Further development of the agricultural sector. Under this scenario, although development Economics theory of the rational market, which has further compromised the population's livelihood. Here has not been a he country continued relying nomies. The low agricultural productivity of ed commodities like cocoa, coffee, oil palm, and banana began agriculture became even more relevant when several commodities like cocoa, coffee, oil palm, and banana began to be exported to the Spanish metropolis. The production of cocoa gained particular importance as the primary income generation commodity with exportations reaching 38,000 tons (at a productivity scale of 2,960 Kg/ha), making up more than 50% out of total exportations. Thus, Equatorial Guinea was an agricultural commodity-exporting economy characterized by intensive agriculture of cocoa and coffee, and subsistence farming of cassava, plantain, banana, roots, rice, legumes, etc.

Brief of the situation after independence and before oil discovery

After independence in 1968, the country continued relying on a similar economic structure. However, several political events occurred between the metropolis and nation, ending their political and economic ties, which resulted in the loss of high skilled worker that were from the metropolis and loss of demand/supply links (Spain was the sole buyer and
supplier of agricultural products). Consequently, massive disruptions happened in production basically due to unskilled management of the farm, and shortage of input supply. These disruptions plunged the country into an economic crisis which cataloged it in the bottom of underdeveloped countries, with a barely US$ 700 GDP per capita, inexistent industry to rely upon income generation, poor infrastructure, and 80% out of its 670,000 population of that time living under US$ 1 poverty line.

**Oil discovery and the new economic outline**

In the early 1990s, important oil reservoirs were discovered in offshore Equatorial Guinea. With the outset of oil exploitation, the situation came to its shift. Since then, all the institutional attention focused on the oil industry, and the agricultural sector, already dismal, was increasingly relegated with continuous production decline. Amid this economic panorama, politics were optimistic about improving the deteriorated economic situation of the country from the revenues of oil. Production and Direct Foreign Investment (DFI) in oil fields were promising, more than US$ 11 billion have been invested from 1995 to 2010, production rose from around 60,000 barrels in 1997 to 332,000 barrels in 2009 while the oil price was around US$ 100 per barrel. In 1996, the GDP soared up to 150% with 30% growth rate per year in between 1998-2002, resulting one of the countries with the highest growth rate in the world in that period (Gary and Karl, 2003), and passing to have a GDP per capita of US$ 18,243 in 2007, the highest in African continent (IMF, 2007). In light of this impressive macroeconomic statistics, the government thought of a way to use the money from oil, intending to convert Equatorial Guinea into an emergent economy by the year 2020. For this purpose, they organized three economic summits in 1997, 2007, and 2019 to set an investment plan. Also, they organized a national industry summit in 2011. As the outcome of the second conference (held in 2007), they had set an investment plan in two main phases, the first phase was meant to invest in necessary infrastructure, which was already underway. The second phase, re-enforced by the 2011 industry summit, was to strictly focus on socioeconomic and industrial development with special attention to agriculture.

**Achieved developments and economic recession**

The implementation of the first phase in 2012 showed significant progress in the country's infrastructures such as roads, airports, ports, power grid, and, to some extent, social housing, and government offices. Out of 1200km of the national road network in 2000, only 20% was paved. By 2014, 2700 km of roads were built and paved, linking the main points of the country. Also, three new ports and airports were built, and two old seaports and airports were remodeled (NEPAD-FAO, 2005). Similar improvements happened in production. The country was only able to generate 100 MW of electricity in year 2000 but, with a more significant investment in power generation, in 2018, it has reached 400 MW (MIE et al., 2018). However, concerning the second phase, which harbors socioeconomic development, there has been no significant progress for a decade. Estimations from UNICEF in 2006 placed the population under poverty threshold of US$ 2 per day in 76.8% (GE; WHO, 2015), while Human Development Index (HDI) is 0.591 in 2017 (from being of 0.592 in 2015), which makes it one of the countries in the world with the highest gap between GDP per capita and the HDI position (UNICEF, 2008). Furthermore, in 2014, the country had entered a protracted economic recession caused by low oil prices and a decrease in oil production, which has resulted in a cumulative GDP contraction of around 39%, causing a massive close of firms with loss of jobs, directly affecting the livelihood of people. This crisis raises the urgent need for improvement of the country's condition, which involves the end of the single-sector economy and to open doors for diversification and industrialization.

