

**Challenges of Sugar Production in the Savannah Sugar Company Limited,  
Numan, Adamawa State 1973-2013.**

**Aminu Bakari Buba**

Department of History and Diplomatic Studies,  
Federal University, Kashere  
P.M.B 0182, Gombe State Nigeria.

**ABSTRACT**

The quest by the Federal Government of Nigeria to attain self-sufficiency in sugar production and consumption led to costly projects in the northern part of the country between the 1960s and 1970s, the largest of which is the Savannah Sugar Company Limited, in Numan Adamawa State. The integrated sugar company has an installed capacity of one hundred thousand (100,000) metric tonnes of sugar per annum. This paper analyses the performance and utility of the company since inception. The research utilises both primary and secondary sources and visit to the company site. An integrated company of this nature is capital and labour intensive with several challenges. The significant findings of the work shows that, the company since inception had only attained a maximum capacity of 21,580 tonnes of sugar in the 1991/1992 season out of the designed capacity of 100,000 per annum as a result of some teething problems such as inadequate funding, poor government policies, inability of the company to explore other sugar by-products to increase revenue generation and overdependence of foreign imports on inputs and spare parts among others. It were parts of these challenges that led to its decline and subsequent privatisation to the Dangote Industries Limited.

## **Introduction**

Sugar is among the essential commodities in the Nigerian economy. Being rich for its nutritional content and strategic economic significance in revenue generation, its source is derived from the sugarcane plant which is high in sucrose. Sugar production contributes immensely to job creation and national income; and its by-products supplement animal feeds, pharmaceutical products and power generation. As such the establishment of Savannah Sugar Company supports a large portion of the population in the countryside with more than 10,000 workers in the production season directly and indirectly. Its success helps in preserving the prestige of the country during its hey days by sustaining the level of sugar supply for national consumption, in addition to creation of employment and reduction of its importation among others. The existence of the company opened up new avenues for skilled, semi-skilled and unskilled workers to secure employment and sustain their livelihood thus reducing social restiveness and insecurity. A company with this tremendous magnitude is inevitable without challenges.

For several decades, Nigeria battles with the quest to produce sugar at optimum rate to achieve its demand and supply. It was the plan of the Federal Government of Nigeria to substitute the importation of sugar that led to the establishment of Savannah Sugar Company in Numan. Sugar consumption in Nigeria has increased steadily over the decades from several thousand tones to over a million in the first decade of the twenty first century. This paper aims at identifying some of the major challenges of sugar production in the Savannah Sugar Company, the largest integrated sugar producing factory in the West African Sub-region which was established in 1973. Some of the major challenges addressed in the paper include; inadequate funding, low capacity utilisation, outmoded state of the art machines and equipments, stringent government policies, lack of improved sugarcane variety introduced to the area over a long period of time and poor working condition and remuneration, to mention but a few.

## **Geographical Location of Numan.**

Numan town was part of the defunct North Eastern State and Gongola State. It is presently one of the 21 Local Government Areas (L.G.A) of Adamawa State in the North Eastern Nigeria. It is located on the confluence of River Benue and Gongola, on a geographical position of 9<sup>0</sup> 28' North, 12<sup>0</sup> 2' East.<sup>1</sup> The town is bounded by Guyuk L.G.A in the north, Demsa L.G.A in the east and south and Lamurde L.G.A in the west. Numan L.G.A has a total

landmass of 927.571 square kilometre.<sup>2</sup> Modern Numan L.G.A is today noted for its trade in agricultural produce like maize, beans, millet, soyabean, rice and fish among others. Outside the main town and some kilometres away to the north is the estate of Savannah Sugar Company Limited (SSCL).

### **Establishment of the Savannah Sugar Company**

Savannah Sugar Company is a fully integrated sugar producing company established by the Federal Government of Nigeria in 1973.<sup>9</sup> The Company is located in Numan L.G.A, 81 Kilometres away from Yola town, the Adamawa State capital. The company occupies a landmass of 32,000 hectares out of which 5,200 hectares are currently under sugarcane cultivation. The company's principal production activities include growing and processing of sugarcane with products like refined sugar, molasses, bagasse and filter press mud.<sup>10</sup> Savannah Sugar has an installed capacity of 100,000 metric tonnes of sugar production per annum and a daily sugar production of 4000 metric tonnes.<sup>11</sup>

