Technical Efficiency Of Rice Farming And Its Determinants

This study analyzed the financing gaps relative to production frontier of rice farmers in Southwestern Nigeria. A multistage sampling technique was used to collect cross sectional data from 360 rice farmers selected from three States in the region. A Cobb-Douglas stochastic frontier and an adapted form of Harrod-Domar (HD) Growth model was employed to determine the financing gap required for the farmers to be at the frontier level. The empirical results of the frontier model show that quantity of labor, quantity of rice as planting material and herbicides were statistically significant in explaining the variations in the efficiency of rice production in Nigeria. However, age, gender, farming experience, household size, access to credit, access to information, adoption of improved variety and location of rice farmers as sources of technical inefficiencies. As revealed by the result of the HD growth model, the average amount of credit per season that farmers had access to was, $38,630.56 while the mean financing in the form of credit required to produce at the frontier level was $193,626.50, showing a financing shortfall of about 80%. As unravelled by the result of the study, it can thus be concluded that technical efficiency of rice farmers can be improved by improving access to timely credit and agricultural information for improving rice productivity. These findings suggest that filling the financing gap of smallholder rice farmers will improve rice productivity in Nigeria. The study, therefore, recommends that strengthening the existing technology by building farmers’ capacity on farm management practices would be surest means of improving rice productivity growth in Nigeria. This would not only contribute to the intensification of rice production in Nigeria to meet its increasing rice demand, but also improve rice farmers’ productivity and their households’ incomes.

Cambodia has a potential advantage in agricultural production due to significant amounts of fertile land and high levels of agricultural employment, but rice production and commercialization remain well below potential. This study uses a farm investment climate assessment to provide evidence on key areas where government investments and policy reforms can lead to higher levels of rice production and commercialization in small farms. Improving output markets through domestic milling and increasing the area irrigated are found to be related to increased production efficiency, commercialization, rice sold, and value of sales.

Rice Production in Cambodia

Int. Rice Res. Inst.

Debates about public expenditure in the agricultural sector have reopened in many developing and emerging economies because of high budget deficits and changes in public opinion. As a result, agricultural policy in many of these countries is beginning to take a more market-oriented approach to agrarian
problems, most notably through the introduction of contract farming. This book explores the policy issues around contract farming and its transformative potential and addresses the lack of empirical research on this topic by focusing on South Asia: principally India, Bangladesh and Nepal. The book first addresses the effects of contract farming (vertical coordination) on productivity, food security indicators (yield, consumption expenditures, prices), employment and input usage. Then it draws lessons from the South Asian case studies on the impact of institutional changes, like contract farming, on income and food security of smallholder households. The core of the book includes case study chapters on several commodities that are produced under contract farming, including vegetables and fisheries in Bangladesh, low-value crops in Nepal and coffee in India. Other chapters also explore contracts, storage, input usage and technical efficiency in these cases. This book serves as an essential guide to academics, researchers, students, legislative liaisons and think tank groups interested in agrarian issues, agricultural economics and agricultural policy in emerging economies and particularly in South Asia.

Modern textbook presentations of production economics typically treat producers as successful optimizers. Conventional econometric practice has generally followed this paradigm, and least squares based regression techniques have been used to estimate production, cost, profit and other functions. In such a framework deviations from maximum output, from minimum cost and cost minimizing input demands, and from maximum profit and profit maximizing output supplies and input demands, are attributed exclusively to random statistical noise. However, casual empiricism and the business press both make persuasive cases for the argument that, although producers may indeed attempt to optimize, they do not always succeed. This book develops econometric techniques for the estimation of production, cost and profit frontiers, and for the estimation of the technical and economic efficiency with which producers approach these frontiers. Since these frontiers envelop rather than intersect the data, and since the authors continue to maintain the traditional econometric belief in the presence of external forces contributing to random statistical noise, the work is titled Stochastic Frontier Analysis.