**Research target and method**

Considering that the bulk of people in EG rely on subsistence agriculture and that the country possesses a land of plenty, a more consistent approach to invest in agriculture would greatly help in solving the crisis and allow development. To see the why and how the former is possible, this study reviews the Development Economics theory of “agriculture vs. industry” in the process of growth and development of an economy, forming a discussion ground nurtured further by empirical studies to answer the question posed in the title (recall title). It explains the significance of agriculture in the process of economic development in the context of EG, which makes it unique since EG has continuously been left out in every study carried in this field. Besides, it presents actions to be adopted in production, institutional, and academic domains, revealing fascinating facts and lessons. The study organization is as follows, first, Introduction of Equatorial Guinea’s socioeconomic background, second, frame the two model theory, third, present Equatorial Guinea’s macroeconomic and production data, fourth, discuss the data from the lens of the two-theories and fifth, the pathway forward as recommendations, and finally sixth, the conclusion.

INEGE (for its acronyms in Spanish) National Institute of Statistics of Equatorial Guinea, http://www.inege.gq/Poverty: Data widely referred by analysts is the one dating from a household study in the country carried out by UNICEF and the Ministry of Planning in 2006, using a cut-off point of 1.020 F CFA or US$ 2, which placed the poverty at 78%. However, other sources, such as
EDSGE (Demography and Health Survey in Equatorial Guinea), points out that it decreased by up to 43.9% in 2011 (with a reduction of 32.9%). In any case, the lack of statistical data makes it difficult to clarify this situation.

**AGRICULTURE IN THE PROCESS OF ECONOMIC DEVELOPMENT: THE TWO THEORIES**

**Pro-industry**

Theory stems and its concomitant contest date in the early works of one of the leading figures in Classical economics, Adam Smith (1723-1790) and Karl Marx (1818-1883). Both presented their thinking upon the economics of a nation, the former proposed a model ruled by the law of market and produced capitalism, while the latter criticized capitalism and posited a planning economy. These discussions continue with other prominent figures such as David Ricardo (1772-1823), John Maynard Keynes (1883-1946), and others. In a time jump and to address the subject closer, we take a focus on the Linear-stages-of-growth model and Structural-change. After the Second World War, there was an intense need for a scholarly answer to development problems that arose in the ancient industrialized powers of Europe. Also, many of today's emerging and developing countries were looking their way to fight against the overwhelming rural poverty, which originated the modern development economics. The first is Lewis's Two-Sector Surplus-Labor (1954) and Patterns of Development by Kuznets (1971) (Gollin, 2014; Branson and Gunter, 1998). Lewis's two-sector model considers that the economic setup of a country is composed of two main sectors, agriculture and industry. And the growth is a function of labor surplus that outflows from agriculture to industry, showing that if the surplus-labor remain in agriculture, growth and the (possible) development may find constraint. Similarly, Kuznets's model focuses on the sequential process through which the macroeconomic structure (including all sectors and institutions) of an underdeveloped economy undergoes along with time. This thinking extended to linear-stages model, first formulated in the 1950s by W. W. Rostow. For these theorists, the source of growth of a country comes from the right combination and quantity of saving, investment, and foreign aid. Rostow wrote in (1957), "It is possible to identify all societies, in their economic dimensions, as lying within one of five categories, the traditional society, the pre-conditions for take-off into self-sustaining growth, the take-off, the drive to maturity, and the age of high mass consumption." This theory was developed in the early years of the Cold War and was primarily derived from the success of the Marshall Plan. It follows the Pattern of Structural Change Model, which is, in part, further elaborations of Structural-change specifically in Lewis and Chenery. It describes the mechanism by which underdeveloped economies transform their domestic economic structures from traditional (agriculture) to more modern industry and service. Under this approach, a group of scholars including Hollis B. Chenery (1970) developed an empirical study in several developing countries, through both cross-sectional (among countries at a given point in time) and time-series at different GDP/capita, highlighting several features and patterns in the development processes of countries under study. These included a continuous change 2 of production setup from agricultural to industry, the accumulation of physical and human capital, changes in consumer demands from an emphasis on food and primary goods for more sophisticated products (Todaro et al., 2003).