The Sugar estate is networked with irrigation canals that have their source from Kiri Dam, constructed in 1982 by the Federal Government of Nigeria and managed by the Upper Benue River Basin Development Authority Yola (UBRBDA). The dam has a capacity of 290.000.000 m<sup>3</sup> with 1.300m earthfill category, the reservoir capacity is 615x10<sup>6</sup>m<sup>3</sup> and a spillway of 4.000m<sup>3</sup>/Sec. The Kiri Dam which is ranked number XII among the River Basin Development Authorities in the country's RBDAs,<sup>12</sup> is constructed from the tributaries of River Gongola/Doma with several canals channelling the water in about 12km distance to SSCL.<sup>13</sup> SSCL estate and canal facilities include a 90km estate road, 198km permanent canals, 203 permanent drains, eight night storage reservoirs with a capacity of 1.055.000 m<sup>3</sup>.<sup>14</sup> SSCL is about 22 kilometers north east of Numan<sup>15</sup> and is easily accessible from Gombe, through Gombe Numan Road and from Yola, through the Yola Jalingo road.<sup>16</sup>

Since its discovery in the 1950s, the Nigerian economy primarily depends on oil and gas export with a significant contribution to the nation's Gross Domestic Products (GDP). The need to diversify the economy and attain self-sufficiency in sugar production was revealed in the Second National Development Plan of Nigeria between 1970-1974 that prompted the execution of ambitious and costly industrial projects like sugar,<sup>17</sup> this was one of the motives that led to the establishment of Savannah Sugar Company Limited, in 1977 a factory was erected and production began in the 1980/81 season.<sup>18</sup>

### **Significance of the Savannah Sugar Company**

The sugar business is both capital and labour intensive; establishment of SSCL has led to the creation of skilled and unskilled jobs to the masses, before the privatisation of the company, more than 5357 workers were fully active according to the company's payroll report in 2003, not to mention the seasonal labourers that are hired during sugarcane cropping harvest and production. Also, the company has impacted the community on several aspects in modern farming technique through social responsibility of the company in areas like; technological transfer, fertilizer application, chemical spraying, tool fabrication and mechanical operations by being employees.

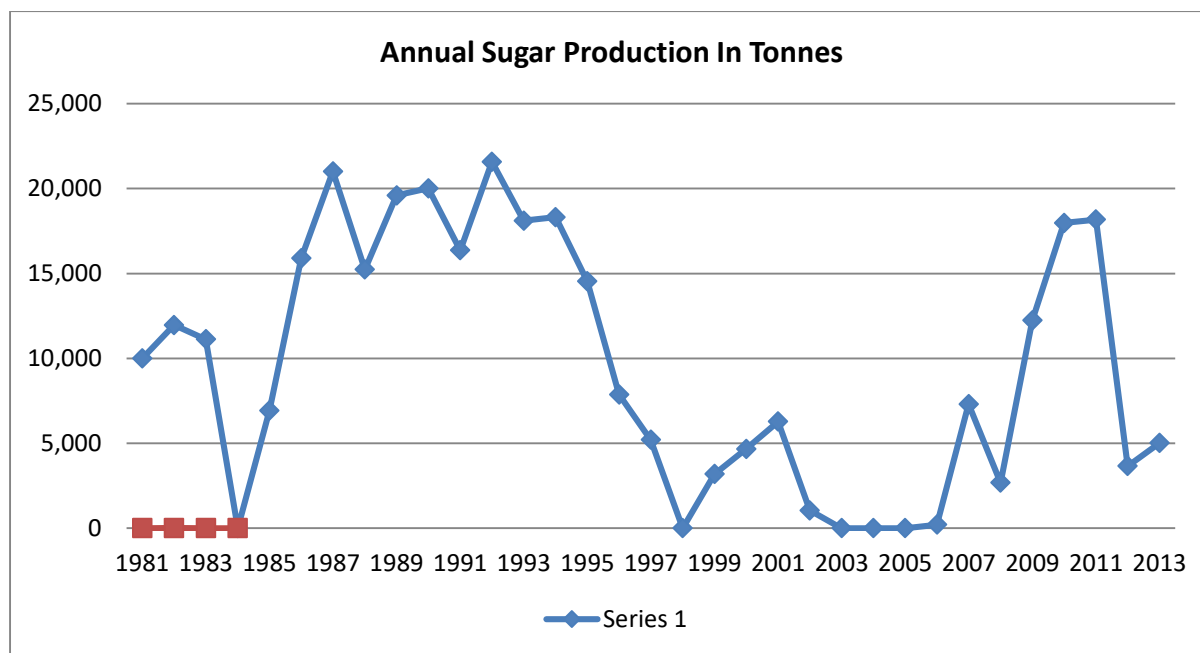
Apart from sugar, there are various by-products of cane processing which are available in the company, among which include; bagasse use in producing electricity for the company and the neighbouring villages which stands at 23 megawatts, bagasse also use for producing paper and ceiling boards. Molasses on the other hand is use in the production of yeast for bakery and ethanol processed by secondary industries, filter mud is use as fertilizer to improve soil fertility and cane tops and leaves for animal feeds. If improved upon, these by-products can offer a wide range of multiplier advantage.

