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Gap Analysis of Cassava Sector in Cameroon

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***Abstract*—**Recently, Cassava has been the driving force of many developing countries' economic progress. To attain this level, prerequisites were put in place enabling cassava sector to become an industrial and a highly competitive crop. Cameroon can achieve the same results. Moreover, it can upgrade the living conditions of both rural and urban dwellers and stimulate the development of the whole economy. Achieving this outcome calls for agricultural policy reforms. The adoption and implementation of adequate policies go along with efficient strategies. To choose effective strategies, an in-depth investigation of the sector's problems is highly recommended. This paper uses gap analysis method to evaluate cassava sector in Cameroon. It studies the present situation (where it is now), interrogates the future (where it should be) and finally proposes solutions to fill the gap.

***Keywords*—**Cameroon, cassava sector, drivers of agricultural growth, gap analysis.

I. Introduction

WHEN presenting cassava sector's evolution, Nweke [19] utters that its development involves four stages. The famine stage, cassava is cultivated in tough times (drought, famine, war), given the ability of the crop to adapt in poor and damaged soils where other crops cannot grow any longer and its soil-conservation ability that enables tubers to remain in ground for approximately three years. The second stage is a rural crop where cassava serves as a staple food. Cassava consumed by urban dwellers is the third stage *i.e.:* an urban staple food. The fourth stage is when cassava becomes a commercial commodity and an industrial raw material. All these stages require the introduction and development of some inputs. Presently, Cassava is a commercial and an export commodity in Thailand where 90% of the production is processed and sold in European Union markets for livestock feed. It is gradually becoming an industrial crop in the world highest producing country namely, Nigeria. In Cameroon, cassava sector is in the transferring stage, from rural to urban staple crop, with a tiny introduction in the industrial sector. Cassava only can become an industrial crop if its scope, activities, techniques and means of production are developed. The sector needs efficient strategies and feasible projects therefore; investments have to focus on social capital, suitable equipments, inputs and solid infrastructures. Talking about strategies or strategic management one should carefully evaluate the cassava sector to uncover underpinning elements. The evaluation results will enable the designing and the implementation of effective plans. The current state of cassava sector in Cameroon ought to be analyzed, the objectives and goals have to be determined and suitable policies implemented. The aforementioned actions will enable the sector to lay the foundation of development stage. For cassava in Cameroon to fulfill its role, it has to meet the population food demand, satisfy raw materials' need from industries and provide enough surpluses for competitive exports.

Cassava is the third most important food crop in the tropics just after rice and maize. More than a billion people consume it, mostly in sub-Saharan Africa [8]. The rapid increase in cassava production and its upgraded transformation certainly will have significant implications on food security, employment creation, living conditions and economic growth [9]. Olomola [12] Proceeds affirming that the transformation of agricultural sector and investment in infrastructure development will contribute in no small way to the realization of the development objectives. According to FAO [21] previsions, more than 60% of global cassava production is projected to come from Africa by 2050. It will bring along the advantage of reducing the food gap and increase farm income. Nevertheless, this result will only be achievable if there is a significant increase in production. The increase in production does not solely depend on increase in yield and cultivated area, but also on factor productivity increase and upgraded infrastructures. The sector needs trained and educated work force, sufficient capital for investment and financial facilities such as credits to farmers and insurance policies. In the processing stage, government ought to adopt policies that boost the production of high-qualified derivatives and exports. It should further insure that cassava from Cameroon has the reputation of good quality. Many countries such as Brazil, Thailand, Indonesia and Malaysia have proven that rapid diversification of agricultural exports is achievable and can advance agricultural growth and economic transformation in general.

Agricultural intensification through mechanization has sustained growth and significantly reduced poverty these recent years in Ghana; making it a success story in Africa [17]. This success is due to improvement in policies, changes in the business environment and increase in investments and national inflows. During the era 1975-1978 in Ghana, the government promoted the "operation feed yourself" [17], this initiative focused on reducing agricultural spending by limiting importations and ensuring that farmers cultivate enough to feed themselves and supply urban centers. Similarly, Cameroon can launch the "operation upgrade your life" which implies, cultivate as much as possible using adequate and sustainable means and use of surpluses to satisfy industries and urban dwellers. For Cameroon to become a middle-income-economy, the growth strategy should be a productivity and export-led.

