THE MOTIVATIONS FOR THE DIVERSIFICATION OF THE NIGERIAN ECONOMY FOCUSING ON SUSTAINABLE AGRICULTURE

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Abstract: Agriculture is one of the major branches of the economy in Nigeria, the most populous country in Africa. It employs around 70% of the population and its contribution to the national GDP ranges around 45% (2012).
In spite of the fact that most of the area is arable the majority of food, the Nigerian population consumes, comes from imports. The paper attempts to provide in insight to the reasons, why Nigeria could still not achievew self sufficiency from major food crops and livestock. Beyond the rapid growth of the population, one of the major reasons is the rich oil and natural gas reserves, the exploitation and export of which has been providing with the country with "easy cash" for the recent few decades. Another reason is that the agricultural holdings are small and scattered, and farming is carried out with simple tools and techniques. Modern and large-scale farms are not common.
The political leadership and economic decision makers of the country already recognized the necessity of the development of the food and agricultural sector, which – contrary to the oil industry – would exercise a deep and positive impact on the rural society as well. Nigerian agriculture is being transformed towards commercialization at small, medium and large-scale enterprise levels.

Keywords: quality of *Nigeria, Economic reform, Agricultural development, food security*

Introduction

The Federal Republic of Nigeria is one of the most important states of Africa. Its area is ten times larger than that of Hungary (923 thousand km^2), according to the estimations of the Central Intelligence Agency of the United States (2011) by the number of population (ca.155 million) this is the eight largest country of the world. (This is just an estimation as there are no reliable and exact data available on socio-economic situation of the country.) The population growth is extremely high: the median age is 19.3 years. The Nigerian economy is the 31st largest in the world, by the calculations of the IMF (2009).

The Nigerian economy is the largest in West Africa and the second largest in sub-Saharan Africa, predominantly oriented toward the production of agricultural products and crude oil. Agriculture accounts for about 30.9% of the GDP, 70.0% of employment but contributes only about 2.5% of export earnings. Crude oil and natural gas account for about 15.0% of GDP, 71.0% of export earnings and 79.0% of government revenue.

The Nigerian leadership faces parallely public anger arising from the urging economic reform measures and the increasing spread of extremist groups throughout the country.

Methods of the research

The paper was based on secondary research founded on the descriptive-analytical exploration of concrete economic, social and political factors, which could be found in the background of the distortion of the Nigerian economy. The examinations were based on the available international and Hungarian bibliography, and databases in this field.

Mention should be made about the fact that the author worked in Nigeria between 2007 and 2009, therefore his on-site personal contacts, work experiences and his formerly published papers related to this field [Neszmélyi 2012, 2013] also contributed to the result of his work.

The reasons of the economic distortions

Nigeria is a resource-rich country, with about 34 different minerals, including gold, iron ore, coal and limestone. It has about 37.2 billion barrels of proven oil reserves, 187 trillion cubic feet of proven natural gas1 and produces about 2.3 million barrels of oil per day. It also has about 70 million hectares of farmland. The structure of the Nigerian economy is oriented toward the production of two primary products: agricultural products and crude oil.

The Nigerian economy slowed down from 7.4% growth in 2011 to 6.6% in 2012. The oil sector continues to drive the economy, with average growth of about 8.0%, compared to -0.35% for the non-oil sector. Agriculture and the oil and gas sectors continue to dominate economic activities and Nigeria. The fiscal consolidation stance of the government has helped to contain the fiscal deficit below 3.0% of gross domestic product (GDP). This, coupled with the tight monetary policy stance of the Central Bank of Nigeria (CBN), helped to keep inflation at around 12.0% in 2012. The outlook for growth remains positive. Short- and mid-term downside risks include security challenges arising from religious conflict in some states, costs associated with flooding, slower global economic growth (particularly in the United States and China) and the sovereign debt crisis in the euro area.

The economic growth has not translated into job creation or poverty alleviation. Unemployment increased from 21% in 2010 to 24% in 2011 because the sectors driving the economic growth are not high job-creating sectors (the oil and gas sector, for example, is a capital intensive "enclave" with very little employment-generating potential). The major policy issue is employment generation, particularly among the youth, and inclusive growth. So, one of the major reasons of the present economic and social problems is the lack of diversification of the Nigerian economic sectors.