Certainly there is a peculiarity about an agro industry of this magnitude, one of the key benefits about agro industries is that, they are located in places were by nature they will employ and bring about rural development. A tremendous impact of industrial location is its considerable attraction of people in a well-structured community leading to population growth; the neighbouring settlement pattern of the company has been elevated tremendously from village status to towns harbouring several ethnic groups from different parts of the country. The population of Numan as a major town has increased significantly due to influx of people as a result of the company, leading to expansion with hundreds of buildings. Gyawana happens to be the immediate hit of SSCL presence, the Village population has increased significantly, there is a well-structured lowcost housing built by the Federal Government for SSCL staff, networked with constant electricity, pipe borne water and a junior staff club which enhance convenience and social life. The village grew with lots of businesses moving on. Other significant settlement that grew as a result of the company's presence include; Boshikiri and Lafiya along Gombe Road, Ngbalang along Numan Road, Kem along Guyuk Local Government road, Sabong Pegi, Kwapuke to mention a few.

### Historical Development of the Savannah Sugar Company

The Savannah Sugar Company started with some economic problems during the period of its take-off. The Commonwealth Development Cooperation (CDC) of Britain who were the technical partners in managing the company had some disagreement with the Federal Government of Nigeria for its failure to meet up with its contractual agreement, when the company was established, it was agreed that the CDC would develop the irrigable sugarcane estates to 12,500 hectares in a span of ten-year period, however by 1982 only 2,500 hectares was achieved in the four major estates namely; Levee estate, Kem estate, Garin Isa estate and Bafiyo estate. The government responded by bringing a Director and a Schedule Officer from the Ministry of Industries to take over the operation of the company. Unfortunately the initiative failed and consequently the company’s production declined. SSCL was later declared a white elephant project by the administration of President Shehu Shagari in 1983, because there was no sugar production for about two years; from 1982 to 1984 season, find below a chart of SSCL annual production.<sup>19</sup>

### Savannah Sugar Company Annual Production 1981-2013



**Source:** Savannah Sugar Company Limited Production Report Summary (1981 to 2013), Factory Department; Quality Control Unit Manager’s Record. *The key series 1 in the chart indicates the annual production point of each annual season.*

The table above reveals that the annual sugar production statistic of SSCL since inception, has witnessed several breaks in its production history due to a number of factors, production

started in 1981 with 10,000 tonnes of sugar and rose with two significant peak season. The economic crisis of 1983/84 prompted President Muhammad Buhari's administration to look inward for self-sufficiency in food production. Among the regime's policies was to revive agro-industries and sugar production. As the Nigeria Sugar Company (NISUCO) was then facing crisis, SSCL got reactivated, the management of NISUCO were transferred to takeover SSCL operations in 1984, production was restored with 6000 tonnes of sugar<sup>20</sup> and a new Managing Director was appointed.<sup>21</sup>

The restructuring of SSCL began in the 1985 and 1986 season due to inadequate foreign exchange to import chemicals for refining and bleaching to produce white sugar which prompted the company to produce brown sugar with the technology in place.<sup>22</sup> In the first year SSCL faced a challenge in marketing its brown sugar but in the second year it started gaining acceptance and increased in demand especially in the cities, the production of brown sugar is quicker and cheaper, because the time spent in white sugar refining and bleaching, is skipped in the sugar processing which saves time and cost.<sup>23</sup> Proceeds of sugar sales in that period significantly help in financing 70% of the company's budget which fills the gap of the FGN allocation that was actually meagre.<sup>24</sup>

Between 1985 to 1988 requirements for expansion operation were very difficult in view of the fact that the company was managed under the Ministry of Industries.<sup>25</sup> While trying to see how sugar production could be expanded, the Federal Government introduced a new policy to allow the company operate fairly. Part of the new policy was to get the sugar sector in the industry operate in such a manner that there would be a parastatal under the Ministry of Industries that would be responsible for the coordination of sugar production, it was at that period that the idea for a regulatory body to facilitate the growth of sugar production led to the creation of a parastatal called the National Sugar Development Council (NSDC) in 1988.<sup>26</sup> The NSDC was established by Decree 88 to among other things, promote the development of the Sugar sector.<sup>27</sup>

With NSDC in place, SSCL witnessed a historic peak in its production of 21,580 tonnes of sugar in 1991/1992 season.<sup>28</sup> More so, the company expanded its sugarcane fields in the season to about 5000 hectares with a tonne cane harvest of 234,679.7 at an average sugarcane yield of 49,24% tonne cane per hectare making a total of 4.64% tonnes of sugar per hectare this was the year the company achieved its highest production as mentioned earlier.<sup>29</sup> Basically, sugarcane yields range from 35 to 190 metric tons per hectare,<sup>30</sup> therefore the yield in SSCL is below average due to low sucrose cane variety.