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Thailand and Indonesia opted for reforms empowering the farming world, even though the share of agricultural products in their GDP has declined these recent years, agricultural progress has been the roots and driver of rapid growth. A healthy economic growth should be sustainable, all-inclusive and non-inflationary [18]. The transformation of all the sectors is evenly important. For example in China, redistribution of land to farmers and pricing mechanism decentralization significantly influenced agricultural growth's trend in the 1980s. In Thailand, farmers work in collaboration with marketers, researchers, managers and processors for the advancement of research and adoption of improved management and marketing techniques. In Ghana, a long history of mechanized agriculture eases weeding, planting, breeding as well as harvesting. Ghana will unlikely become an African "Tiger" in next 10 years and unlikely observe rapid structural change in its economy [17]. The government supports rural producer groups by emphasizing capacity building. In Nigeria, research centers built in each state boost the creation of adapted labor-free machines for *gari* processing. Special presidential initiatives on cassava exist in Nigeria and Ghana, this scheme make it an engine of economic growth [5]. In Indonesia, the export-led policy, the education system, the promotion of highly efficient agricultural activities and exploration of new markets are the determinants behind its agricultural boom. Furthermore, dense social networks can promote economic growth and Indonesia is well known for its rich set of traditional community groups [14]. Cameroon was at similar economic development level as South Korea, Thailand, Malaysia, Indonesia, Ghana and Nigeria in late 1950s and early 1960s. While Ghana and Nigeria are now miles ahead of Cameroon's economy, Thailand and Indonesia are nowadays, two key players in the international economic context.

In Cameroon, there are numerous works on the field of agricultural improvement and upgrading. These researches are from different studies, fields, and perspectives [23], [24]. Large share of this literature comes from Nigeria and Indonesia followed by Thailand. [25] Together with [27] present the crop's economic aspects, its opportunities and constraints at both community and national levels. [29] Present the fermentation of cassava in three main cities and traditional storage techniques. This study intends to add value to the literature, presenting the goal cassava sector can target and filling the gap between the actual and the expected.

The performance of the agricultural [cassava] sector over the years is far below expectations because the development efforts have failed to place it at the foundation of economic growth and development [12] and [22]. In Cameroon, the cassava sector's state is deprived but full of opportunities. The research examines the current condition of cassava sector in Cameroon as well as its goal, and then explores appropriate policies that enable the sector to attain its purpose. The main objective of this study is the strategic management analysis of a promising sector, the scanning of its goal and challenges, in addition to the promotion of effective and efficient policies based on a current analysis. Developing countries should identify key commodities and products, production and marketing schemes that support rapid development of a competitive commercial agriculture.

II. Method and Analysis

Data were collected from Cameroon ministry of agriculture and rural development online periodicals [30], Food and Agriculture Organization of United Nations [1], [21], the World Bank and the International Monetary Fund websites [2], [3]. This paper chooses to use gap analysis to evaluate the actual situation of cassava in Cameroon, to set the sector's target and to identify feasible strategies to overcome the gap.

Gap analysis emerged from the strategic management literature in the 1980s. Planners use it as a mean to evaluate customer and production lines, products, sectors or branches of activities with the quest to uncover some unexploited opportunities and adopt feasible strategies to bridge the present with the expectation. [4] Used a fuzzy gap analysis model in automation construction to evaluate the performance of engineering consultants. [16] Uses it to access environmental enrichment. In the same line, [6] in service marketing, studied the achievements of service quality using a statistical approach. Fig.1 illustrates the gap analysis situation.

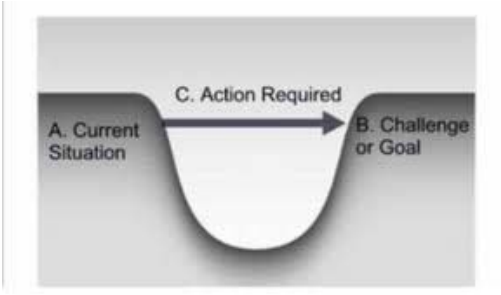


Fig. 1 Gap analysis illustration

This study chooses two Asian and two African countries. The choice's criterion is the results these countries achieved with their agriculture, specifically cassava sector, taking it from subsistence level to a highly performing industrial crop. These countries are Thailand, Indonesia, Nigeria and Ghana. In the dawn of their independences, they shared similar economic development levels with Cameroon. However, they have experienced, in the midst of recent decades, rapid economic growth through their agricultural sectors. Ghana is a country that has substantially succeeded to reduce poverty both in rural and urban areas and attained its Millennium Infrastructural Grants (MIG) in 2008. Nigeria is the highest producer of cassava and government initiatives such as the Obasanjo's agricultural policy, the existence of a broad number of high levels of research centers in each state together with the intense collaborative works have taken the cassava sector to its present position. Thailand is the leading exporter of cassava-modified starch and pellets. It supplies 90% of the European Union market for livestock feed. In addition, land use expansion, collaborative associations, mechanization and advancement in research have considerably