Development Economics theory, therefore, became an essential reference in formulating relevant sectoral strategies in industry to solve social problems, and various studies had been carried on to relate industry with socioeconomic development. Ghose et al (1979) wrote over five alternative views of the rural crisis in Asia in the 1970s. In their study, they considered the relationship between the rate of increase of agricultural output and changes in the incidence of rural poverty (considering that the Green Revolution did begin yielding its outcomes in that period). Using Indian data, they showed that there is little reason to believe that poverty will diminish significantly merely by accelerating the growth of agricultural production. From their research, they found no positive relationship between the growth of agricultural production and poverty indexes, suggesting that answers may come from other sectors, notably industry. These theories became a reference for politicians around the world who seek growth and development in their nations, and the message could not be more suggestive: -if you want to develop your country, agriculture is not the way, bet on industrial development-. Indeed, it shifted planners' minds to favor industry development over agriculture, which is known by the so-called "conventional wisdom." Yet it would eventually lead to inappropriate economic planning if there are not fit-conditions. Several critics have commented over potential misleads that may derive from it. For example, the fact that infrastructure and human capacity were far more deficient in developing countries compared to their counterpart developed countries, were putting aside the possibilities of development in developing world inferred by industry-first theory.

**Empirical studies**

Empirical research has been extensively carried out in developing countries to catch patterns of development between agriculture-industry and its relative links to development metrics, growth, reduction, and employment. In fact, on the debate about Africa’s development "agriculture versus non-agriculture" Dorosh and Thurlow (2018), estimated sectoral poverty—growth elasticity using economy-wide models for five African countries. Although
elasticity for agriculture was higher than non-agriculture as a whole, the poverty–growth elasticity for activities such as trade, transportation, and manufacturing showed a somewhat similar or higher elasticity than agriculture's suggesting a more nuanced treatment of non-agriculture in Africa's policy debate. In this order, Sábato and Sawers (1994) under researching answers upon the drawback experienced by the Argentinean economy after being one of the prosperous during XX Century, concluded that the cause lays on the long-time spent by Argentina to switch from agricultural-based country to a non- agriculture, industrial economy.

Pro-agriculture

The role of agriculture for socioeconomic development in comparison to the industry has been the focus of many scholars. For instance, Schultz's (1953), in “food problem theory,” stated that, "low- income countries are unable to develop since most people have to spend a high percentage of their income and labor to procure food" (Block, 1961). Therefore, productivity in agriculture shall increase to light the wick of modern economic growth. Johnson and Mellor (1961) investigated the interrelationships between agricultural and industrial development and its role in the process of economic growth. They found that, for underdeveloped countries, agriculture is the sector of a more significant proportion out of the whole economy, it is the holder of the bulk of manpower and economic activities. Therefore, it is required for the development of capital in the process of growth. But, its relative size in the economy (GDP) will also experience a decrease in time. Matsuyama (1992), through a two-sector model, agriculture and industry in a closed economic system, searched the link between agricultural productivity and economic growth. And the results confirmed a definite relationship, concluding that the agrarian revolution is a precondition for the industrial revolution. Haggblade et al. (2007) described the benignity of the agricultural sector in an economy through the so-called “linkages or spillover effects”, summarized in five groups, production linkages, consumption linkages, factor market linkages, productivity linkages, and reverse linkages. Production linkages include forward linkages from agriculture to the nonfarm economy by the supply of raw materials, as well as backward linkages to the input supply. Consumption linkages include spending by farm families on locally produced consumer goods and services. Factor market linkages show a linkage between agriculture and the rural nonfarm economy (RNFE), both factions can foster development in one another. Productivity linkages between agriculture and RNFE, these interactions include an array of macro-linkages transmitted from agriculture to the RNFE, for example, lower food prices. Reverse, linkages between agriculture to the nonfarm economy and vice versa. A similar result is also found in Hazell and Diao Strategy (2005).

Empirical studies

The recent development in computer software has facilitated the use of econometrics in empirical case studies. Montalvo and Ravallion (2010) tested whether the pattern of China's growth contributed to poverty reduction using provincial panel data. The results showed that agriculture had been the main driving force in poverty reduction than the secondary (manufacturing) or tertiary (services) sectors. Also, Janvry and Sadoulet (2015) used econometrics in investigating the relationship between agricultural growth and poverty reduction in developing countries. Their findings showed an association between increase in yields and agricultural labor productivity with poverty reduction. More interestingly, agricultural GDP growth induced growth three times larger in the poor households than growth originating in the rest of the economy that is, in industry and services. Souza (2015) used differently, econometrics with data from 62 developing countries to test the spillover-effect of agricultural growth in manufacturing. The key findings showed significant short-run effects of agriculture in the industry where a one-percentage- point increase in growth in agriculture is estimated to raise growth in manufacturing by 0.47 to 0.56 percentage point (baseline), and 0.28 to 0.47 percentage point. This literature extends in Mellor (1988), Sanderatne (2003), Cervantes-godoy and Dewbre (2010), Harriss (1984), Mellor (2014), Los and Gardebroek, (2015), Jhon, Mellor and Sohail (2016) and Ligon and Sadoulet (2017).