The manufacturing base is low and has been dwindling. The share of the manufacturing sector in the GDP declined from 6% in 1985 to about 4% in 2011. The main drivers of economic growth do not require large amounts of labour and thus are not able to absorb the 1.8 million new entrants in the labour force every year.

The economic growth was not accompanied by a structural change of the Nigerian economy. The economy lacks diversification and agricultural production lacks modernisation. To address this, the government is encouraging the diversification of the Nigerian economy away from the oil and gas sector. It is addressing the infrastructure deficit in the country and the development of the agricultural sector through modernisation and the establishment of staple-crop processing zones, with the value chain model to provide linkages to the manufacturing sector [African Economic Outlook (2013)].

Tarrósy pointed out that the principle of the modernist theory is wrong in cases of African countries and societies that for the development of these newly formulated nations and states it was a critical issue whether it was possible and if so in which extent to implement industrialization in classical agricultural regions. Models suggesting increasing rates of industrialization might not be relevant for Africa [Tarrósy I. 2009].

Furthermore it has to be pointed out that Nigeria is the homeland for over 200 ethnic tribes and the majority of the population belongs to two major religious communities (Christian and Moslem). The climatic changes, the southward expansion of dry areas, the increasing shortage of water resources in the northern part of the country were the major reasons of an internal migration. People from the dry northern areas started to flee southward to find better conditions for farming. Even though as it has been already well known that thousands of years ago African people protect themselves against droughts, desertification, or even massive floods or epidemics by migration [Búr G., Tarrósy I. 2011] it is a relatively new phenomenon in Nigeria that this migration led to unrest and clashes between different religious communities. The formerly relatively peaceful co-existence among various religions and ethnic communities is really fragile now, and the situation may be further deteriorated if the activity of radical extremists' groups (like Boko Haram) which appeared a few years ago in Nigeria would continue.

Table 1: Macroeconomic indicators of Nigeria

	2011	2012 (e)	2013 (p)	2014 (p)
Real GDP Growth	7,4	6,6	6,7	7,3
Real GDP per capita growth	4,9	4,1	4,2	4,8
CPI inflation	10,9	12	9,7	9,5
Budget balance % GDP	-0,1	3,7	4,4	5,7
Current account balance % GDP	3,2	10,4	11,8	14,6

Source: African Economic Outlook (2013) (Data from Domestic authorities; estimates (e) and prediction (p) based on authors' calculations).

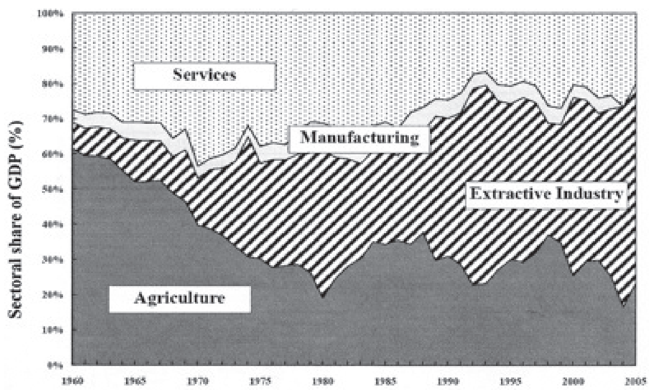

Figure 1: Sectoral value added, Nigeria, 1960–2005 (% of GDP)
Source: Tewodaj M. et al. on the basis of World Development Indicators 2007.

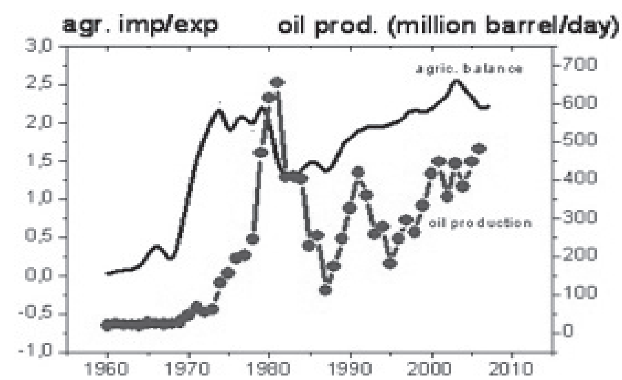

Figure 2: The change of agricultural foreign trade balance and the oil production
Source: Zsarnóczai J. S. et al. (2011) on the basis of IMF electronic database

