

**A STUDY ON SOCIO ECONOMIC IMPACT OF
PUBLIC SPENDING ON AGRICULTURE SECTOR:
A COMPARATIVE STUDY OF INDIA AND
TANZANIA GOVERNMENTS**

SYNOPSIS

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ABSTRACT

Agriculture is among the largest and most important sectors that deserves attentive public investment for economic growth and poverty reduction in terms of shares of GDP, capital and employment creation, food and nutritional security. According to the World Bank the GDP growth originating in agriculture is about four times more effective in reducing poverty than GDP growth of other sectors and it can help reduce poverty for 78 percent of the world's poor, living in rural areas mainly farmers. Agriculture is a crosscutting process incorporating various sub-processes from land tilling up to delivery of farm produce to the final consumer, and so being restrained by vagaries of weather, pests, marketing and infrastructure. The best farm outcomes are expected only if all necessary facilities are in place. Thus, the sector has not developed without comprehensive long term public strategy and investments. Public spending on any sector serves as the instrument for promoting growth and poverty reduction. Research indicates that a ten percent increase in the instability of total government spending on the agricultural sector causes, on average, a 0.36 percent decline in agricultural growth but a one percent change in agricultural expenditure as a share of GDP produces a 0.43 percent reduction in poverty. It is the primary responsibility of the government to ensure general economic growth of the respective country and its individual sectors through public investment. However, agriculture has historically been a low considered in the case study countries with low investment compared to its contributions to the national GDP. The budgetary allocation trends to the sector have remained below 10 percent of total government expenditure. Still such meager resources allocated to the sector have not been managed properly for its effective growth. Instead, it has been used as seepage of public resources for extravagant expenses. Despite their lower hunger indexes score, the number of hungry people is still high and unacceptable. There exists a wide gap between the governments' nominal information about resources injected to the sector, provision of necessary support of essential supplies to stakeholders for sector growth and the real stakeholders' outcry at the respective fields. Unless the respective governments pay attentive consideration to the sector from funding to proper management of such funds and other resources, it may take some decades for the sector stakeholders to realize the economic benefits from public investment to the sector. There should be a fine bond between the public and private sectors with clear policies with minimum restrictions, taxes and rules to cheer private stakeholders to invest into the sector.

1. BRIEF DESCRIPTION ON THE RESEARCH TOPIC

1.1 Introduction

There have been economic policy debates on public spending about how much should governments spend, on what, and for what development expectations. Both agriculture and public spending are important aspects for sustainable development, economic growth and poverty reduction in most of the developing countries. Agriculture is the largest sector in terms of shares of GDP, employment creation, food and nutritional security and economic growth respectively. Majorities of the world's poor live in rural areas and depend on the sector for their livelihood. It is a crosscutting process that incorporates various sub-processes from land tilling up to delivery of farm produce to the final consumer. Therefore the best farm outcome is only expected if all of necessary factors or facilities will be appropriately and adequately supplied to a particular farmer.

1.2 Rationale of the study

About 99 percent of the world's population cannot pass a single day without consuming at least one agricultural related product be it directly or indirect in their normal daily activities. The agriculture sector plays a fundamental role of sustaining the majority of the world's rural population livelihood through provision of their basic foodstuff and employment which in turn stimulate the economic growth, poverty reduction and improve food and nutrition security not only to individual countries but globally. In agriculture based economy countries it assumes a great role into their GDPs. Several research show agriculture contributes an average of about 28 to 30 percent of their national GDP leaving the rest 70 percent being shared among other sectors. It also provides employment to their population – ranging between 60 and 85 percent through farming and its allied activities. Most of the manufacturing industries (e.g. gametes, cigarette, furniture, tires, papers, medicines and medical equipment, etc) depend mostly on the sector for their raw materials. Research shows about 38 percent of all commodity inputs for manufacturing industries are originated from agriculture sector. On the other hand modern farming demands advanced farming equipments and goods viz. farming kits, processing and packaging machines and distribution equipments and agrochemicals – fertilizers and pesticides all of which come from manufacturing industries. It therefore provides a reliable market of industrial products.