Another significant factor that contributed to the highest peak in SSCL production is that, the company's technical operation was initially handled by Mauritius contracting experts, but subsequently terminated by the company's management as a result of foreign exchange challenge caused by the devaluation of the naira, despite that, production was sustained.<sup>31</sup> Furthermore, upgrade and replacement of parts in the centrifugal station of the factory between 1990/1991,<sup>32</sup> led to significant increase in sugar output.<sup>33</sup>

Moreover, production continued steadily due to a loan that the company secured from the African Development Bank (ADB) in 1991. The loan was meant for rehabilitation and expansion through replacement of factory spare parts, trucks, harvesters, tractors cane loaders, beams and heavy duty farm machineries, the expansion project was later stopped as a result of the inability of the Federal Government of Nigeria to settle some of its outstanding loan for other projects in the country, Nigeria was placed under sanction for nearly two years, which delayed the success of the rehabilitation and by the time the rehabilitation took off in 1994, the company requested for a review of the loan which was turned down by the FGN and the ADB.<sup>34</sup> The 20% poor performance accumulated further to 40% this problem persisted and affected the yields of sugarcane in the field which started declining, the factory becomes poor, although some equipment were replaced but the company is still not getting the result required because of the shortfall.<sup>35</sup> In the same vein the FGN was reluctant in so many respects by providing its counterpart funds in local currency as part of the loan agreement for staff remuneration and similar intervention. Despite some replacement done in the rehabilitation exercise, the factory performance keeps on dwindling without producing sugar in the required capacity.<sup>36</sup>

The rehabilitation dilemma created a demand gap since local sugar production could not catch up with the ever increasing demand. For instance, the demand for sugar, both domestic and industrial, was estimated to have grown from 43,000 tonnes at independence to about 700,000 tonnes in 1994 and 1.2 million tonnes in 2013 showing an average annual growth rate of 8%, whereas local production accounts for only 35,000 tonnes or 5% of the demand. The shortfall which is estimated to be 95% is imported by sugar conglomerates and later through raw sugar refining at the ports dominated by BUA sugar, Golden Sugar and Dangote Sugar Refinery.<sup>37</sup> SSCL factory continue to develop several problem and fall in production in the subsequent seasons from 1995 to the privatisation of the company in 2003.<sup>38</sup>

Furthermore, the Federal Government decided to commercialise the company in 2001, and when this failed, it was slated for privatisation and the government came up with a privatisation slogan “as is where is”, that is, the government decided to sell a company in its stage by withdrawing its funding for any kind of operation, any interested investor should buy it as it is. The Managing Director in the same year, met President Olusegun Obasanjo, the Vice President Alh. Atiku Abubakar and the then Minister of Industries to discuss the state of the company but with no success. The sugarcane started dwindling in yield and the factory deteriorate in performance, the Managing Director had to resign in the period despite the three years left for him to complete his tenure as a result of the inability of the FGN to rescue the company.<sup>39</sup> Things started becoming worse and eventually the company could not be able to pay salaries for thirteen months between 2001 and 2002, no adequate security and eventually the cane fields were burnt down by the labourers and saboteurs within the communities. The company was subsequently privatised to Dangote in 2003. Dangote took over and inherited a lot of problems, revival of the company have to start fresh, the company had to start buying seed canes from Kwara and jigawa state to resuscitate the cane fields.<sup>40</sup> It was until 2007 that production resumed in full scale and continued steadily which achieved 18,172 tonnes of sugar in 2011<sup>41</sup> production declined to 3,652 tonnes in 2012 as a result of communal agitation for land compensation leading to the closure of the company for more than 7 months and thus the destruction of several tonnes of sugarcane in the field.<sup>42</sup>