Agricultural Statistics is published each year to meet the diverse need for a reliable reference book on agricultural production, supplies, consumption, facilities, costs, and returns. Its tables of annual data cover a wide variety of facts in forms suited to most common use. Professionals in the following fields to include farmers, ranchers, soil conservationists, surveyors, agricultural economist consultants, livestock manufacturers, livestock feedlot operators, food distributors, animal scientists, food chemists, food brokers, farm and land appraisers, statistical professionals, economists, (and more) may have the greatest interest in this volume. Additionally, students pursuing coursework in food science and agribusiness coursework may have an interest in this reference for completing term papers and other assignments. In this volume, you will find foreign agricultural trade statistics that include Government as well as non-Government shipments of merchandise from the United States and Territories to foreign countries. They do not include U.S. shipments to the U.S. Armed Forces abroad for their own use or shipments between the States and U.S. Territories. The world summaries of production
and trade of major farm products are prepared by the U.S. Department of Agriculture from reports of the U.S. Department of Commerce, official statistics of foreign governments, other foreign source materials, reports of U.S. Agricultural Attache and Foreign Service Officers, and the result of office research. Statistics presented in many of the tables represent actual counts of the items covered. Most of the statistics relating to foreign trade and to Government programs, such as numbers and amounts of loans made to farmers, and amounts of loans made by the Commodity Credit Corporation, etc., are data of this type. A large number of other tables, however, contain data that are estimates made by the Department of Agriculture. The estimates for crops, livestock, and poultry made by the U.S. Department of Agriculture are prepared mainly to give timely current State and national totals and averages. They are based on data obtained by sample surveys of farmers and of people who do business with farmers. The survey data are supplemented by information from the Censuses of Agriculture taken every five years and check data from various sources. Being estimates, they are subject to revision as more data become available from commercial or Government sources. Unless otherwise indicated, the totals for the United States shown in the various tables on area, production, numbers, price, value, supplies, and disposition are based on official Department estimates. They exclude States for which no official estimates are compiled. Extensive table data include statistics of the following: - Statistics of Grain and Feed - Cotton, Tobacco, Sugar Crops, and Honey - Oilseeds, Fats, and Oils - Vegetables and Melons - Hay, Seeds, and Minor Field Crops - Cattle, Hogs, and Sheep - Dairy and Poultry - Insurance, Credit & Cooperatives - Agricultural Conservation & Forestry - Consumption & Family Living - Fertilizers & Pesticides - Miscellaneous Agricultural Statistics such as Foreign Agricultural Trade Statistics including exports, fisheries and more. NOTE: This annual product is available as a standing order -- To sign up for a standing order on this volume -- please call GPO Contact Center at 1-866-512-1800 and provide the ZAS Standing Order Code for this publication. Other related products: Agriculture & Farming resources collection can be found here: https://bookstore.gpo.gov/catalog/science-technology/agriculture-farming Running a Food Hub: A Business Operations Guide, V. 2 can be found here: https://bookstore.gpo.gov/products/sku/001-000-04766-3 Keys to Soil Taxonomy 2014 can be found here: https://bookstore.gpo.gov/products/sku/001-000-44443-9?ctid=188 Profitable Farms and Woodlands: A Practical Guide in Agroforestry for Landowners, Farmers, and Ranchers (ePub eBook) can be found here: https://bookstore.gpo.gov/products/sku/999-000-44443-9?ctid=188: Keywords: Farming, Agriculture, Agricultural Statistics, 2014 Agricultural Statistics, Agricultural Production, Agricultural Consumption, Agricultural Economics Other related products: Running a Food Hub: A Business Operations Guide, V. 2 can be found here: https://bookstore.gpo.gov/products/sku/001-000-44443-9?ctid=188 Keys to Soil Taxonomy 2014 can be found here: https://bookstore.gpo.gov/products/sku/001-000-04766-3 Keys to Soil Taxonomy 2014 can be found here: https://bookstore.gpo.gov/products/sku/001-000-44443-9?ctid=188 Profitable Farms and Woodlands: A Practical Guide in Agroforestry for Landowners, Farmers, and Ranchers (ePub eBook) can be found here: https://bookstore.gpo.gov/products/sku/999-000-44443-9?ctid=188 Study conducted in the Birbhum District, West Bengal, India.

