better protect the environment. The purpose of the study is to help readers reach more fully informed views about agriculture, its needs, its objectives and the policies that should govern it. This paper found out that while the world can afford more optimism now than it could then, achieving the goals of a better-fed global population with fewer impoverished people, better protected resources and more effective strategies to deal with the changing climate is still an enormous challenge. It concludes that in spite of immense challenges, future technology needs are increasingly well understood so that with improved public understanding of the importance of these investments, global agriculture can reasonably expect to achieve the difficult objectives being established for the next 40 years. Miguel A. Altieri and Clara Ines Nicholls researched on ecological impacts of modern agriculture in the United States and Latin America. Funds for research on environmental risk assessment are very limited. The problem is that research at public institutions increasingly reflects the interest of private funders at the expense of good public research such as biological control, organic production systems and general agro ecological techniques. Civil society must request more research on alternatives to biotechnology by universities and other public organizations. There is also an urgent need to challenge the patent systems and intellectual property rights intrinsic to the WTO which not only provide multinational corporations with the right to seize and patent genetic resources but that will also accelerate the rate at which market forces already encourage monoculture cropping with genetically

uniform transgenic varieties. Based on history and ecological theory, it is not difficult to predict the negative impacts of such environmental simplification on the health of modern agriculture. Douglas Gollin from Williams College, Department of Economics (July 2009) did research on, agriculture as an engine of growth and poverty reduction: what we know and what we need to know, a framework paper for the African economic research consortium project on " understanding links between growth and poverty reduction in Africa". He did research that was aimed at answering the following questions; is agricultural growth necessary for economic growth and poverty reduction? Will investments in the agricultural sector have high social returns? If so, what kinds of investments are likely to have the highest payoffs? Are there important tradeoffs within the agricultural sector between growth and poverty reduction? Their research was done in some countries in Northern and Southern African countries including Kenya. They based their research on empirical evidence of the works of Adam Smith and Rostow who recognized that economic growth is accompanied by a sectoral transformation that leads to the movement of labor and other resources out of agriculture and into other activities. He concluded that since two thirds of Africa's population is involved in agriculture, significant growth in the agricultural sector will lead to growth in the economy and hence poverty reduction. This research was important as it highlighted the relationship between agriculture, economic growth and poverty reduction. It, however, left out important parts such as what kind of agriculture and how it should be implemented. His research was also limited by data as he relied on data from the World Bank and IMF only. He also did not explain what it entails to

have significant growth in the agricultural sector. Patrick O. Alila and Rosemary Atieno from Institute for Development Studies University of Nairobi did a research on agricultural policy in Kenya: issues and processes. They highlighted the different issues affecting the agricultural activities in Kenya and how they could be addressed. Among the issues were dependence on rain fed agriculture and lack of modernization of farming methods and proposed setting up policies to improve on this. They highlighted the role of different stakeholders in the initiation and implementation of development projects and links with the shift towards a strategic focus on wealth creation and poverty reduction through pro-poor growth. They insisted that success of any strategy in achieving its objectives depends on the structures that exist to facilitate its implementation. While this is true, their research was limited by data availability and also they did not go deeper to show how the modernization policies could be implemented and what exactly it entailed. James k. Nyoro and t. s. Jayne studied trends in regional agricultural productivity in Kenya. They focused on assessing the direction and magnitude of changes in agricultural productivity in Kenya in the last 25 years for five of the most important agricultural provinces in Kenya, with particular focus on the period since the initiation of agricultural policy adjustment in the 1990s. They also identify the major factors affecting changes in crop productivity and identified cost-effective strategies likely to promote future agricultural intensification and productivity growth in Kenya's crop sector in the post-reform period. In their study, they outlined that Kenya should adopt policy reforms that could induce technical change in agriculture. The polices adopted should solve the broader problems relating