### **Challenges of Sugar Production**

One of the major challenges faced by Savannah Sugar Company over the years is inadequate funding in running the operation and expansion programmes of the company. There is no doubt in the fact that inadequate funding marked the beginning of the company’s predicament. Operations of capital intensive companies like SSCL require huge amount of capital, the funds allocated to it largely depended on government revenue and budget system before its commercialisation in 2001 and subsequent privatisation. Financing have been a major issue to the company, since it depends on funds allocated to it annually.<sup>43</sup>

This is the problem that most agro-industries faced during the government intervention in running them which is practically a problem in any business, the strategy works like this, the Federal Government can decide to give X million to Ministry of Industries, the Directors of the Ministry will meet and consider the allocations and decide to allocate X or Y amount to companies under the Ministry .<sup>44</sup> For instance if a request was put at 25 million by a company for operations at that time which was a huge money, they will decide to give 7 million and



make do with whatever revenue the company obtain, revenue usually comes at the end of the season and the company need the funds at the beginning for its operations, that automatically reveal that the company might not expand its operations, because it must wait for the next production season based on the revenue it will get along with whatever was budgeted for it, so this becomes very difficult to expand the operations of the company from 1986 to 1990 production season.<sup>45</sup>

Moreover, funding situations for the operation of the company kept on dwindling, despite the establishment of the National Sugar Development Council (NSDC) by the government to reposition and improve funding for the Nigerian Sugar industry. The Management applied for loan from the Africa Development Bank (ADB). As the government stopped its supplementary funding to the company, that took time to get, but that did not help matters as things continue to go down to a level that rehabilitation has to start all over again.<sup>46</sup> Also, most of the technocrats that decided policies for the sugar industry were not well informed about the real crisis.<sup>47</sup>

Secondly, delay in the supply of operational inputs for the company's operation hinders its productivity. It is important to note that agro allied industries world over survive on effective provision of several inputs that are utilised to facilitate production but this is virtually absent in SSCL. For a sugar company to function effectively all the inputs needed for sugarcane cultivation and production must be on stock for its purpose at the right time. For instance, if a company has 6000 hectares and needs to apply fertilizer twice in a year, the input needs to be in place before the commencement of that operation. In other words, there is the need to spray insecticides, herbicides and rodenticide among other things. Similarly, what is needed for the next season must be in stock before the end of the current harvest season, such as fuel, engine oils, spare parts and every other relevant input to facilitate the smooth operation of the next season. These are some of the technicalities involved, and any delay in such preparations is a sabotage to the entire operation because time is very vital. Weather forecast is involved, water supply is calculated, wind velocity is sacrosanct, humidity is in place and inadequate input hampers operation. Most of the stakeholders that are saddled with the power to make or mar in decision making at the Ministry of Industries were inexperienced and ignorant of the entire process.<sup>48</sup>

Thirdly, poor remuneration has been a major constraint that affects staff productivity in the company; the remuneration that is designed for staff of the company is not motivating compared to their colleagues working in other sugar refineries in the country. In order to enhance commitment and productivity, this gap has to be filled to prevent loss of manpower

and enhance productive innovations from workers. More so, human resource in the company have dwindled over time since the company went into comatose, to the extent that the human resource and expertise that were trained locally have left the sugar company before and after its privatisation between 2001 to 2011. The phasing out of skilled manpower who have experience in imparting knowledge to upcoming experts are no longer there.<sup>49</sup> This is a big problem to even develop new companies, which implies that the industry has to start moving elsewhere to get experts that will come and train the local professionals. Recruiting and contracting sugar experts overseas is an expensive process which may even further discourage investors.

Fourthly, dwindling machine technology in the factory requires upgrade and replacement of parts, the boiler is operating at 40-50 % in generating the required power to run it.<sup>50</sup> The factory and field operation are the backbone of a sugar company, if not adequately maintained, the whole operation will be jeopardise. Sugarcane produced in the field, is processed into sugar in the factory, if the sugarcane coming from the field is not qualitative and rich in sucrose, then virtually the factory will produce at low optimum rate, on the other hand, if the sugarcane is good in quality and high in sucrose, the sugar that is delivered at the end of the process line will be in several tonnes, the engines in the factory will not have a breakdown.<sup>51</sup> The factory of SSCL is designed to crush 3500-4000 tonnes of sugar per day, in the last production season of 2012-2013, 800 tonnes was produced in 24 hours, there are no questions asked, and the staff feel like they have done something for the day, 800 tonnes out of a capacity of 4000, is 20% of what is required. During the hey days of the company, once there is a 30 minutes breakdown, the management meeting will spend more than 3 hours in a day trying to find out what went wrong? What caused it? Who caused it and why? What are the solutions and actions to be taken? But currently, most of these interrogative questions are not observed critically to unravel the operational problems. Though Dangote is planning to build an ultra-modern factory to work side by side with the current one.<sup>52</sup>