Both of the case study countries are termed as the developing countries and share some common aspects in relation to agriculture including:

- (a) Both are agricultural based economy countries with the sector providing employment to about 70 – 80 percent of their work forces respectively.
- (b) Agriculture is the main source of livelihood to their rural population with about 65 to 80 percent of their rural poor living in rural areas and depending on the sector for their livelihood through: (i) Provision of subsistence (food, nutrition) to over 2/3 of the workforce; (ii) Local income generation; and (iii) Foreign exchange
- (c) The sector is the main source of raw materials to manufacturing industries within both countries with more than 38 percent of all commodity inputs to manufacturing industries coming from agriculture.
- (d) Agriculture is the largest sector within the countries with high percentage of contribution to their GDP (about 28 – 30 percent)
- (e) Most of their areas receive at least one rainy season a year, and they share some climatic (tropical) conditions
- (f) They all grow some common crops for both food grains and cash (coffee, cotton, rice, wheat, banana, potatoes, onions, sugar cane, ginger, tea, tomatoes, etc).
- (g) Customary land ownership laws and average agricultural land sizes owned by smallholder agriculturalists within both countries are nearly equal.
- (h) Government behaviors on financing the sector have relatively been almost the same for the last ten years.

1.3 Reasons for government to invest on agriculture sector

It is the duty of the government to ensure general economic stability and individual sectors (agriculture for this particular study) growth through effective use of available resources in order to alleviate poverty. This was highlighted by different intellectual s viz. Bandow (1997), Campbell (2009), Seth (2016), Axelrad (2014), and Hartwich, & Jansen (2007) though in different ways.

Agricultural spending generally has the highest positive effects on growth and poverty reduction. Several studies (Desai 2012; Mashindano et al. 2011; World Bank 2015; Singh 2011; and Kulakarni 2013) have categorized the sector as the major factor for development – particularly in the developing countries through different ways. In many cases government spending on agriculture has contributed substantially to employment, agricultural productivity, rural household income and consumption, food and nutrition security, export earning and land development - hence poverty reduction. Increased public investments especially in agricultural research, rural infrastructure and education will promote agricultural growth. Agricultural growth is the primary source of poverty reduction in most agriculture-based economies. However, to achieve this there should be deliberate efforts and methods by respective governments. Public spending on either sector serves as an engine for economical growth and poverty reduction. Several studies (Cleaver 2013; Diao 2010; Fan and Saurkar 2012; Dewan and Ettliger 2009; Mogues et al 2012; and Fan et al, 2009) have proven the importance of public spending on agriculture sector. Fan et al, 2009 found that public spending is one of the most direct and effective instruments that governments can use to promote agricultural growth and poverty reduction. According to Mogues et al (2012) there are significant potential and observable effects on health and nutrition resulting from agricultural public investments viz. (i) increased production for self-consumption, in the case of subsistence farmers; (ii) reduced (low) prices for net buyers of food (Fan & Breisinger 2011); and (iii) increased marketable output for agricultural producers who sell whole or part of their output, resulting from increased agricultural productivity which then ensures food access, better nutrition through greater calorie consumption and gains in dietary diversity and improved health and access to health services. Dewan and Ettliger (2009) found that public spending serves an important function in pursuing economic growth objectives while ensuring that gains are widely distributed to promote broad-based increases in living standards.

According to Cleaver, (2013), an act by the government to stimulate agriculture at scale pays off by increasing food production and rural incomes. This means ample government commitment and enduring policies are a must. It was warned by Diao (2010) that agriculture sector has not developed without a comprehensive long term strategy and public investments. Chilonda et al (2009) emphasized investments in core public goods - science, infrastructure, and human capital - combined with better policies and institutions as the major drivers of agricultural productivity growth. It was found by Mogues (2012) that a 10 percent increase in the instability of total government spending on the agricultural sector causes, on average, a 0.36 percent decline in agricultural growth but a 1 percent change in agricultural expenditure as a share of GDP produces a 0.43 percent reduction in poverty. It was further stated by Ravallion, (2001) that a rise in average household income by one percent leads to a fall in the poverty rates by about doubled percent on average. Both the FANRPAN and Fan et al, (2009) insisted that promoting higher agricultural growth is a key factor in reducing poverty and promoting overall economic growth. Fan et al, (2012) found that agricultural spending, education, and roads contributed strongly to agricultural growth. They further narrated that agricultural research spending had a larger productivity enhancing impact than non-research spending. Thus, for rapid economic growth public agricultural investment is an inevitable song into development stakeholders' ears especially developing countries including the case study. Research shows that investing in agriculture has positive results not only to the sector itself but also to other sectors. According to Mogues (2012) agricultural investments also have indirect benefits to almost all other nonagricultural sectors.