Nowadays the most important sector of Nigeria is the oil production. The different governments failed to diversity the economy away from its overdependence on the oil export. The oil and gas sector provides the 95% of the foreign exchange earnings and approximately four fifth of the general budget revenues (Ikpi, 1988). Parallel with the increasing of importance of oil and gas sector there has been a general decreasing of level of agricultural production. This fact can be seen in worsening foreign trade balance of agro-food sector in Nigeria [Zsarnóczai J. S. et al. (2011)].

As a consequence of this disproportional development, there is an increasing social tension between the urban and rural regions. If there seems no possibility of increasing the living standard of rural population, living in less favoured regions of Nigeria, we have to forecast a rapid increasing of overburdened cities (e.g. the population of Lagos is more than 10 million). This fact further aggravates the problems (crime, environmental pollution) of large towns [Zsarnóczai J. S. et al. (2011)].

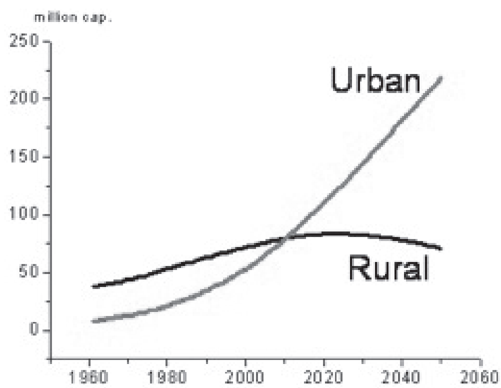

Figure 3: The urban population boom in Nigeria
Source: [Zsarnóczai J. S. et al. (2011)] on the basis of Faostat.fao.org

The challenges of the agricultural sector

Despite the country's huge agricultural potential, less than 50% of the total farmland in Nigeria is cultivated, and agricultural productivity is low because of the lack of modernisation. Nigeria relies on the importation of food to meet its domestic demand, with the import bill for wheat, rice, sugar and fish estimated at NGN 1 trillion (USD 6.4 billion) per annum.

The improvement of food security – like the growth of food production – is an issue of core importance. Therefore the urging task is to find the most efficient ways to spread the modern methods and technologies, with the assistance of international agricultural development projects. In many countries, several decades ago agricultural extension systems were established. Even much before independence (1960) it was established in Nigeria in 1954 with the view of supporting the small farmers. *Kozári (2007)* also pointed out that in several freshly independent African and Asian countries during the 1960's such systems – due to the application of inappropriate methods – ceased in the course of several years. However from the mid-1970's the national governments- with the assistance of international organizations (FAO, WorldBank, IFAD, regional banks, etc.) made new efforts to re-organize the agricultural extensions systems in these countries [Kozári J. (2007)].

Auta, S.J. and *I.I. Dafwang (2010)* pointed out that Agricultural Development Projects (ADPs) had already been launched since 1972 in order to increase food production, and to raise the income of small-scale farmers. The success of the pilot schemes led to expansion nationwide by 1984, but nowadays the ADPs in majority of the states stand just as symbols of past glory [Auta, S.J. and I.I. Dafwang (2010)].

Oruruo K. I. summarized the main reasons of the low agricultural efficiency and of the lack of agricultural products as folows.