to the generation, dissemination and adoption of new technologies and thus stimulate changes in crop mixes towards the production of high value crops. They further said that an increase in land and labour productivity is achieved due to crop mix and adequate research. The study outlined the various steps the government should undertake in order to embrace the trends in agriculture in order to improve productivity. This steps if implemented will greatly improve agricultural productivity. Their study was, however, limited to five provinces in Kenya and might not have brought out the actual data sets in the country. In the study " Intensive Farming, Agro-Diversity, and Food Security under Conditions of Extreme Population Pressure in Western Kenya" W. Thomas Conelly and Miriam S. Chaiken examined the impact of very high population densities and agricultural intensification on farm diversity and food security. They have suggested that intensification is likely to lead to crop specialization and a loss of diversity. Others, especially for Africa, have argued that intensification maintains or even increases agro-diversity. The case of Hamisi, in western Kenya, one of the most densely populated areas in all of rural Africa, supports the latter scenario. Farmers engage in a wide variety of sophisticated practices that maintain exceptionally high levels of agro-diversity. Their farming system includes complex patterns of intercropping, polyvariety, an emphasis on multi-purpose crops, and the close integration of crops and livestock. Despite this agro-diversity, we find that the intense population pressure in Hamisi has resulted in such small landholdings that diet quality and food security are seriously jeopardized. Despite the diversity of their farms, most families are highly dependent on market purchases and they consume very limited

quantities of nutritionally dense foods, especially protein. In the study of "Factors influencing the intensity of market participation by smallholder farmers: A case study of rural and peri-urban areas of Kenya", participation in commercial agriculture holds considerable potential for unlocking suitable opportunity sets necessary for providing better incomes and sustainable livelihoods for small-scale farmers. This study examined factors that influence the intensity of market participation among smallholder farmers in Kenya. Data was obtained through a rapid rural appraisal and a household survey. A truncated regression model was applied in the analysis. Results showed that farmers in peri-urban areas sold higher proportions of their output than those in rural areas. Distance from farm to point of sale is a major constraint to the intensity of market participation. Better output price and market information are key incentives for increased sales. These findings demonstrate the urgent need to strengthen market information delivery systems, upgrade roads in both rural and peri-urban areas, encourage market integration initiatives, and establish more retail outlets with improved market facilities in the remote rural villages in order to promote production and trade in high value commodities by rural farmers. (John M. Omiti, David Jakinda Otieno, Timothy O. Nyanamba and Ellen McCullough) In the study: Linking Farmers to Markets through Modern Information and Communication Technologies in Kenya, the paper highlights a market information and linkage system (MILS) developed and tested by the Kenya Agricultural Commodity Exchange Limited (KACE) that increases the efficiency of agricultural markets to work better for smallholder farmers and other small and medium sized agro-enterprises (SMEs). The MILS involves

harnessing modern information and communication technologies (ICTs) to empower farmers with low-cost reliable and timely market information to enhance the bargaining power of the farmer for a better price in the market place, and to link the farmer to markets more efficiently and profitably. The components of the KACE MILS are ([www. kacekenya. com](http://www.kacekenya.com)): Rural based Market Information Points (MIPs) which are information kiosks located in rural markets, District-level Market Information Centres (MICs), Mobile Phone Short Messaging Service (SMS), Interactive Voice Response (IVR), Internet based database system, rural FM radio and the Central Coordinating Hub in Nairobi. KACE has adopted a business approach to the provision of its services: users pay for the services. For instance it charges: placement fees per initial offer or bid (US\$ 1. 5-15), commissions on concluded deals (0. 5%-5%), subscriptions to price information recipients (US\$ 65 for 6 months or US\$ 125 for 12 months), fees to visiting foreign groups (US\$ 2, 000-5, 000/visit) and revenue sharing agreements with SMS and IVR service providers. When the KACE MILS services are scaled out and widely used by many farmers and SMEs across Kenya, the system will generate sufficient revenue to sustain its services without reliance on development partner funding. To enhance the financial sustainability of the MILS services further, KACE has recently initiated two innovations: franchising MIPs and MICs to local entrepreneurs, and establishing a virtual trading floor to improve the matching of offers and bids through a rural-based FM Radio program. A recent study of the impact of the KACE MILS concluded that the proportion of farmers and traders that say their incomes have increased and their bargaining positions have improved is very high (75% farmers and 60%