A theoretical controversy

Theoretical background of the agriculture vs. industry in Development Economics is complementary. Pro-industry recognizes the primary role of agriculture in the economy; pro-agriculture does too. However, digging deeper, pro-industry describes agriculture with pessimism in the sense that the growth and development expectations of a nation should not lay on it. While pro-agriculture, although it does not declare agriculture as the supreme in development strategies, regards it as a sector that must be granted a particular priority in development agenda due to its stimulating effects and its inseparable relationship with the rural world. There is an ongoing debate that transcends the conventional agriculture vs. industry discussion, with emphasis on conditions that allow or prevent agriculture (or industry) from producing its prescribed effects in economic growth and development.

The research tendency (neoclassical counter-revolution models and coordination failure) focuses on the characteristics of sectoral composition and growth, initial developments, openness, institutional settings, as well as natural resource endowment and other context
circumstances. The literature stream Loayza and Raddatz (2010), Cervantes-godoy and Dewbre (2010), Ravallion (1997), and Dorosh and Thurlow (2018) particularly address the Sectoral composition and the characteristics of growth. Just mentioning agricultural development, it is not enough, but its structure; agriculture led by big private agri-firms differs from medium and small farmer enterprises one, and the local market-oriented differs from export-oriented. Dercon and Gollin (2014), when investigating the role of agriculture in African economy, put in perspective an agricultural sector composed by smallholders and agriculture composed by mega-farms concluding that African agriculture success does reside upon the correct choice between the two. In this arena, some scholars who think of the Green Revolution in Africa consider smallholder agriculture as the best strategy since it allows higher participation of resource-poor farmers. And the growth stemmed from that industrial setting is ‘good growth’ in the sense of Ravallion (1997).

EQUATORIAL GUINEA MACROECONOMY AND PRODUCTION OUTLINE

Here we present macroeconomic structure of EG. The data are mainly taken from the 1990s, the beginning of oil production.

Macroeconomic set-up from 1990s to current

Figure 1 shows the real macroeconomic situation of Equatorial Guinea. The economy of EG had grown exponentially in the mid-1990s but contracted considerably between 2008 and 2011. In chart 1a, pushed by the first oil revenues in 1996, the GDP soared at 150%. Since then, it continued to grow at an even higher average rate of around 33% until 2009. However, the last significant growth happened in 2007(15%) and 2008(17%), and in the years that followed, specifically from 2008, the economy began the recession. Within a decade, since 2009 to 2018 the GDP has decreased at a yearly average of 2.2% (2009 1.3%, 2010 8.9%, 2013 4%, 2015 9% and 2016 8%). In Chart 1b, the GDP is dominated by industry at 55% (in turn dominated by oil subsector at 98%), services 43%, and agriculture with only 2%. Chart 1c presents labor force allocation by sector along time. In 2018, the major share was in agriculture, with 60.4%, services with 33.2%, and industry with 6.3%. The result is a paradox; industry and service with a higher share in the GDP have lower workforce participation, while agriculture with the least share in the GDP has a bigger share in the workforce.

The service sector in Equatorial Guinea is featured as presented in Figure 2. With three leading players, overall activities related to trade (excluding agricultural products), construction and public services, which include private health care, private education, and others.

OIL PRODUCTION AND AGRICULTURE

In Figure 3, Chart 3a presents oil production and oil price in the international market from 1996 to 2018. Both lines show a downward trend after reaching the zenith in the period of 2004 to 2013. In oil production, the higher level happened between 2004 and 2009 with 360,000 barrels production per day, while in oil prices, the high-price period occurred between 2010 and 2014, during which it averaged US$ 98.89. In 2018, oil production had reduced to 190,000 barrels per day, while the oil price dropped to US$ 69.76(from US$ 49.49 and 52.51 in 2015 and 2016 respectively). In agriculture, the first chart (3b), presents cocoa production (the main income-generating commodity in the past) and the second chart (3c), food crops. In cocoa production, the situation kept getting worse as time went by, decreasing at the average growth rate of 4% per year for almost 50 years, from 30,200 tones (at 2,960 kg/ha productivity) from 1968 to 400 tons in 2017 (at a productivity level below 700 kg/ha).