a) *The former military regimes and bad governance:* From 1966 till 1999 Nigeria was held under the misguided feet of military leaders who heralded affairs with little training on national governance, poor guidance on economic stimulation and general government structures that were inimical to individual capitalist strides. Industries where held at ransom and slowly Nigeria went from a net exporter to a net importer of agricultural produce.
b) *Unrealistic goals and greed:* One of the main reasons why farmers became diasppointed is an unrealistic assessment of the prospects of a farm driven by poor agricultural education, poor business understanding and sometimes outright greed. Entrants must understand that farms must be built in tandem with market realities and societal variables. They must also understand that a farm is a long term business and not a get rich quick scheme, it must be founded on solid economics and must be given time to mature.
c) *Infrastructure deficit:* A farm is a consumer of some vital infrastructure which many farms fail to take into full consideration. Some of these are roads for easy distribution of the products created, electricity for industrialization of processes and water for irrigation. Many Nigerian farms fail because in a bid to access cheap land entrepreneurs buy into locations that are not economically viable due to infrastructural deficits. Farmers must take an integrated approach to planning and implementation of agricultural projects, understanding the importance of location as it correlates to resources and distribution.
d) *Lack of skilled labour pool:* While there is massive unemployment in Nigeria and a lot of manpower is available, when it comes to farming a lack of middle management and skilled labour is a major contributor to the failure of agricultural ventures. In Nigeria there is a culture that equates farming with the lowest of jobs and therefore it is not a popular field of institutional study or personal passion.
e) *Inability to manage large scale operations:* Some agricultural products require production at large scales in order to compete with imported goods. Crops like rice and wheat are of high consumption and therefore the import load is extreme and the prices are highly competitive. A local brand which wishes to compete must have

sufficient economies of scale that will allow it to price itself competitively. This goes back to proper business and opportunity assessment. One must put in place the right structures and account for the related variables that affect his particular produce or livestock line. In some cases of course small establishments can achieve reasonable competitive advantages, so it is not always necessary to create massive large scale farms. This is true in highly manual fields where heavy equipment is not essential to production.

f) *Access to financing is difficult:* One of the biggest stumbling blocks for agricultural development in Nigeria today is capital. The Nigerian banks are not strong financiers of long term projects and in cases where they choose to finance their rates are exorbitant and unattractive for entrepreneurs [Oruruo K. I.].

The production of primary agricultural commodities and oil continue to dominate the Nigerian economy. Economic growth was not created through a structural change of the economy. Sources of economic growth need to be diversified to strengthen the economy.

The recent years' production output figures can be seen in Tables 2 and 3:

Table 2: Crop production of Nigeria

	1000 ha 2010	1000 t 2010	1000 t 2009	yields t/ha 2010
Rice	1,788	3,219	3 403	1.8
Coarse Grain	11,983	16,259	17 543	1.4
Pulses	2,625	2,289	2 412	0.9
Oilcrops	7,647	2,765	3 322	0.4
Roots And Tubers	7,528	72,850	72 542	9.7
Sugarcane	73	1 414	1 402	19.3

Source: FAO Statistical Yearbook (2012)

Table 3: Animal husbandry production of Nigeria

	10000 tonnes 2009	10000 tonnes 2010
Milk	472	496
Eggs	613	623
Poultry	256	256
Pork	226	226
Beef And Buffalo Meat	298	304
Sheep And Goat Meat	433	440
Fish, Capture	598	n.a.
Fish, Aquaculture	153	n.a.

Source: FAO Statistical Yearbook (2012)

Nigeria, by virtue of its location, enjoys a warm climate with relatively high temperatures throughout the year and two seasons – the rainy or wet season that lasts from mid- March – November in the South and from May to October in the north; and the dry season that occupies the rest of the year (Oyenuga, 1967). Another constant element is the geographical location itself, which means that Nigeria is laying between the tropical zone and Sahara, therefore there are remarkable differences between the northern and southern parts of the country. The rainy season is shorter in the North, where climate is arid, comparing to the South, which is close to the Atlantic Ocean and to the Equator as well. Due to the climatic differences typical production zones can de identified in the country as it can be seen in Figure 4.