upgraded Thai cassava sector. The Indonesian large population, its relative upgraded rural infrastructures, the abundant and complex social networks, the cultivated land expansion and government ability to maintain low agricultural prices have sustained cassava sector in a good path. We choose these four giants of cassava production and transformation to serve as the level cassava sector in Cameroon targets. The main analysis indicators are production level, cultivated area, yield and producer price index. In addition, we scan their policies, education sector and labor force, research programs, social networking together with financial abilities with the objective of identifying the determinants of their cassava sector's growth.

III. Results

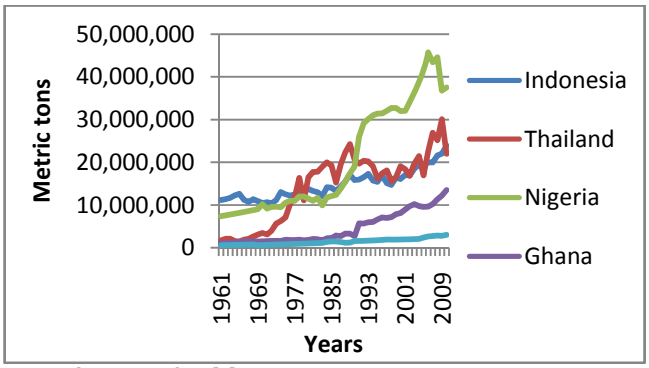
A. Presentation of Cassava Sector in Cameroon: Where is it now?

Since 1961, Cameroon has averagely produced 1,407,969.02 metric tons of cassava roots annually and the production level has more than tripled. In many parts of the country, cassava leaves, which are rich in carbohydrates, serve as vegetable. Roots are consumed boiled or traditionally processed. The consumption per capita accounts for 0.16. The industrial processing is not developed and there is up to date, no a nationwide company processing large quantity of roots. Instead, there are scattered smallholder processors mostly operating informally and in risky conditions for domestic consumption. A tiny portion is exported to neighboring central African and European countries. Analyzing the factors impeding the production level, results from work conducted by [28] sustain that, cultivated area, yield per hectare and farmers fields school influence the production level. Averagely, Cameroon cultivates 153,141.46 hectares. The ratio of cassava-cultivated land over the national cultivated area is 0.022, over the national arable land is 0.026, and over the country's total area is 0.003. Unlike Indonesia, where the age of roots, starch content and varieties of planting materials determine prices, in Cameroon, prices are mostly influenced by production and marketing factors.

Women represent 93% of the work force [28]. The majority of labor force is aging, untrained and less educated. Generally, farmers do not have access to information, communication, and credit. They live in rural communities with nonexistent or outdated infrastructures. Farmers and women association's actions are uncoordinated and government policies do not advance the engagement of youngsters in agriculture. Some choose to immigrate to urban areas for healthier living conditions. Even though the literacy level is 72% [31], the curriculum design does not encourage school or university graduates to embark in agriculture and related careers. The agronomists and agricultural economists exert in offices whereas their impact is as well needed in fields. The actors are not coordinated (researchers, agronomist and agricultural economists, farmers, transporters, sellers, exporters, processors, etc). Despite the fact that cassava is among the strategic crops in Cameroon, it does not receive enough concern. Research and government policies are not policy-oriented to pave way for its development [18], [20].

B. Future Perspectives: Drivers of Agricultural Growth

1. Increase in Production



Source: data. mongabay [2]

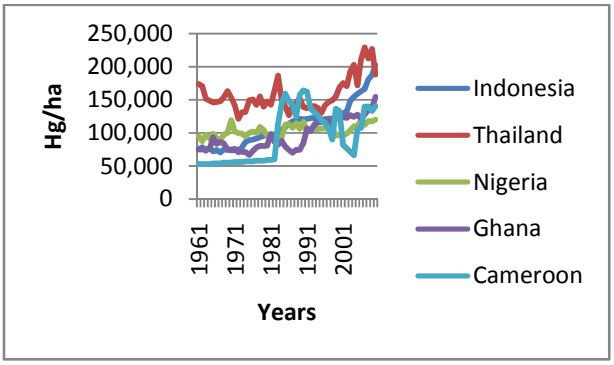
Fig. 2 Evolution of cassava production 1960-2010

When presenting the evolution of cassava production starting 1961, it is noticeable how Thailand, Ghana and Cameroon started at similar levels with 1,726,200; 1,050,000 and 580,000 metric of tons respectively. In 2010, Thailand produced 22,005,700 Ghana 13,504,100 and Cameroon only 3,024,000. Thailand multiplies its production about twenty times, Ghana more than ten times and Cameroon only six times. Nigeria is the country with the highest production level, Thailand with the fastest growing one, and Cameroon with the lowest and the slowest. What did Nigeria, Indonesia and Thailand implement to boost their production?