Food crops

The leading food in EG is cassava (Manihot esculenta), plantain (Musa × paradisiaca), banana (Musa), roots (mostly taro), rice, and legumes (primarily peanuts), accompanied by some horticultural crops such as, tomato, onion, garlic, and lettuce. Furthermore, leafy greens such as Amaranthaceae known locally as green are consumed. There is no data available for all the crops presented above, hence Chart 3c only shows cassava, plantain, banana, and roots for the last three decades. We assumed that it may be meaningful to just analyze the four crops since they are the major staples. The production growth of these crops has been at a yearly average growth rate of 2% with a steady but slight declining tendency from 2000 onward. This growth rate is insignificant, considering that population growth is even higher at 2.4%. Separately, cassava production has better performance than the other three whose progress is insignificant. Although there is no data available for other crops, it is less likely to find better statistics there.

Food importation

EG imports mainly tomato, cassava stick, vegetables, onion, fruits, pepper, peanut, potato, beans, and rice. Unlike rice, these products are imported from Cameroon through the three hot trade border points of Campo with 58% of flows, Idenau with 38% and Kye-Ossi with only 4% (Nkendah, 2010). On the quantities imported, there are no reliable
statistics since this cross-border trade is informal. However, according to some field research, it is estimated that in 2008 Equatorial Guinea had imported around 63,726.25 tons of food valued nearly US$40 million. In this way, EG is considered the first destination of Cameroon’s agricultural exportations in the CEMAC zone with 42% of share (Nkendah, 2010). Additionally, importations of cereals which come mostly from outside CEMAC zone were estimated at over 28,000 tons in 2011 (GE-FAO, 2012).

Chart 3d shows rice imports which are high (although fluctuating due to domestic economic shocks) with a yearly average growth of 10% since 1990s until 2016. All mentioned earlier, puts in clear detail, a big market for agricultural products and for local producers.
Food exportation

Although there is a lack of data for food exportation except for cocoa, facts make it apparent that Equatorial Guinea does not export any agricultural product. It has always been a net food importer (at least until 1968), with a unidirectional agricultural trade inward.

DISCUSSION EQUATORIAL GUINEA AGRICULTURAL AND MACROECONOMIC CONDITIONS UNDER THE THEORETICAL LENS

Agriculture relevance in national economy

The theory states that GDP composition changes over time in the development process of an economy, as seen in Rostow (1959), Lewis (1954), Kuznets (1971) and Chenery (1970). This change also encompasses decreasing the agricultural sector (Montalvo and Ravallion, 2010), essentially the release of the workforce toward industry and service as the economy advance in getting more affluent. This principle underpins why agriculture becomes less critical for the economy and is the core of structural change. Based on this fact, the proportion of agriculture in the GDP of developed economies is small, less than 3%, examples, the case of Belgium (1%), Canada (2%), USA (1%), and so forth. While for developing economies, it is significant as the case of Chad with 43%, Central African Republic (CAS), or Burkina Faso 31% (WBG, 2017). In the case of Equatorial Guinea, however, we have shown in chart 1b that agricultural GDP is small, but its workforce share is large (chart 1c). And huge population relying on agriculture implies that agricultural-labor productivity (or production) did not improve, which is paradoxical regarding theories. By analyzing food production growth, chart 3c proves no significant progress, confirming the paradox. We can explain it further, showing the Nitrogen (N) use index.
Nitrogen is the essential element used in agriculture for crop yield-enhancing, and it is considered input of reference to gauge the degree of expected agricultural output (FAO, 2018). Nitrogen used for crop production in Equatorial Guinea, the activation of other potential sectors such as agriculture is an absolute must.