Efficiency is a very important factor for measuring productivity. In an economy where resources are scarce and the opportunities to use new technologies are limited, inefficiency studies indicate the potential possibility to raise productivity by improving efficiency without developing new technologies or increasing the resource base. the objective of this study is to analyze the technical efficiencies of small scale rain-red and irrigated rice production in Adamawa State, Nigeria.

Agricultural Productivity in Africa: Trends, Patterns, and Determinants presents updated and new analyses of land, labor, and total productivity trends in African agriculture. It brings together analyses of a unique mix of data sources and evaluations of public policies and
development projects to recommend ways to increase agricultural productivity in Africa. This book is timely in light of the recent and ongoing growth recovery across the continent. The good news is that agricultural productivity in Africa increased at a moderate rate between 1961 and 2012, although there are variations in the rate of growth in land, labor, and total factor productivities depending on country and region. Differences in input use and capital intensities in agricultural production in the various farming systems and agricultural productivity zones also affect advancements in technology. One conclusion based on the book’s research findings derives from the substantial spatial variation in agricultural productivity. For areas with similar agricultural productivity growth trends and factors, what works well in one area can be used as the basis for formulating best-fit, location-specific agricultural policies, investments, and interventions in similar areas. This finding along with others will be of particular interest to policy- and decisionmakers.

Although a large literature highlights the impact of personality traits on key labor market outcomes, evidence of their impact on agricultural production decisions remains limited. Data from 1,200 Ghanaian rice farmers suggest that noncognitive skills (polychronicity, work centrality, and optimism) significantly affect simple adoption decisions, returns from adoption, and technical efficiency in rice production, and that the size of the estimated impacts exceeds that of traditional human capital measures. Greater focus on personality traits relative to cognitive skills may help accelerate innovation diffusion in the short term, and help farmers to respond flexibly to new opportunities and risks in the longer term.

The study estimated profitability, technical, allocative and economic efficiencies; determined resource-use efficiency and the determinants of technical efficiency in rain-fed upland rice production in Osun and Oyo States of Nigeria. Data obtained were analyzed using descriptive statistics, gross margin analysis and the stochastic frontier production function analysis. Results showed that paddy growers in Osun State earned average gross margin/ha of N34,181.38 while their counterparts in Oyo State received N25,448.84 with average profit per grower being N41,132.74 and N44,476.8 respectively. Results of the stochastic frontier production function analysis showed that land was the most productive resource with elasticity of production of 0.961 and 0.314 for Osun and Oyo States respectively. Results of efficiency measurements showed an average of 90.1% in technical efficiency, 92.0% in allocative efficiency and 83.4.0% in economic efficiency for Osun State. On the other hand, Oyo State paddy producers recorded an average of 94.3% in technical efficiency, 88.9% in allocative efficiency and 84.0% in economic efficiency.

This book consists of the major findings of the series projects on smart rice farming in Japan, headed by President of the Society of Agricultural Informatics. It is the gateway to know the paddy agriculture, by incorporating the findings of series national projects. The scenario includes soil analysis, growth investigation, environmental observation of air temperature, water temperature, water depth, cultivation and management records, yield, and quality analysis. In addition to the analysis of this large database, it showcases the new generation large-scale rice farming technology system, integrated with agri-machineries, field sensors, visualized farming, and skill-transferring system. This book presents an analytical framework of big data in agriculture and shows the empirical results for rice farm innovation. The authors want to have the pleasure to contribute the agricultural innovations of adopting smart technologies and empirical studies, in countries no matter far or near to Japan. The authors also hope this book conveys the innovative and elaborate sprites of smart agriculture to the next generation and is of interest to students with curiosity on agriculture, smart technology, and
empirical study.
Rice in the Cambodian economy: past and present; Topography, climate, and rice production; Soils and rice; Rice-based farming systems; Rice ecosystems and varieties; Pest management in rice; Farm mechanization; Capture and culture ricefield fisheries in Cambodia; Constraints to rice production and strategies for improvement.