However, the sector is still facing a collection of obstructions within both developed and developing countries viz. insufficient funds, lack of political will, fraudulent practices by some of government employees, lack of expertise and insufficient appropriate information. Studies indicate that some countries are willing to invest in the sector but they face a problem of inadequate and pertinent particulars. As governments work to increase agricultural spending and enhance the sector growth, they face a paucity of information about which types of public investments contribute the most to development goals and how meager resources should be allocated among several concerns. With reference to Fan, et al (2009) in some cases some countries have clear principles on how to prioritize their scarce public resources, but they often lack the information needed to put them into functions.

2. DEFINITION OF THE PROBLEM

Agriculture is among the largest and most important sectors for economic growth and poverty reduction in most of the developing countries in terms of shares of GDP, employment creation, food and nutritional security. However, agriculture sector has historically received less attention from most of the developing countries in terms of public investment which is regarded as an important function in pursuing the sector and general economic growth objectives. In view of this I decided to assess the relationship between the two parameters agriculture sector and the public investment through a comparative case study within two countries - India and Tanzania respectively.

3. OBJECTIVES, HYPOTHESES AND SCOPE OF THE STUDY

3.1 Objectives of the Study

This study aimed to assess the relationship between the public investments on agriculture sector pertinent to its contribution to the economic growth of the respective case study countries.

The primary objective of the study was to understand the economic benefits resulting from injection of public resources on agriculture sector by the governments of the respective case study countries.

The Secondary Objectives included the following:

1. To ascertain the role and responsibilities of government on agricultural development.
2. To ascertain the government exertion on proper management of public resources allocated to the sector.
3. To analyze the trends of disbursement of budgeted and approved funds to the agriculture sector from central government.
4. To analyze the trends of budget allocation to agriculture sector and the current percentage of agriculture funding as a part of total annual budget.
5. To evaluate the general trends of public investment to the sector pertinent to its respective contributions to the national GDPs for the last ten years.

6. To ascertain the level of government support to agricultural stakeholders in all steps of crop farming cycle until the farm produce reaches the final consumer.
7. To evaluate the level of agricultural stakeholders satisfaction with government support to promote the sector growth and improve their economy through farming.
8. To identify the problems faced in agricultural public spending by the case study countries and suggest way forward for improving public spending on agriculture sector.

3.2 Hypotheses of the Study

For primary objective:

H₀: There is no correlation between public investment and agriculture development.

H₁: There is a correlation between public investment and agriculture development.

For secondary objective:

H₁: Government does not play significant role in the agriculture development.

H₂: The governments have not managed properly public resources allocated to the sector for its effective growth.

H₃: The budgeted and approved funds for agriculture sector have not been disbursed accordingly from central government.

H₄: There is no correlation between budgetary allocation trends and government commitment to promote the sector growth.

H₅: Public investment trends to the sector have not considered its respective contributions to the national GDPs.

H₆: The government has not devoted appropriate support to agricultural stakeholders in all steps of farming cycle to improve their individual economy and the whole sector growth.

H₇: Agricultural stakeholders were not satisfied with government support to agriculture activities for improving their individual economy and the whole sector growth.

H₈: There are no problems faced by the government pertaining to agricultural public investment.

3.3 Scope Of The Study

The term agriculture is a wide concept and covers a variety of activities varying from one region to another depending on nature of both geography and the society and economic activities.

For the purpose of this thesis, agriculture refers to crop farming. This means the study focuses on public investment on agriculture sector particularly crop farming only - food grains and horticulture by the respective governments of the case study countries. Therefore, agricultural allied activities such as animal husbandry, agro forestry, fishing, aquaculture, sericulture, etc and heavy investment on basic infrastructure such as telecommunication, industries, transportation, etc were not incorporated within this study. It was conducted within Tanzania and the selected states of India as a comparative case study.

4. ORIGINAL CONTRIBUTION BY THE THESIS

This research was conducted as a comparative case study of the governments of the two countries of India and Tanzania aiming to gauge the economic relationship between public investment and the agriculture sector. The following is a summary of the original contribution of the thesis:

- The linkage between public investment and agriculture sector together with the role and responsibilities of the respective governments for the sector growth has been ascertained clearly within this thesis with clear contribution of the agriculture sector to the national GDP within the respective case study countries. This will help respective governments and other respective regions country members to meet their responsibilities by distributing public investment to various sectors based on their contributions to the national GDP respectively.
- Previous trends of budgetary allocation and management of public resources allocated to the sector have been ascertained in this thesis. It will help the respective governments to allocate such meager resources disbursed to the sector for important activities or aspects which have direct impacts to both individual stakeholders and the government as a whole by exerting proper discipline on management of public resources allocated to the sector for effective growth outcomes.