commodity traders). Furthermore, the study concluded that it was clear that during the years in which the KACE MILS has been operational, market integration improved for two commodities studied (i. e. maize and beans). This study also highlights the challenges faced by the KACE MILS, including poor infrastructure that imposes high transport costs to markets, high costs of mobile phone calls and SMS and small quantities of produce of varying quality offered. In the study, " Threats to Food Security and Common Agricultural Policy" with the main aims of the article being presented threats to food security in the context of the CAP after 2013. The main threats to food security are: world population growth, the increase demand for food, food price, the disappearance of the variety of agricultural plant species, the increase in the area of scarcity water and the limitation of the availability of land and the food losses and food waste. In the face of numerous threats to food security, the European Union needs a strong Common Agricultural Policy, which could succeed in feeding the constantly growing population of a world. The reformed Common Agricultural Policy should provide food security, not only for the European Union, but on a global scale. In a situation where the global population is growing, as is the global demand for food, the European Union, as the largest economy and the biggest assistance provider in the world, may help satisfy that demand. Therefore it is crucial to maintain and improve the agricultural production capability of the EU and, at the same time, respect the obligations of the European Union arising from international trade agreements and policy coherence for development. A strong agricultural sector is necessary for a competitive food industry. The agriculture of the European Union will not only have to provide more food,

but also improve food quality in conditions of aggravating climate changes (droughts, floods), the decreased availability of water and land, the disappearance of biodiversity, new plant and animal diseases, increasing speculation on the markets of agricultural resources, the growing disproportions in the rate of the natural population growth on the global scale and the growing requirements of consumers in the area of food safety and food security. The pursuit of higher quality constitutes an important element of the strategy of the agriculture and food sector of the EU on the global market, in order to maintain the high level of competitiveness. High-quality European food is the main principle of the agriculture of the European Union and plays a key role in the creation of the cultural identity of countries and regions. The priority of the Common Agricultural Policy should be the improvement in the efficiency of agriculture in the EU, while simultaneously improving environmental standards. In this manner the European Union will guarantee the food self-sufficiency and increase its input into global food security. In the study, " Wicked Problems in Sustainable Agriculture and Food Security, the TransForum Experience": Finding a way to manage the underlying nature of wickedness was the main challenge for the Dutch innovation program TransForum. For six years a diverse group of public and private organizations and businesses took up the challenge to develop new and more sustainable modes of agricultural production. The results were used to help develop over thirty new agricultural businesses in which different, mostly intangible values related to sustainable development were translated into tangible and marketable entities. The combination of deduction and induction in the TransForum program made it clear that there

is no blueprint for a single method to deal with wicked problems. This is in line with notion that wicked problems have no single solution and therefore cannot be solved, but must be managed. The deductive analysis of the elements of the innovation process revealed that setting up different action perspectives based on the different underlying values can help to kick-off managing the wickedness of the underlying conflicts. Combined with the recognition that innovation calls for hard- soft- and 'orgware' renewal and those different strategies can be used to translate sustainable development into business characteristics, the challenge for setting up an effective innovation process becomes clear. The inductive development of a set of principles and a more general applicable Value Mediation Method underlines the need for structured process architecture. The application in some thirty projects has shown that a significant higher success rate emerges if the principles are applied systematically. It is also became clear that this mode of operation is overkill in situations where the underlying conflicts are solvable, or in other words, when it becomes clear that no wicked problem is hiding under the surface. Six years of experience in the TransForum program shows that principles and structured processes help to address wicked problems and realize tangible steps into the direction of sustainable development. The TransForum model can be used as a guideline for further refining modes of operation to manage wicked problems in agriculture (van Latesteijn and Andeweg 2010). At present the Value Mediation Method is available as a practical tool to address new challenges. However, more experience and theoretical insight has to be built up in combining analytical

insights from inductive analyses with deductive understanding of dealing complexity and wickedness in real life situations.