Another crucial challenge facing the sugar company is its capital intensive and operational nature on the aspect of agriculture. Most of the inputs like fertiliser and chemicals are imported. Whenever fertilizer needs to be applied and not available, the sugarcane is stressed and by the time the fertilizer is available for application it will not have the same effect prior to when it was supposed to be applied to the plant. There is a problem with importation too, inputs imported took time to be cleared at the port.<sup>53</sup>

There is also an administrative hiccup from the manner in which the company is operating. Initially from 1980 to 2001, whenever fund is needed to procure or supply materials, the company raises a memo to that respect to the Ministry of Industries and a directive is given to the bank concerned to release immediately. During the period of Dangote's takeover between 2003 to 2013, all company matters have to be communicated to the headquarters in Lagos for it to be considered before necessary approval is made with the use of information and communication channels which is faster.

Furthermore, there is a stalemate associated with the company workshop, which is like a skeleton that keeps the flesh of the company alive, sugar production begins from the field and the machinery are coordinated and maintained by the workshop with all the technicalities involved. Since inception, the company workshop is still operating in its take-off location, despite recommendation by experts to relocate it to its permanent site to enhance productive operations. As rightly observed by Yusuf Adamu, the workshop in Savannah has always been in problem, in the sense that the company is still building its permanent site. Working under temporary and difficult situation clearly shows that what is obtained is inadequate, since the company need a workshop and is building one, there must be procurement of state of the art machineries and equipment that would be used for maintenance and repairs. Up to 2013, the workshop is yet to be completed, it is still battling because the working environment is not feasible.<sup>54</sup>

Generally speaking, the performance of the workshop in an unconducive environment is below expectation.<sup>55</sup> There is also a problem with the industrial oil which the company uses from time to time because of the adulteration of engine oil and diesel in use, and there is the absence of regulation to checkmate the quality of these products which constitute a big problem. The modern day machines are very sensitive and usually encounter complications which the workshop frequently battles with.<sup>56</sup> This problem have contributed a lot to the negative performance of the workshop in the company especially during the production season.

The quality of sugarcane cultivated for production depends on the variety in use on the field, and it is the work of the agronomy division of the company to always select the most environmentally adoptable and high sucrose variety that is also disease resistant. Unfortunately, between 2010 to 2013 the company lacks a specialised agronomist to perform the task.<sup>57</sup> for the company to function effectively, it should have a sugar variety development centre which would save it from low yield variety and the cost of importing new ones to replace the obsolete ones.<sup>58</sup> Also, the high cost and shortage of agricultural machineries like

tractors, bulldozers and irrigation equipment has made it difficult for out grower farmers to engage in the Sugar Out grower Scheme (SOS).<sup>59</sup> Though the National Sugar Development council (NSDC) has been playing a vital role with its partners in bridging the gap by supporting SOS farmers with loans and inputs through collaboration with the sugar company since 2008. The inadequate market and subsidiary companies that will buy and process the by-products of the company such as molasses, bagasse and filter cake have also been a major setback to produce a multiplier range of other products like, Ethanol, syrup, and distillation products like yeast, cattle feeds, cane wax and fibre products,<sup>60</sup> the Sugarcane plant is actually like an oil well with these several derivatives.<sup>61</sup>

### **Conclusion**

In conclusion, it has been garnered from the discussion in this paper that the challenges of sugar production in SSCL since inception has bordered mainly on finance, slow bureaucracy which ultimately hinders the development and expansion of the company. Some of these obstacles have affected the determination of the new investor, Dangote Group from moving the company forward. Therefore, the problem of funding, inexperience bureaucracy, late input supply, poor remuneration, dwindling company technology, the capital intensive nature of the sugar industry and poor state of the company workshop have been a serious setback to the company's operation. The company has not been able to achieve its designed capacity in the production level. The highest it attained was 21,508 tonnes of sugar in the 1991/1992 season out of a 100,000 tonnes designed capacity, which is below 30%. Also importation of sugar has been a serious setback for the growth of Savannah Sugar Company. Since the sugar sector is capital intensive, Dangote needs to inject a lot of funds to move towards attaining the design capacity of the company, a sugar variety development centre should be established, the company should develop the factory so as to utilise molasses for ethanol production to increase capacity utilisation for the growing demand of biofuel.