In order to increase cassava production, both cultivated area and yield should grow similar to Thailand, Ghana and Nigeria (see fig.3 and fig.4). Furthermore, the introduction and extensive distribution of high yield, pest and disease resistant, early maturity planting materials (HYV), boosted the production level. The constant organization of farmers' field schools (FFSs) in Indonesia coupled with their large social networks enabled high level of trust and lent financial besides the technical support to farmers. From the 1960s up to now, the production of cassava in Nigeria has more than quadrupled following the evolution of modern farming, research and wide distribution of HYV. A true-life story took place in Nigeria, when a researcher who participated in the development phase of high yield, diseases and pests resistant and early maturity varieties of planting materials took the challenge to distribute them nationally. The researcher was attending social events such as churches, parties and festivals with small bundles of newly developed HYV of cassava stems in his car boot and distributing them after the service to farmers for a tryout. The story became a success story when, after seventeen years of such a work, the improved stems propagated in all farming areas. Adequate equipments, capital and labor productivity improved Thailand cassava sector. Collaboration among researchers, marketers, farmers and processors enabled the implementation of highly effective managerial and marketing practices. The production itself diversified as each variety was

designed to satisfy a given derivative requirements. The enhanced market access through (infrastructures, marketing and communication, adapted storages, better means of weeding, planting and harvesting) was simplified and price mechanism liberalized. Imports were reduced and Thailand became the number one cassava exporter. Even within Asia, cassava production in Thailand and Indonesia has grown faster than their counterparts [9], [15]. Among the by-products, chips and pellets production have grown tremendously in Thailand, followed by modified-starch.

2. Increase in Yields



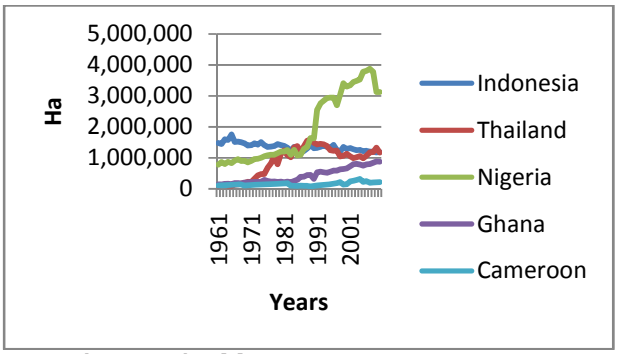
Source: data. mongabay [2]

Fig. 3 Yield's evolution from 1961 to 2010

According to fig. 3, from 1983 to 1997 a relative higher yield per hectare was recorded in Cameroon with the highest score of 16.43 tons/ ha in 1990. Subsequently, yield level decreased, it is gradually regaining a higher level but results only show 14 tons/ha in 2010. Thailand has always maintained a high productivity (mechanized labor, research and capital). Apart of the use of HYV, improved inputs and equipments are provided to farmers and insurance companies that protect laborers. These measures highly encourage farmers to involve in agriculture. In Nigeria, the government put in place an insurance company protecting farmers against the risks link to the exercise of agricultural activities [5]. Government heavily invests into the sector and farmers have access to finance facilities, which enable them to hire extra workforce and hence increase yield. Altogether, rise in productivity, mechanization of farming process, application of fertilizer, market access and biological control program affect the yield per hectare level. According to [11], drawing from the work of COSCA, 14.65 T/ha is harvested in Nigeria without the use of fertilizer, Cameroon can achieve this result given the fact that they share similar climate conditions. The Nigerian Stored Products Research Institute (NSPRI) has developed low-cost and practical methods, which can store fresh roots cassava for at least 6-8 weeks. Farmers and processors can apply this method with ease [12]. Appropriate methods haves also been developed for storing cassava stems up to 2-3 months before using them for planting. These measures have substantially increased yield level in Nigeria. One of the fundamental problems of cassava sector is the unavailability of the planting materials. After harvesting, they stems usually dry, replanting them is one cause of limited yield in Cameroon.