CHAPTER 3

3. 0 RESEARCH DESIGN AND METHODOLOGY

3. 1 Conceptual Framework

Conceptual framework is a schematic presentation which identifies the variables that when put together explain the issue of concern. The conceptual framework is therefore the set of broad ideas used to explain the relationship between the independent variables (factors) and the dependent variables (outcome). Conceptual framework provides the link between the research title, the objectives, the study methodology and the literature review (Coulthard, 2004). This study will adopt some concepts generated by agricultural theories and models and conceptualize them in framework explaining the relationship between (the independent variables-factors) such as with land reclamation, adequate use of modern methods of research, irrigation in arid and semi arid areas, use of modern agricultural technology such as green houses, mechanization of farming and inclusive policy formulation and implementation and the dependent variables (outcome) as shown in the schematic figure below.

Figure: conceptual framework

3. 2 Analytical framework

$Y = \alpha + \beta_1X_1 + \beta_1X_2 + \beta_1X_3 + \beta_1X_4 + + \beta_2X_5 + \beta_2X_6 + \mu$ Where: $\alpha =$

Constant Term
 $\beta_1 =$ Beta Coefficients
 $X_1 =$ land reclaimed and used for agricultural activities
 $X_2 =$ the level of research carried out by Kenya

<https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

Agricultural Research Institute (KARI)X3 = the amount of land under irrigationX4 = adoption of modern farming methodsX5 = the level of mechanization in farmingX6 = level of policy implementation μ = error term

3. 3 Expected Output

The study will expect to establish effects of application of modern farming methods on food security of residents and the extent to which it influences poverty levels.

3. 4 Research design

3. 4. 1 Sample size

This study will adopt stratified random sampling. The counties in Kenya will be grouped into 3 strata according to food security status and poverty levels as per data acquired from Kenya National Bureau of Statics (KNBS).

According to Bartlett, et. Al (2001) the size of the sample depends upon the precision the researcher desires in estimating the population parameter at a particular confidence level hence there is no single rule that can be used to determine sample size. This sample size is considered representative and comprehensive in the coverage of the study objectives and economical in terms of time and money. The sample size was derived as follows: From each of the three strata, this study will use simple random sampling technique to select a sample size of 2. This will make the total sample size to be equal to 6.

3. 4. 2 Sampling technique

The study will adopt simple random sampling to select 6 counties as case studies. From the study population of 47 counties in the country, 6 counties

<https://assignbuster.com/role-of-agriculture-in-the-economy-economics-essay/>

will be sampled through simple random sampling technique. This will be deemed fit for data collection which will help in achieving the study objectives (Mugenda and Mugenda, 2003).

3. 5 Data collection method

The project will adopt raw secondary data acquired from the ministry of agriculture, government projects such as Kenya National Agriculture Research Project (NARP) and Sustainable Agriculture Community Programme (SACDEP), Kenya Agricultural Research Institute (KARI), Kenya National Bureau of Statistics (KNBS), annual reports and journals. Secondary data is the data collected by someone other than the user through qualitative methodologies or qualitative research. It saves time that would otherwise be spent collecting data. Secondary data also provides larger and higher quality data bases that would be unfeasible for any researcher to collect on their own. (Bishop L. 2007).

3. 6 Expected limitations

It is expected that the study will be time consuming because it will use secondary data counties. It is also expected that there will be money constraint because the study will incur expenses for instance printing costs, internet time and purchasing econometric software in this case STATA.