- The thesis has ascertained a great gap between the nominal information about different aspects relevant to the sector growth from the respective governments and/or institutions and the actual situations at the field levels this attracts attention of a committed government to assess the causes of such difference and address them accordingly. It will help the respective governments to get rid of desk work and go to the field for ascertaining actual situations of stake holders of the sector.
- Farmers' outcries on the missing basic services that are deemed to be the primary responsibilities of respective governments pertaining to the sector growth together with causes of success and/or failure of either of the case study countries in some aspects relevant to the sector development have been identified within this thesis. If observed attentively will help the respective case study countries to promote growth of individual stakeholders and the whole sector in a prosperity way.
- Problems faced by stakeholders in agricultural public spending from an individual stakeholder to the institutional level were clearly identified within the case study. When considered properly will help the respective governments to spend public resources in a cost effective way.

Generally, results of this thesis are useful to case study countries and their respective regions country members by assessing themselves about their performances compared to both the world and their regional standards, hence addressing all identified anomalies for effective growth of their individual stakeholders and the sector as a whole.

5. RESEARCH METHODOLOGY

Research methodology is an important aspect of any research work as it provides a clear path to go through from the stage of developing the study up to data analysis. With clear research methods, it becomes easier for a researcher choose the appropriate data collection methods and techniques, population size and sampling methods that finally will help to come out with conclusion and relevant recommendations.

5.1 Research Design

With this particular study, the research was structured, designed as a comparative exploratory single case study to allow a variety of data collection within the selected areas and government institutions within the two case study countries. Both qualitative and quantitative techniques were adopted.

5.2 Targeted Population

The targeted populations for this study were rural population and government officials from different institutions ranging from local government to central government from the selected states in India and regions in Tanzania respectively. The targeted groups were farmers especially small size farmers and peasants who were sought to be major beneficiaries of public spending on agriculture sector from both of the case study countries.

5.3 Sample Size

The total sample size for this study was 1,320 with an average of 660 respondents from each case study country..

5.4 Sources of Data

Both primary and secondary data sources weighted equally. Secondary data were collected from respective government institutions, circulars and websites of both of the case study countries respectively and other reliable international institutions. Primary data were collected from respective selected rural population through individual beneficiaries particularly farmers and non farmers civilians within the case study countries from respective prospected beneficiaries.

5.5 Data collection Tools

Printed questionnaires in respective local languages and personal interviews were the main data collection tools respectively.

5.6 Research gap

Several previous studies by different academicians and intellectuals have been focussing on either of the two parameters - agriculture sector and public spending by indicating their importance to the economy of the respective nation or state. This research aimed to assess the socio economic benefits resulting from public investment to agriculture sector by the governments of the two countries - India and Tanzania by considering the important indicators relevant to the growth of the sector. In other words there has been developed a great research

gap due to various factors ranging from the purposes of the research, methodologies used, coverage, and scope of the study, parameters and variables considered during the research.

6. DATA ANALYSIS

6.1 Introduction

The business dictionary has defined it as the process of evaluating data using analytical and logical reasoning to examine each component of the data provided. Data from various sources is gathered, reviewed then analyzed to form some sort of finding or conclusion. Data analysis encompasses of different activities from data processing up to testing of hypotheses.

6.2 Statistical Analysis Tools used

To accomplish this process in a meaningful way for a sound conclusion, statistical analysis tools assume a major role. For this particular study, IBM SPSS Statistics version 20 was applied as the major tool. For processing, tabulation and graphical presentation of data MS Excel (Spreadsheets) was applied. Both qualitative and quantitative data analyses were used. The research hypotheses were confirmed by using different tools including Chi-Square, Mann—Whitney Test and Kruskal-Wallis Test analysis.

6.3 Findings from Data Analysis

Respective findings from the analysis of the primary data were used to draw out the research conclusion according to the identified research objectives.

7. RESULTS WITH RESPECT TO THE RESEARCH OBJECTIVES

The study had one main objective and seven secondary or sub-objectives. All objectives of the study have been achieved successively through different means ranging from literatures of economic theories, secondary and primary data that were analyzed using scientific tools.

The primary objective of the study was to ascertain the economic benefits resulting from injection of public resources on agriculture sector by the governments of the respective case study countries.

- It has been proved from the literature of the economic theories that there is a positive correlation between public investment and agriculture sector growth and poverty reduction.

In many cases government spending on agriculture has contributed substantially to employment, agricultural productivity, rural household income and consumption, food supply, export earning, land development and value addition - hence poverty reduction.