3. Increase in Cultivated Area

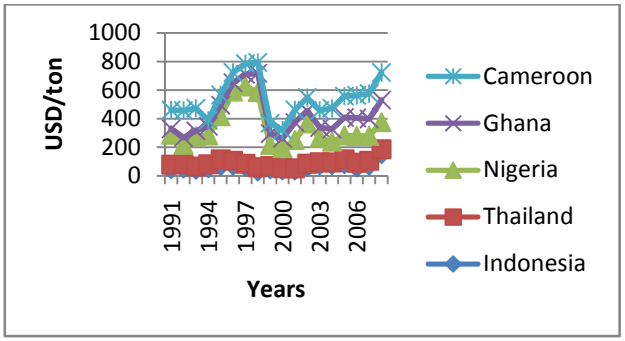
In 1961, Thailand recorded cassava harvested area of 99, 240 hectares while Cameroon had 109,000 hectares. In the following years, Thailand gradually expanded its cassava acreages up to 1,168,450 hectares in 2010 whereas Cameroon only cultivates 215,000 (fig. 4). Government reforms and even-distribution of land among farmers highly favored Thai's farm size expansion. In Cameroon, more than 90% of cassava farmers are women. Unfortunately, women are not entitled to land rights causing them, among other things, to cultivate small farms (less than 2 hectares). According to fig. 4, Cameroon has recorded since 1961, the slowest cultivated area expansion rate. The most prominent increase in cultivated area is recorded in Nigeria. Nigeria substantially increased its cultivated area and production efficiency through the introduction of HYV. In order to increase cassava-cultivated area, government should provide extra land to farmers and financial support that can facilitate the hiring of additional labor. It can promote the use of un-arable land given that cassava can grow in poor and damage soils. In Ghana, cultivated land has expanded for more than 60% over twelve-year period, from 4.5 million in 1994 to 7.2 million hectares in 2006 [17], however, land productivity has not increased. A sustainable agricultural growth requires both land expansion and land productivity [17].



Source: data. mongabay [2]

Fig. 4 Evolution of cultivated area 1961-2010

4. Improvement in Producer Price Index



Source: data. mongabay [2]

Fig. 5 Producer price index 1991-2010

The Cameroonian cassava producers have always perceived more revenues on a ton of roots compare to other countries (Fig. 5). This scenario brings a relative higher income to producers. Nevertheless, it hinders Cameroonian cassava competitiveness on international markets. With a higher price and doubtful quality, cassava from Cameroon and its by-products cannot compete; even at national level, the domestic prices are higher than importations' and substitutes'. Hence, the objective of reducing importations and increasing exportations is hampered. To resolve this problem, Thai government provided price incentives to farmers whereas Ghanaian and Nigerian administrative policies upgraded solid infrastructures. According to work done by [28] in Cameroon, the only cost associated with cassava price is transportation, and many transportation facilities such as roads, bridges and cars are in a degraded states and fuel prices rise constantly. Consequently, transportation of fresh crops becomes challenging. This situation damages the quality of the roots and raise prices. Upgraded market access and development will definitely improve cassava commercialization [11].

5. Infrastructures

Government should invest in solid infrastructures. Transportation in Cameroon is poorly maintained. There is approximately 6,000 km of tarred roads. Generally, they link regional capitals only leaving divisional and sub-divisional rural areas. The railways do not accommodate transport of fresh crops too. Processed commodities and crash crops such as cocoa and coffee have transport corporations, the rest of the agricultural products lack this facility. Markets are not furnished with storage facilities, where these exist, they are not sufficiently equipped with refrigerated accommodation; an attribute highly demanded given the fact that cassava is a perishable crop. Easy market access *i.e.:* roads leading to farms, constant energy supply and portable water, proximity with hospitals and banks, education facilities for children are the incentives that upgraded cassava sector in Thailand and Indonesia. These undertakings encourage many to embark in agriculture and related activities. In order to advance agricultural sector in Cameroon, marketing and communication networks, access to internet and telephone and transportation costs should be improved [9], [26].

6. Demography

Many recent works have proven that an important demography is a crucial driver of growth (*e.g.* China and India). A large population symbolizes synergies, large labor market and large market share. Many Asian countries are booming owing to their population size. Surprisingly, the populations of African countries are among the least in the world. A large population demands income and food [9]. In addition, tastes, desires and needs evolve with time, income and health conditions. Large population is diversify and therefore, calls for different practices and understanding. The first producer of cassava roots is the Africa's most populous country (Nigeria). Frequently, it disputes this position with the world fourth most populous country (Indonesia), and sometimes, Thailand fig. 2.