This book offers an in-depth analyses of value chain policies, past and present in West Africa. The book contains a large number of in-depth case studies of food value chains in particular countries, including traditional export commodities (cocoa, cotton), high value exports (mangoes, horticulture) and the most important staple food value chains (oil palm, rice, maize, sorghum and millet and cassava) in the region. It also contains a large number of private and public initiatives, and thematic analyses relating to the role of the private agro-industry and producer organizations and their role as market agents.

"Concerns about the sustainability of conventional agriculture have prompted widespread introduction of integrated pest management (IPM), an ecologically-based approach to control of harmful insects and weeds. IPM is intended to reduce ecological and health damage from chemical pesticides by using natural parasites and predators to control pest populations. Since chemical pesticides are expensive for poor farmers, IPM offers the prospect of lower production costs and higher profitability. However, adoption of IPM may reduce profitability if it also lowers overall productivity, or induces more intensive use of other production factors. On the other hand, IPM may actually promote more productive farming by encouraging more skillful use of available resources. Data scarcity has hindered a full accounting of IPM's impact on profitability, health, and local ecosystems.

This book consists of five main self-contained chapters that all deal with the analyses on current rice farmers' status (Technical efficiency, life improvement, agricultural policy, price insurance) and impact-estimates of industrial water pollution on rice production in Vietnam. The specific objectives are: (1) - to measure the technical efficiency (TE) of rice production and identify its determinants. (2) - to investigate the factors affecting farmers' quality of life. (3) - to analyze the effectiveness and impacts of agricultural policies on rice farmers. (4) - to estimate the potential for market-based insurance schemes of rice producing households. (5) - to calculate the damage of rice production caused by water pollution.

This dissertation is based on three essays with a focus on the technical efficiency of smallholder farms in Nigeria. The overall objective of the research is to contribute to the existing literature on the efficiency and productivity of Nigerian agriculture. The first essay examined the development and drivers of the average technical efficiency in Nigerian agriculture based on 64 efficiency studies covering 1999-2008. The second essay went on to further identify the trends in crop diversification while examining its impact on the technical efficiency of smallholder farms in Nigeria. Last but not least, the third essay investigated technical efficiency, inputs substitution and their complementary effects using an output distance function while focusing on cassava production in Nigeria. The second and third essays are based on unbalanced panel data of 846 observations covering three farming season (2006/07-2008/09) from southwestern Nigeria via the application of the stochastic frontier analysis. In summary, the research found that average technical efficiency significantly increased over time across the 64 frontier studies in the country. Besides, the study observed that technical
progress characterized food crop production in the country while the mean technical efficiency reported from each of the essays that make up the dissertation showed that there is still room for improvement in Nigerian food crop production as each estimate falls below the frontier level. Furthermore, the research revealed that cropping pattern increased significantly with the intensification of diversification in food crop production in the country. In addition, the study identifies education, credit, extension contacts and crop diversification among others as key drivers of technical efficiency in Nigerian food crop production. In light of this, the research concludes that the latter observation underscores the importance of education, credit and extension contacts as variables of policy concern for the institutions of public and private policies design to reposition the Nigerian food crop production industry in order to meet the Millennium Development Goals (MDGs) of food security.

"However, socio-economic factors were unable to explain the level of technical efficiency among farmers, when evaluated using a standard regression approach. By using a simple t-test to compare the mean level of efficiency of different groups of farmers, some significant differences emerged. Farmers who used credit were found to be more efficient than those who did not. Moreover, experienced farmers were more efficient than less experienced farmers. Also, farmers with less than 7 years of education were more efficient than more educated farmers." --
education, extension and credit, with age being a negative influence
This book is about analyses of policy and productivity of Indonesian rice
production. The theme of this book was inspired by the fact that Indonesian
people still depend on rice as the calorie intake. As a source of calories for more
than 250 million of people, rice is politically and economically strategic. As well,
Indonesia is considered an agrarian country where about half of the people work
in the agricultural sector. In the policy aspects, it covers a brief historical and
political economies that underlie government interventions to achieve self-
sufficiency of rice, and eventually food security. The interventions include price
policy, institutional and technological changes. In the productivity aspects, it
covers production efficiencies, sustainability performance and sustainable
productivity growth.
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