## ENDNOTES

1. Savannah Sugar Company, (2007) Agricultural Department, Design office Irrigation Infrastructure Sheet No.3.
2. Savannah Sugar Company, (2007). Agricultural Department ....
3. Peter D.G., (2011), *Global Industry, Local Innovation: The History of Cane Sugar Production in Australia: 1820-1995* (Oxford: Peter Lang).
4. Sarah F., (2013), "An Assessment of Technology Adoptability in Sugarcane Burning Smoke Plume Mitigation". MSc Thesis, (University of South Carolina), P.2.
5. David S.S., (1954), Sugar Production in North Queensland, in *Journal of Economic Geography*, Vol. 30 No.3.
6. Willian C. S., (1904), "Sugar". *Journal of American Economic Association*, Third Series, Vol. 5 No.1.
7. Alhaji, I.W., (2006), "A History of Modern Groundnut Oil Mills in Kano: C.1942-1994 A.D", M.A Thesis, (Kano: Bayero University).
8. A.A. Girei and D.Y. Giroh (2012) "Analysis of the Factors affecting Sugarcane (*Saccharum officinarum*) Production under the Out growers Scheme in Numan Local Government Area Adamawa State, Nigeria". *Journal of Education and Practice* Vol 3, No.8, 2012 [www.iiste.org](http://www.iiste.org). P.196.
9. Interview with Alh. Abubakar Ahmed Song, on 10<sup>th</sup> August, 2014. Former Managing Director and Chief Executive of Savannah Sugar Company from May 1985 to April 1991. He is currently a Board Member, Dangote Sugar Refinery DSR.
10. Dangote Sugar, (2012). Annual Report and Financial Statements. Dangote Sugar Refinery Plc. RC.613748. P.18.
11. Dangote Sugar, (2012). Annual Report and Financial Statements...
12. United Nations Food and Agricultural Organisation. (2004) Review of Irrigation Sector In Nigeria, Draft Status Report Review (1) Enplan Group Nigeria Plc.
13. Environmental Audit Draft Report of Savannah Sugar Company Ltd Numan (2008), Adamawa State Ministry of Environment, Environmental Impact Assessment.
14. Savannah Sugar Company, (1990). Agricultural Department...
15. Environmental Audit Draft Report of Savannah Sugar Company Ltd Numan (2008)...
16. *Ibid.*
17. L. N. Chete, J. O. Adeoti, F. M. Adeyinka, and O. Ogundele. Industrial Development In Nigeria: Lessons And Challenges. [www.wider.unu.edu](http://www.wider.unu.edu) Accessed 20/10/2014. P.3.
18. Interview with Engr. Taaziya Akila Todi on 3<sup>rd</sup> September, 2014. Managing Director Savannah Sugar Company from 2003 to 2013.
19. Interview with Alh. Abubakar Ahmed Song, on 30<sup>th</sup> October, 2015...
20. *Ibid.*
21. *Ibid.*
22. *Ibid.*
23. *Ibid.*
24. *Ibid.*
25. Interview with Alh. Abubakar Ahmed Song, on 10<sup>th</sup> August, 2014...
26. The National Sugar Development Council NSDC is a parastatal of the Federal Ministry of Trade and Investment and has an autonomous management headed by the Executive Secretary. The Executive Secretary is assisted by 4 Directors who are the heads of various Departments. The Executive Secretary reports to the Honourable Minister of Trade and Investment through its Governing Council. [www.nsdcnigeria.org](http://www.nsdcnigeria.org), accessed on 15<sup>th</sup> November, 2014
27. *Ibid.*
28. Interview with Alh. Suleiman Abdullahi, on 6<sup>th</sup> November, 2015. Former Managing Director and Chief Executive of Savannah Sugar Company from 1993 to 2001.
29. Savannah Sugar Company Limited, (1992/1993). Crop Production Report; Agricultural Department, Agronomy Division, p, 4.