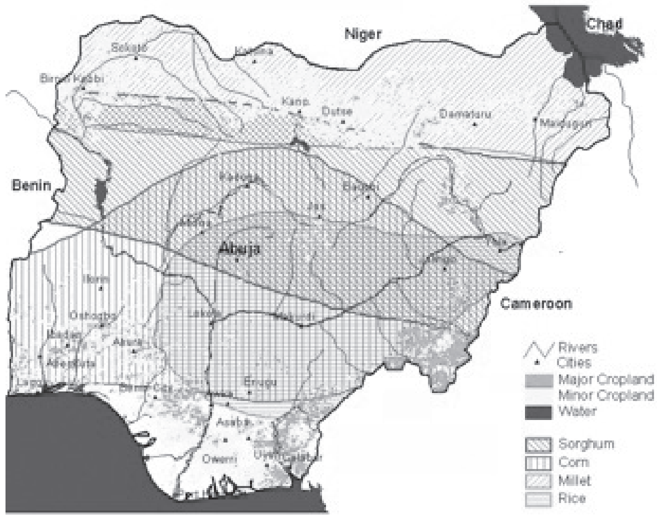

Figure 4: Coarse Grain Crop Zones in Nigeria
Source: USDA FAS

As *Zsarnóczai, J. S. et al. (2011*) pointed out that the competitiveness of traditional smallholders is extremely low, if they won't cooperate and they will be transformed into a landless worker. The transformation of the trade is an especially important process. Nowadays this sector of the economy offers a very modest, but relatively stable source of income. As a consequence of an extremely high level of corruption there is an unequal access to factors of production in majority of the countries. A considerable progress could be achieved by improving the transparency of these socio-economic processes. Government assisted or managed rural banks provide inexpensive credit to those who own large pieces of land, even if they do not have any serious business plan, concerning the management of these facilities.

There is a general lack of coherent, long range plans for the development of rural regions. This is not because governments are ignorant, but because the political elite in most cases give a low priority to reducing inequalities and to a much more stable way of development. The low level of agricultural production is paired with high waste level. There is a considerable gap between the agricultural production and consumption of products. If the producers are unable to sell their products on the place of production, there is a considerable economic loss (Fig. 5). This leads to a large-scale fluctuation of farmers' revenue, and a constant imbalance between supply and demand [Zsarnóczai, J. S. et al. (2011)].

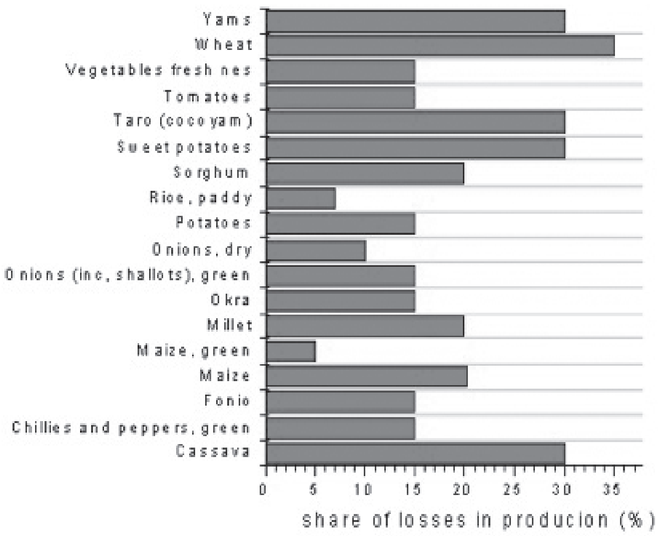

Figure 5: The losses of products in the Federal Republic of Nigeria (2006-2009 averages)
Source: Zsarnóczai, J. S. et al. (2011)] based on faostat.fao.org.

Results

The reasons and goals of transformation

Boosting Agricultural Production involves targeted interventions and reforms, including technological innovation, productivity improvement, infrastructure development in agricultural production zones, commercialisation and input supply and distribution systems. Specific interventions should include increasing the area of land under cultivation, increasing the use of improved seeds and fertilisers, enhanced cultural practices, mechanisation of agricultural production and the adoption of a value chain approach to boost agricultural production. These should be complemented with improvements in infrastructure, particularly road transport, energy, irrigation, storage and processing. Moreover, partnerships with private sector operators and farmers associations should be developed, and long-term financing should be provided at a reduced cost to small- and medium-sized enterprises in the agricultural sector. These measures are incorporated in the Agricultural Transformation Agenda of the current administration.

The negative implications of excessive food import on Nigeria:

- Nigeria's food imports are growing at an unsustainable rate of 11% per annum.
- Relying on the import of expensive food on global markets fuels domestic inflation.
- Excessive imports putting high pressure on the Naira and hurting the economy
- Nigeria is importing what it can produce in abundance.
- Import dependency is hurting Nigerian farmers, displacing local production and creating rising unemployment.
- Import dependency is not acceptable, nor sustainable fiscally, economically or politically.