**Macro-level food security**

Aspects covered formerly lead into the realm of food security. The World Food Summit (1996), defines food security as, “a situation where all people at all times have sufficient physical and economic access to safe and nutritious food to meet their dietary needs, including food preferences, to live a healthy and active life” (FAO, 1996). The way towards the plenary stage of food security is vast and comprises of food availability, accessibility, use and stability. Before reaching any subsequent dimension, the previous one must be accomplished, for example, before we can access food, there must be food available. Once the food is available (from domestic production + imports), then we can talk about food accessibility (household and individual income capability). Finally, the next thing is to see how it is used (Smith, 1998; Smith et al., 2000). These three dimensions, food availability, accessibility, and use, are the main entries when studying food security. We focused on food availability, which mostly takes a macro-level or national perspective. Other dimensions, accessibility, and use correspond to micro levels and require more in-depth field research at the community or household level. Knowing national food availability is essential, although it does not inform in many details about the problem of food security, it gives an understanding of food security challenges. It had been the most discussed theme in mainstream trade liberalization literature because it concerns food output, food stocks, and markets. Where free trade advocates sustain that, to achieve food security, it will not require a country to produce its food since it can import it. A view that is not shared by advocates of the food sovereignty movement, which supports that every country should produce their food because food is sovereignty since it involves land rights and socioeconomic benefits to the indigenous communities (Carolan, 2018). We saw earlier that EG is a net food importer country. However, this fact falls short on passing information on the challenges facing the country in food security since it does tell about the net food trade position (that is, food exports minus food imports). Thus, we brought a different concept more relevant for macro-level food security analysis, which is the ratio of total exports to food imports (Díaz-bonilla, 2002; Yu, You, and Fan, 2010). It reveals the ability of a country to buy food out of earning from the overall exports of goods and services. The higher the ratio, the higher the level of food security. Put differently, the lower the ratio, the higher the challenge to cope with the food security issue, and the world average, which is 11, is usually taken as reference. Brought to EG context, although it is quite tricky to figure out this ratio due to lack of (series) data, if we imagine a scenario in 2018 where there are US$6.6 billion exportations and 3.7 importations (INEGE, 2018), and lets

**Industrial growth and socioeconomic development**

The primary industry in EG is the oil sub-sector (or petrochemical industry), with around 98% share of the industry sector. It confirms that it is the industry responsible for the considerable growth, Industrial growth and socioeconomic development. However, the small participation of labor to this sub-sector (chart 1c) due to intensive capital and high skilled worker demand clarifies that it cannot employ the bulk of people. Besides that, it is a highly vulnerable sector due to its dual-issue resource exhaustibility, and high price fluctuation. Back to the current economic crisis which began back in 2009 owing to the decrease in oil output (contrary to the general belief that it started in 2014). Before the problem aggravated in 2014, the production of oil and price were cushioning each other, when oil production came down, the high price served as a buffer, and vice versa, from 2004 to 2009, the oil price was not as good (around US$61), but that situation was covered by the high oil production (around 360,000 barrels per day) in 2010, when oil production started to fall, the high price per barrel (around US$100) was covering up the situation. So, the misfortune became more visible since 2014, where the drop in the price per barrel intersected with the decline in production, causing an acute economic crisis from which it will be difficult to escape, now and in the future. Looking into manufacturing, it is still not developed, unlike small textile and related businesses occupying 2% of industry sector and service sector. In EG so far, the category of knowledge-intensive and export-oriented products does not exist yet unlike commercial activities, construction, and public services as leading players of the sector. The construction sub-sector is of particular interest since it has been the sole driving force in activating the domestic economy. It became the most growing sub-sector with an average growth of 33.2% between 2004 and 2010, with 43% of public investment between 2007 and 2012 (UNDP, 2015), which has provided jobs for many people. However, in 2012, as many projects finished and the crisis began in 2014, it had contracted considerably (at 31%). Therefore, the economy depending solely on the oil industry will not only affect the future progress of the nation but specifically, the employment of people is in question. The entire situation discussed earlier suggests that, to provoke a new economic upturn in
assume that a quarter of this importations (which is an underestimation) is spent on food, we may get a ratio of 7 which is below the world average. This implies that the economy bears a massive burden in food bills, which involves continuous exposure to risks such as food shortages or higher food prices and the impossibility to experience real economic transformation. Taking a look on some other oil-producing countries such as the MENA (The Middle East and North Africa), the export/import ratio of many of those (unlike Kuwait, United Arab Emirates, and Iran) yield lower than the world average as the case of Yemen, Algeria, and Libya, which challenge their economic transformation as well (Breisinger et al., 2010). However, most of these countries compare to EG, are prominent world oil and energy players, and their economic structures have transcended to a certain level. Subsectors such as tourism, industry, and financial services have transformed into significant workforce absorbers producing higher non-oil GDP. Taken from that perspective, it turns particularly more challenging for EG as it relies a lot more on oil. Therefore, even wherein possible, if EG can guarantee food availability through oil exchange, it will not transmit into household food security and economic transformation.