30. Sugarcane. (2010). Encyclopædia Britannica. *Encyclopaedia Britannica Ultimate Reference Suite*. Chicago: Encyclopædia Britannica.
31. Interview with Alh. Suleiman Abdullahi, on 6<sup>th</sup> November, 2015.
32. *Ibid.*
33. *Ibid.*
34. *Ibid.*
35. *Ibid.*
36. *Ibid.*
37. Nigerian Sugar Master Plan, (2012). National Sugar Development Council...p,10.
38. Interview with Alh. Suleiman Abdullahi...6<sup>th</sup> November, 2015.*Ibid.*
39. *Ibid.*
40. Savannah Sugar Company Limited Production Report Summary (1981 to 2013), Factory Department; Quality Control Unit Manager's Record.
41. Interview with Alh. Suleiman Abdullahi, on 7<sup>th</sup> August, 2014. Former Managing Director and Chief Executive of Savannah Sugar Company from 1993 to 2001.
42. *Ibid.*
43. *Ibid.*
44. *Ibid.*
45. *Ibid.*
46. Interview with Alh. Suleiman Abdullahi, on 7<sup>th</sup> August, 2014. Former Managing Director and of Savannah Sugar Company from 1993 to 2000.
47. Interview with Engr. Samuel Okunola, Agricultural Engineering Consultant, Savannah Sugar Company Numan, on 9<sup>th</sup> September, 2014.
48. Interview with Engr. Abdulwaheed Onigbanjo, Senior Consultant Enplan Group Nigeria Ltd No.16 Durban Street Wuse II Abuja. 9<sup>th</sup> December, 2014
49. Interview with Engr. Samuel Okunola...
50. *Ibid.*
51. *Ibid.*
52. Interview with Engr. Abdulwaheed Onigbanjo...
53. Interview with Engr. Yusuf Adamu, Consultant, Kenana Engineering and Technical Service (KETS). 10<sup>th</sup> September, 2014.
54. *Ibid.*
55. *Ibid.*
56. Federal Ministry of Industries. (1991). The Development of Sugar Industry In Nigeria. Produced by the Agricultural Division.
57. *Ibid.*
58. *Ibid.*
59. NAK/JJ30/E6, Sugar Industry: Pioneer Status, 1959.
60. Interview Session with Alh. Suleiman Abdullahi...

## **REFERENCES**

- Abubakar, S., (2008). *Lamibe Fombina: A History of Adamawa Emirate 1809-2008*. Ibadan: Book Wright Nigeria Publishers. New Edition.
- Busari D, Abdul-Latif, (2004). *Sugarcane and Sugar Industry in Nigeria, The Bitter-Sweet Lessons*. Ibadan: Spectrum Books LTD.
- Dangote Sugar, (2012). Annual Report and Financial Statements. Dangote Sugar Refinery Plc. RC.613748.
- Federal Ministry of Industries. (1991). The Development of Sugar Industry In Nigeria. Produced by the Agricultural Division.

Girei, A.A and Giroh, D.Y. (2012) "Analysis of the Factors affecting Sugarcane (*Saccharum officinarum*) Production under the Out growers Scheme in Numan Local Government Area Adamawa State, Nigeria" in *Journal of Education and Practice* Vol 3, No.8, 2012 [www.iiste.org](http://www.iiste.org). Accessed, 15/07/15.

Griggs, P., (2011). *Global Industry, Local Innovation: The History of Cane Sugar Production in Australia: 1820-1995*. Oxford: Peter Lang.

National Archives Kaduna NAK/JJ30/E6, Sugar Industry: Pioneer Status, 1959.

Nigerian Sugar Master Plan, (2012). National Sugar Development Council, Abuja Nigeria. A Publication of the National Sugar Development Council, Abuja Nigeria.

Stubbs, W.C., (1904), "Sugar" in *Journal of American Economic Association*, Third Series, Vol. 5 No.1.

Savannah Sugar Company Limited Production Report Summary (1981 to 2013), Factory Department; Quality Control Unit Manager's Record.

Savannah Sugar Company Limited, (1992/1993). Crop Production Report; Agricultural Department, Agronomy Division.

Waziri, A.I., (2006), "A History of Modern Groundnut Oil Mills in Kano: C.1942-1994 A.D", M.A Thesis, (Kano: Bayero University).

## **INTERVIEWS**

Abubakar Ahmed Song. Former Managing Director and Chief Executive of Savannah Sugar Company from May 1985 to April 1991. 10<sup>th</sup> August, 2014.

Abdulwaheed Onigbanjo, Former Irrigation and Drainage Manager, Savannah Sugar Company, now Senior Consultant Enplan Group Nigeria Ltd No.16 Durban Street Wuse II Abuja. 9<sup>th</sup> December, 2014

Samuel Okunola, Agricultural Engineering Consultant, Savannah Sugar Company Numan, 9<sup>th</sup> September, 2014.

Suleiman Abdullahi. Former Managing Director and Chief Executive of Savannah Sugar Company from 1993 to 2001. 7<sup>th</sup> August, 2014

Taaziya Akila Todi. Managing Director Savannah Sugar Company from 2003 to 2013. 3<sup>rd</sup> September, 2014.

Yusuf Adamu, Former Head of Department Transport and Mechanical Services Savannah Sugar Company, now Consultant, Kenana Engineering and Technical Service (KETS) Wuse II Abuja. 10<sup>th</sup> September, 2014.