Cameroon needs to increase its population level and this increase may depend on many criteria. According to the fertility rate, Cameroonian women have the opportunity to have more children as the total fertility rate is 4.31; while this is only 2.18 in Indonesia and 1.85 in Thailand [2]. The total fertility rate is relatively higher in African countries compare to Asian. However, Asian countries still have higher population. Why are their populations higher? Is it because the "natural population increase" occurs in Asian countries and not in the African ones? According to the World Bank periodicals [2], natural population increase takes place when the birth rate is higher than the death rate and a national growth rate depends both on migration rate and natural population increase. It is noticeable how these countries, while controlling their births, have upgraded health facilities. Improvement in financial services and retirement custodies, enhancement in living conditions and poverty reduction, upgrading of infrastructures and reduction in unemployment have reduced their crude death (6.3 in Indonesia and 8.5 in Thailand, but 14.4 in Cameroon for 1000 inhabitants) [2]. These countries have substantially fought early infant mortality and increase life expectancy (73.6 years in Thailand and 71.0 in Indonesia, and only 54.04 in Cameroon). Moreover, population grow very fast in Nigeria with a rate of 2.55% a year while Ghana, Indonesia and Thailand score 1.78%, 1.04% and 0.56% respectively [31].

7. Education, Training and Labor

The most basic capabilities for human development are to lead long and healthy lives, to be educated, have access to the resources and social services needed for a decent standard of living and to be able to participate in the life of the community. Without these, many choices are simply not available, and many opportunities in life remain inaccessible [31]. Social capital promotes economic growth [14] and improvement of production systems implies increasing efficiency and profitability for farmers [9]. There is not another effective way to upgrade the social capital if not to sponsor adapted education and training to each group of a community. The state of a nation's educational sector, among other things, determines the economic health of the nation [18]. The evolution of farming system derives both from traditional and curriculum activities. The successful way to introduce good farming systems in a region or a country is to study and understand this community, its beliefs and cultural heritage, soil, and climate. The level of understanding of those involve in farming, their age, family size and level of income, as well as their life standards (poor or non-poor) is necessary. Policies should be design to enable rural dwellers enhancing farming systems for better yields. Farmers' participation approach and farmers' field schools (FFSs) are two techniques that have proven their usefulness. FFSs consist of educators working with farmers for approximately one year, teaching productive techniques on weeding, clearing, breeding, planting, harvesting, sometimes, storing, and processing

cassava roots. In Nigeria, we can evidently distinguish the traditional cassava market and the broad new emerging market for industrially processed cassava. Nigeria has a large network of research institutes that develop technological innovations in agriculture. The Nigerian National Agricultural Extension Research and Liaison Service (NAELS) ensure that there are proper linkages between research and extension activities in order to disseminate research findings among farmers [12]. Each state of the federation also has an Agricultural Development Project (ADP) that provides direct extension services to farmers.

To boost the exportation of cassava products from Cameroon, research and development should focus on derivative commodities and these should satisfy marketing and customers' standards, taste, and requirements. Universities and colleges curricula have to incorporate agriculture and extended activities: agricultural extension, agricultural and mechanical engineering. Agricultural economics and agronomy courses barely exist as programs in Cameroonian higher institutions compare to other countries. Cameroun has approximately twenty institutes of technology and engineering compared to several hundred in Indonesia and Nigeria. Level of literacy is 94% in Thailand, 92% in Indonesia and only 72% in Cameroon. After school, even the limited number of agronomists, agricultural economists and related professionals keep working in offices and are scarcely involve in fieldwork where their influence is assumed to be more effective. Agricultural professionals should play the double role of designing policies and being the role models that lead farming activities. They should be in-charge of large farms of all sorts of crops, implement the techniques learnt at school, and supply the longer chain of commercial commodities. Doing this, their community-peers will be able to copy and expand the techniques to the entire region. The improvement of education in agriculture and related fields will boost job creation and the agriculture can therefore become a commercial enterprise.

There is a high Academic freedom in Ghana [17], and it mostly empowers agricultural sector and upgrades education curriculum focusing on engineering, technology, research and development programs. In Ghana, agriculture is crucial both for urban and rural communities. Even white-collar workers have farms; more than 24% of urban households are engaged in farming work [17]. Improvement of cassava along with the promotion of agricultural sector earnestly enhances national living conditions for example in Thailand human development index is 0.68, Indonesia 0.61, and Ghana 0.54 whereas Cameroon only scores 0.48. Improving the education sector can significantly advance Cameroon's human development index. By investing in people, the government enables growth and empowers population, hence, develops human capabilities.