Furthermore, in the socioeconomic setting of EG, if food is imported as defended by trade liberalization partisans, the rural population will bear less participation in economic activity, compromising the fight against poverty. Therefore, local agricultural production is essential to curb poverty. However, there have also been questions on the circumstances agriculture will fulfill that purpose, which is widely addressed in sectoral composition and growth patterns discussed previously. If we want to develop agriculture to improve the lives of vulnerable people, we must consider several aspects such as inputs, markets (local, regional, national, and international), the scale, and the knowledge. Agriculture in the hands of smallholders may have an advantage compared to big-farms. Smallholder enterprises can adapt to locally available resources and grow a robust economy. In contrast, big farms, as they use intensive capital and external input (highly skilled labor, equipment & machinery), and often compelled to sell on foreign markets, would cause inconsistencies, derived from the trivial linkages with the local economy. In essence, it will fall short in producing linkage-effects, less poverty-reducing, and economic transformation, since resource-poor farmers would be left out of the game. Thus, the agriculture required in EG is a modern smallholder farming with tradable products in local, national, and international markets.

THE PATHWAY FORWARD NATURAL RESOURCE

Infrastructure and human resource

Equatorial Guinea’s natural resource endowment and good infrastructure shows high potential for the development of agriculture. The new project for construction of small modern towns in rural areas, the so-called (in Spanish) Distritos Urbanos or Urban Districts can become strategic hubs for agricultural production and markets, as well as the platform for the implementation of other social projects. In human aspects, the, many students have graduated from university in last two decades, the average person can read and write as EG has one of the highest literacy rates in Africa. These initial developments can mark the success of agricultural development.

Business environment

The business environment is not up to mark in EG. According to the Doing Business report 2019, the country ranks 177, with a score of 41.94 at ease of doing business. To run small businesses, it requires sound institutional arrangements that allow proper market functioning such as, law enforcement against corruption, property rights, information production, storage and distribution, infrastructure, land use and management, trade deals, tariffs, investments, subsidies, credit, and more. The establishment of the One-stop-shop recently is a good start.

Sectoral requirements: Research, market supply and demand

The conduction of ground-level research to produce relevant scientific knowledge is paramount and requires the contribution of more field experts in both (applied) natural and social science. Research processes must be nest by innovative institutional settings such as a National Agricultural Research Academy (with a research & resource management, regulatory and planning role) and Research Station-based for Agricultural Trials (field-trial role), which work with farmers and other stakeholders at different levels. Research (bottom-up approaches) will allow a better understanding of the socio-economic and environmental factors and will lay objective basis for policy formulation meant to solve agriculture problems. Thus, funding in agriculture for development needs to be consistent. Supply, demand, and market issues need to be addressed as well. The experience from a government food security program in 2003 makes this more apparent (See PENSA project in GE-FAO, 2012). Market concentration in the two main urban centers of Malabo (Capital City) and Bata (the second most important city), and lack of marketing channels causes trouble in food supply and demand. Farmers from the rural areas have to travel to sell their produce in urban centers, which hinders production efficiency as the producer cannot give full-time attention to the farm. It also involves the risk of crops getting destroyed due to improper transportation. All translate into the higher
production cost. These issues are the biggest challenges of resource-poor farmers in EG, and can only be solved by the government through policies that systematically address agricultural-product value chain development.

Measures such as money transfer, subsidies, functional social networks, transportation, tourism development, and industrialization can bring out a solution. An example is the processing of cocoa in the country rather than exporting as raw product.

CONCLUSION

The GDP structure of EG is paradoxical and inconsistent against the theory. The smaller share of agriculture in the GDP does not translate into higher agricultural productivity but in the regulation of agriculture. The implications are, low domestic food supply, high reliant in food importation, high food price, and food security challenges, which poses development questions about industrialization and socioeconomic development. In this sense, this article has shed light on essential development issues that connect agriculture with the economy as a whole and has presented modern smallholder enterprise agriculture as the right farming model to develop in EG and has presented suggestions for its implementation.

It highlights that further research specifically in econometrics analysis is required, including fishing and livestock, which was not considered here due to the data gap. Micro-level food security research is needed, as well.

REFERENCES


Cite this article as:


Submit your manuscript at
http://www.academiapublishing.org/journals/jbem