In November 2012, an Agricultural Transformation Agenda was adopted in which the Governmen t's vision is was set to boost the agricultural sector, in order to make Nigeria an agriculturally industrialized economy" [Adesina A.(2012)].

New policies, institutions and financing structures to drive sector growth:

1. Deregulation of seed and fertilizer sectors,
2. Marketing reforms to structure markets,
3. Innovative financing for agriculture,
4. New agricultural investment framework.

The Federal Government has fully deregulated the fertilizer and seed sector, and sanitized the fertilizer subsidy program

- Government distribution system is inefficient and wastes resources.
- Government distribution channels subsidize corruption
- Implemented Growth Enhancement Support Program to directly target famers.

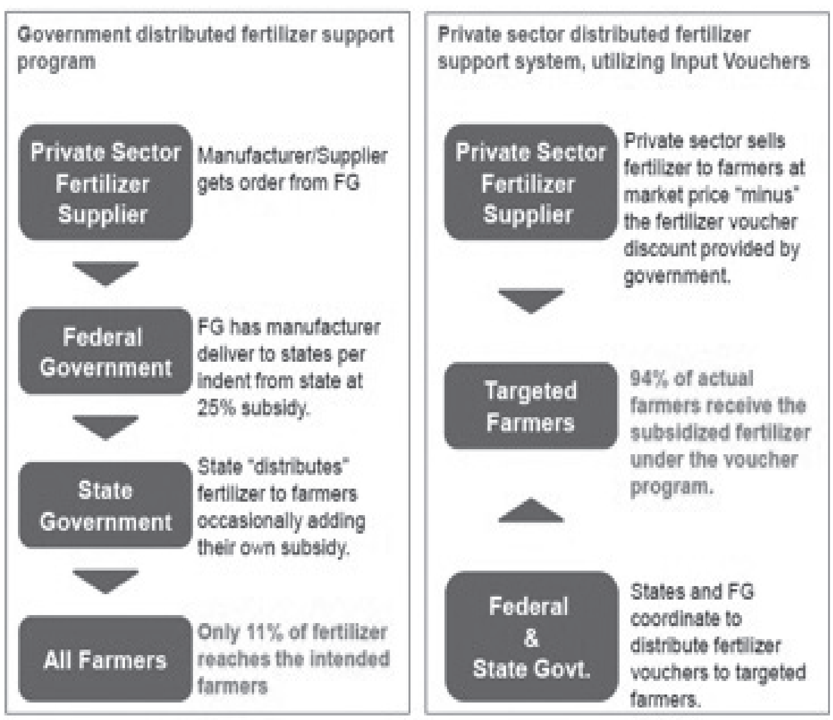

Figure 6: Distribution schemes of fertilizers
Source: Adesina A. (2012)

Distribution schemes of fertilizers

Foreign Investment in the Nigerian Fertilizer Industry: In Joint Venture with Mitsubishi, Notore is expanding its capacity to over 2.75 Million MT/year.

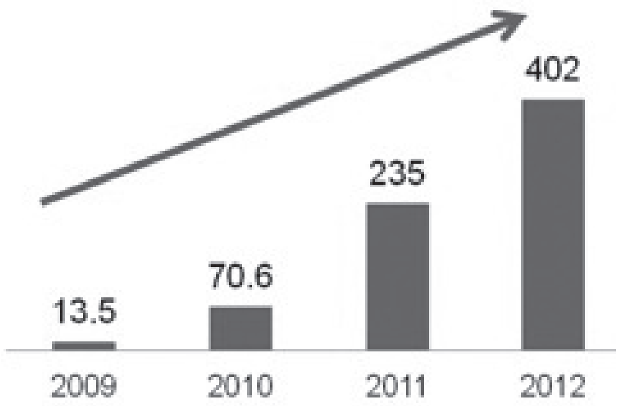

Figure 7: Growth in Production (Thousands of Metric Tons of Urea)
Source: Adesina, A. (figure for 2012 is estimation)

Food processing and manufacturing from local staple crops:

- Rapid urbanization, rising middle class incomes, supermarkets and demand for "ease to prepare foods",
- Target commodities are maize, soybeans, rice, yams, cassava, sweet potatoes, sorghum,
- Staple Crop Processing Zones (SCPZ) 14 sites selected across Nigeria for the first set of SCPZs,
- Development of finance institutions such as the World Bank and the African Development Bank, have pledged support,
- High Quality Nigerian Rice Rolled Out - Modern rice mill (30,000 MT) begins operations in Ebonyi State.