8. Technology Improvement

The farming systems can barely change when technology development is nonexistent. Cassava is a labor-intensive crop. The sector's improvements, farming's progress mechanization and productivity raise need to undergo labor-intensive technology change. Technology advancement requires improvement in curricula, the creation of many research groups and availability of research capital. Government has to finance research and adopt policies that enable the implementation of research outcomes in synergy with actors. Companies and communities can benefit from research results only if they are implemented. The use of technology implies the acquisition of equipments. In Nigeria, IITA branch has created a machine adapted for the processing of *gari*, easing the work of many women. In Ghana, cassava harvesters have been used for some decades now. Thailand and Indonesia have different sorts of equipments for breeding, planting, weeding, harvesting, peeling, drying and processing cassava into starch, pellets, ethanol among others. In Cameroon, Djilemo's oven has significantly eased the drying stage of pellet processing. This oven can use the cassava peels as energy source reducing production costs. However, it is not widely distributed. The large distribution of this new technology can increase pellets and *gari* production significantly. Technological progress and greater mechanization are needed to improved productivity, taking the yield from 13 tons/ha to almost 20 tons as in Thailand (fig. 4) and enlarging farm size given the fact that only 215,000 hectares are used for cassava farming whereas lot of arable lands are available. The technology should not only be available, but also affordable and adapted to those requesting it. It should be suitable for their living conditions, ecosystem, cultural belief, formal training and education. Miguel [14] noted that in some African countries, strong traditional networks and norms might discourage the adoption and implementation of economic activities, further sifting growth.

9. Governmental Policies Enhancement

For a country to make full use of its potentialities there should be economic and political empowerment, Institutional resources provided to each sector and all-Inclusive growth strategies. Trade and economic policies are two critical factors the government has to use to smooth the progress of economic advancement, growth and development [9]. Thailand and Indonesia along with other Asian countries set agriculture as a key sector. For more than three decades, these countries have experienced rapid growth. The speed of growth and improvement in population living conditions has been described as Asia's miracle [7]. Government should provide incentives to farmers in addition to land rights, for the betterment of agriculture. It has to promote high value crops by professional farmers and ensures exports have good reputation. Choosing pivotal economic sectors is essential and setting incentives for commodities to compete among themselves is fundamental for agricultural growth. Government policies should give equal opportunities to all agricultural commodities, foster dynamic agri-business and set initial conditions for the evolution of the farming world by encouraging the adoption of efficient and productive farming systems. The government should boost agricultural commodities for export and reduce imports. It should set

strong qualities control agencies to protect population's health and preserve export qualities. For example in Nigeria, presidential committee on national cassava production and export in 2002, the mandatory requirement (since January 2005) that 10% cassava flour should be included in all composite formulations for the baking and confectionery industries, and the introduction of *gari* in the National Strategic Food Reserve Programme (NSFRP) which was hitherto limited to grains are some measures that greatly impacted cassava sector in Nigeria [12]. The Nigerian rapid economic growth this recent years confirms the correlation between political stability and economic growth, but for this growth to be sustainable, it should be all-inclusive, broad-based and transformational [18].

Public investment in rural infrastructures is highly required. Cameroon has about 6,000 km of tarred roads representing 15% of the entire national road network. Though many roads are to be built, those leading to rural communities hardly appear in the agenda. Higher producer price index denotes bad conditions of infrastructures (from farm to the markets). It is obvious that farmers from Thailand and Indonesia, Ghana and Nigeria are relatively at ease in delivering their products. Cameroon has one economic zone. It accesses the Atlantic Ocean in three different parts. Each of these parts can expand as an economic zone. In the northeastern part, there is an important commercial counter disserving Chad and Central Africa Republic, it can be promoted special economic zone too. In the eastern part, government can set another special industrial zone at the connecting point with Central Africa Republic, the Congo Republic and Gabon. Altogether, Cameroon has the potential of establishing five special economic zones. The expansion of special economic and industrial zones has greatly improved the economic growth of China. Health infrastructure is another key factor; for any improvement in economic activity, a healthy work force is an ultimate. Upgraded health facilities maintain a competitive agriculture. Developing countries can copy what has being implemented in developed countries in order to improve living conditions, technological progress, economic growth and development. However, government should first understand and analyze the country's conditions before setting policies [17] because each country has its specificities.