- An act by the government to stimulate agriculture at scale pays off by increasing food production and rural incomes. According to the World Bank the GDP growth originating from agriculture is about four times more effective in reducing poverty than GDP growth of other sectors and it can help reduce poverty for 78 percent of the world's poor, who live in rural areas and work mainly in farming.
- A ten percent increase in the instability of total government spending on the agricultural sector causes, on average, a 0.36 percent decline in agricultural growth but a one percent change in agricultural expenditure as a share of GDP produces a 0.43 percent reduction in poverty.
- Not only public agricultural investments benefit the sector but also have indirect effects to almost all other nonagricultural sectors. Also spending into some other sector has an effect to the sector as it was found by Fan et al, (2012) that agricultural spending, education, and roads contributed strongly to agricultural growth.

The secondary objectives of the study were also achieved as summarized hereunder:

- It has clearly been revealed to whom does the primary role and responsibility for development of the agriculture sector rests to.
- Trends of budget allocation and disbursement of budgeted and approved funds to the agriculture sector have been ascertained.
- Trends of public investment to the sector pertinent to its respective contributions to the national GDPs have been ascertained.
- All government nominal information has been compared with actual situations at respective fields and the currently existing gaps have been identified.
- The level of government support to agricultural stakeholders in all aspects and the level of stakeholder's satisfaction with government support have been ascertained

8. CONCLUSION

Results show that there is a positive correlation between public investment and agricultural growth and poverty reduction. Agriculture sector was categorized as the major factor for sustainable development – particularly in the developing countries. It was ascertained that the primary role and responsibility to ensure economic stability and individual sector growth through full employment of resources for poverty reduction rests to the respective government. However, agriculture has historically remained a low considered sector in most of developing regions and received low investment compared to its vital contributions to the national GDP.

Findings revealed lack of both deliberate plans and policies to promote the sector and management of resources allocated to the sector for its effective growth. The proportion of budgetary allocation trends to the sector compared to total government expenditure has remained as low as 7 percent for more than ten years. Not all budgeted and approved funds to the sector could be disbursed from central governments respectively. The sector has been used as seepage where huge amounts of meager resources allocated to it were used by a few in offices for non development activities. Most of the nominal information provided by the governments about availability and/or provision of necessary support to stakeholders differed largely from the real situations at the respective fields. Those a few services provided to stakeholders could not satisfy majority of the respective prospective beneficiaries. Unless the respective governments pay attentive consideration to the sector starting from funding t proper management of such funds and/or other resources allocated to the sector, it may take some decades more for the sector stakeholders to realize the socio economic benefits of public investment to the agriculture sector.

9. LIST OF PUBLISHED PAPERS

	Title of the paper	Book/ Journal	Affiliated Institute	Year & Vol.
Papers Published in International Referred Journals				
1.	Agricultural Marketing; Are governments Truly Committed to promote Small-Scale Farmers? A case study of Gujarat State – India and Morogoro Region in Tanzania	IJRESS	Euro Asia – Research and Development Institute, ISSN: 2249-7382	Nov; 2017 Vol.7, No. 11, (pp. 376 – 397)
2.	A study on Women Access to Landholdings for Agriculture Activities; The case study of Gujarat State in India and Mbeya Region in Tanzania	Asian Agri-History Foundation Journal	Asian Agri-History Foundation, ISSN: 09717730	June 2017, Vol. 21 (3) (pp163 – 180)
Papers Published in International Conference Proceedings				
3.	Post harvest losses; A Major Obstruction to Agribusiness for Small Holders of Agriculture Sector in Developing Countries; The case study of Gujarat State in India and Tanga Region in Tanzania	Twelfth biennial conference on entrepreneurship	Entrepreneurship Development Institute of India EDII, Ahmedabad Gujarat and Bookwell Dheli, ISBN: 978-93-80574-93-6	Feb; 2017
4.	Are the Constitutional Provisions of the Supreme Audit Institutions Independence Shielded? An analysis of the India and Tanzania National Audit Offices	2 nd International Conference on Corporate Governance: Contemporary Issues & Challenges in Indian Economic Environment	Gujarat Technological University, ISBN 978-93-5122-000-8	March, 2014 (pp156-166)
5.	The Role and Challenges of SAIs on Public Financial Management and Good Governance: An Analysis of Tanzania and India National Audit Offices	International Conference on "Management of Globalized Business; Emerging perspective"	Marwadi Education Foundation's Group of Institutions, Rajkot ISBN: 978-1-63266-982-7	Feb; 2014

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