Table 4: Sample Rates of Returns to Agricultural Investments in Nigeria

Crop	Modeled Investment Theme	Start Up Capital (Fixed Assets)	IRR	Payback Period
Tomato	Tomato paste and related products plant to replace imported Chinese paste	$3.9 M for plant with 15,000 tons/annum	20%	~ 4years
Cassava	Cassava chips processing for export to Northeast Asia	$3.5 M for plant with 115,000 tons/annum plant	19%	4.5 years
Cotton	Cotton production and ginning into lint for export and domestic markets	$3.2 M for a 30,000 ton / annum ginnery	20%	3.5 years
Maize	Processing into animal feed to serve fast growing livestock market	$3.5 M for a 50,000 ton/annum plant	30%	~3.6 years
Rice	Rice production and milling to serve large domestic demand	$6.1 M on a 45,000 ton/annum rice mill	33%	3.5 years
Soya Beans	Processing into animal feeds, industrial supplements and oil for domestic markets	$10 M on a 100,000 ton plant	106%	4.5 years

Source: Adesina, A.(2012) on the bases of Monitor Analysis; Interviews with Processors; NIRSAL Analysis

Government incentives to support investors in agriculture

- New fiscal incentives to encourage domestic import substitution
- Removal of restrictions on areas of investment and maximum equity ownership in investment by foreign investors
- No currency exchange controls – free transfer of Capital, Profits and Dividends
- Constitutional guarantees against nationalization/ expropriation of investments
- Zero percent (0 %) duty on agricultural machinery and equipment imports
- Pioneer Tax Holiday for agricultural investments
- Duty Waivers and other industry related incentives e.g., based on use of local raw materials, export orientation etc. [Adesina, A. (2012)].

It was announced recently that the World Bank has approved credit f acilities of 300 million USD for Nigeria to boost agricultural output and food security. According to the World Bank, 200 USD million loan will go to small-holder farmers organised in clusters in six federal states for producers of rice, cassava, sorghum and other staples, while another 100 million USD will be used to improve crop yields, promote market access and better management. The credit will be provided under the International Development Association's terms f or helping poor countries, according to the statement. As of 2010, more than 60 percent of the country's population of more than 160 million people lived on less than $1 a day, up f rom 51.6 per cent in 2004, according to the National Bureau of Statistics [Idowu B. (2013)].

The Commercial Agriculture Development Project (CADP) is aimed to improve Agriculture production in Nigeria by supporting the commercialization of agriculture production, processing and marketing outputs among small and media-scale commercial farmers and agro-processors. CADP is supporting the Federal Government of Nigeria strategy options of diversifying into non-oil sources of growth and away from over dependence on oil and gas. To achieve the above objectives, the project will help to improve access of participating commercial farmers to new technologies, improved infrastructures, finances, and output markets, to strengthening agricultural production systems and facilitate access to market for some targeted value chains among small and medium scale commercial farmers in five participating federal states: Cross Rivers, Enugu State, Kaduna State, Kano State, and Lagos State. These value chains are rice, oil palm, cocoa, fruit trees, poultry production, aquaculture and dairy, with maize and rice as staples [CADP (2013)].

Conclusions

The Nigerian economy needs growth in order to reduce the financial burden of imports, create jobs to absorb the growing unemployment, grow incomes, reduce poverty and increase prosperity. To achieve social development is really very important in a country which is the most populous one in Africa, and where harmony and peaceful co-existence among various religions and ethnic communities is really fragile.

Creating more jobs in rural areas may diminish tensions and also the popularity of radical political groups (like Boko Haram and others) especially in the young generation. The application of new technologies and methods may rapidly increase the efficiency of the agricultural production. Perhaps those lands which have been abandoned due to the scarcity of water could be still kept in utilization.

After all the agricultural reforms should serve not only the development of the rural society but, - indirectly - this is a valuable contribution also to the peace and security of the West-African region.

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