10. Social and Cultural Associations

Indonesia is recognized as one of the most mixed culture society in the world. In Indonesia, vast majority lives in cultures that historically have had a rich set of community organizations and rich informal networks [10], [13]. Cultural heritage provides ability to social and farmers' organizations. Informal financial groups intervene and maintain growth where the hands of government are less visible [14]. Belonging to an association or a group of farmers usually promote exchange of knowledge and assistance. They represent the easiest way to reach farmers for any participation activity, focus group discussion and even farmers' field school. The evolution of farming systems is more rapid in countries with higher social interactions and group activities *i.e.:* Asian countries. Where there is lack of institutional resources, associations, farmers or communities' development initiatives intervene. In some parts of Nigeria, communities' development initiatives have built hospitals, schools, roads, commercial centers, research groups, cultural buildings, markets, etc. High culture of working groups and corporation among nationals has taken cassava sector in Thailand to its high position. In Thailand, professional farmers work hands in hands with researchers, government agencies, producers, traders, marketers, and processors in order to capture each customer's group and product requirements. Moreover, they represent a pressing group that influences the economic environment and government policies. They are at the foundation of pioneering incentives, better management practices and improved marketing. Farmers and marketing firms therefore develop contracts so that production is channeled well in advanced. This scenario promotes professionalism in farming, voluntary social interactions and associational activities, level of trust, informal cooperation, and dynamic agri-business. In Cameroon, women associations should be encouraged and supported.

11. Financial Facilities

After the Cameroonian agricultural bank's bankruptcy and the removal of financial aids to farmers prescribed by the SAP measures of the Breton wood institutions, farmers suffered financial failure. It is expected that, the new agricultural bank in launching process will increase farmers' financial assistance such as availability and easy access to credits. Olomola [12] confirms that reduction on growth of credit to the private sector has adverse consequences on investment and output expansion. For the improvement of investment climate, Nigeria established in 1987, Nigerian Agricultural Insurance Corporation (NAIC) to provide insurance cover to farmers against natural disasters and risks associated with agricultural activities. The existence of NAIC, has encouraged commercial banks to be more liberal in granting credit to farmers. In Indonesia, informal financial institutions based on social capital, including rotating saving groups, provide an important source of investment for agricultural projects [14].

IV. Fill the Gap: Actions Required

To be successful, Cameroon cassava sector, especially products, should be competitive in the international as well as in domestic markets. The most profound lesson from Thailand is the integrated development of production, processing and marketing components of the system [9]. [11] Recommends a market-leg cassava strategy with emphasis on agro-industrial development and the mobilization of resources through the partnership to improve domestic efficiency and subsequently tap into regional markets in west and central Africa. The global cassava development strategy suggests that countries interested in using cassava for promoting rural development pay close attention to the following: Identification of growing markets, organization of a consistent and sufficient supply of uniform high quality products, production of cassava products of acceptable quality and at competitive prices. Close

cooperation of all those associated with the opportunity right from the onset [5]. An in-depth analysis should be carried out in order to understand the role of each stakeholder. The resumption of long-term core research funding for cassava research in Cameroon is critical and urgent. Cassava breeding and engineering research ought to be integrated. Engineers and breeders need to work together to develop easy-to-harvest and process varieties. Harvesters and processers can be provided to smallholders. Cameroon government needs to encourage the private sector, for example with intellectual property rights protection, to make the necessary investments in developing technologies for expanded use of cassava as raw materials in the livestock feed, food, and non-food industries. It should also align development objectives with respect to national interests, strengthened public institutions and ensure appropriate national budget implementation.

Effective and efficient Policies should be advocated and harmonized; Better projects screening since in the past many white elephants projects have not yielded better results. Improved monitoring and evaluation: actors should be trained with frequent organization of FFSs, focus group discussions and cassava trade fairs. In addition, the government should ensure that results from research are exploited adequately. Data, activities and number of actors are not sufficiently recorded and this limitation renders many analyses not conclusive.

In conclusion, to close the yield gap, HYV have to be widely distributed, farmers should adopt highly productive farming techniques and equipments. Land should be evenly distributed among rural populations. Government amendment on land rights allowing women and youngsters to access larger cultivated areas can solve this issue. Cameroon can adopt a policy promoting the use of un-arable lands since cassava can be grown in poor and damaged soils. Improved and solid infrastructures near or leading to farming communities, health facilities, financial assistance to farmers, better education can upgrade both producer price index and farmers' living conditions. By closing yield, limited cultivated, knowledge, financial and income per capita gaps, obviously, the production gap will be closed and national poverty level reduce significantly.

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