Original Research Article

Social and political factors affecting wheat production in Nigeria

Abstract

Social and political factors are believed to be affecting agricultural operations in a way that stagnates their growth or leads to the total collapse of the system. A study on social and political factors affecting wheat crop production in Nigeria was conducted with the aim of exploring those factors for proper solutions. Primary data was collected through national stakeholders' focus group discussion while time series data of the country's wheat production, harvested area, and imports was collected. MAXQDA statistical software was used to analyze the focus group discussion report, while compound growth rate analysis was used to compare the growth rate of the variables under study. The results indicated the extent to which political factors affect wheat production in Nigeria more than others. The degree to which external social factors affect the sector was lower when compared with political factors and higher than internal social factors. Poor cultivation practices and the knowledge level of the farmers were the major internal social factors. While the major external social factors were consumer food habits, consumer demand for convenience, low produce prices, and high input costs. The political factors identified were social security issues, inconsistent government policies, and intricacies in implementation, the role of the publication media, role playing by the milling industries, international trade interests, and lack of political will. The result also indicated that the total average growth rate of production was negative, and low positive growth was recorded in the harvested area, while the highest positive growth was recorded in imports. In order to achieve 75% of the country's wheat self-sufficiency by 2035, as pointed out by the stakeholders, governments, NGOs, and Millers must sustain their current approaches for the desired result.

Keywords: Social Factors, Political Factors, Wheat, Production

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Introduction

Agricultural systems operate in social and political situations that have a significant impact on how they function. It is vital to understand how social and political variables influence agricultural systems if they are to be sustainable [1]. Outside of the official political domain, political risks to agriculture can emerge. Wheat farming has been the most difficult area of Nigerian agriculture for decades due to high temperatures that are unfavorable to the crop, low production, and a variety of other factors [2].The country imports significant amounts of food, and the country also does not earn significant foreign exchange from agriculture [3]. Despite many policies initiated, wheat production sufficiency has become merely a dream.

Material and methods

Study area

Nigeria shares a border with Benin, Niger, Chad, and Cameroon in West Africa. It is bordered on the south by the Gulf of Guinea, which is part of the Atlantic Ocean. From semi-deserts in the north to tropical rainforests in the south, Nigeria has a diverse range of natural environments. Most parts of the country have different climatic conditions. Arid climatic conditions prevail in the north, while an equatorial climate prevails in the south. It is a federal republic with 36 states and the Federal Capital Territory as its constituents. Nigeria is Africa's most populous country and the world's seventh most populous, with an estimated 206 million people as of late 2019. [4].

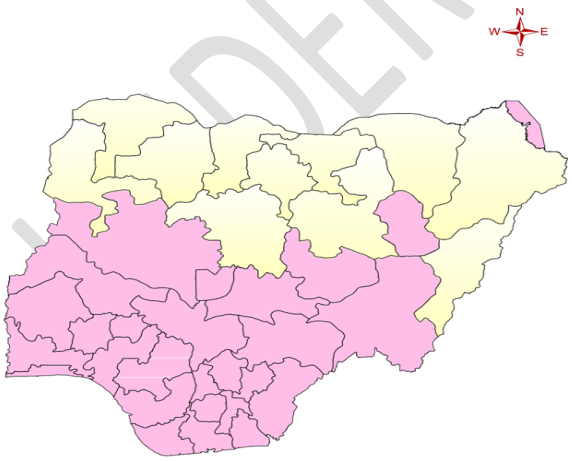

Image 1: Map of Nigeria ide Wheat producing states **n**

Selection of the participants

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Three steps were involved in the selection process of stakeholders. First step: selection of relevant institutions. The institutions were relevant government institutions and agencies, NGOs, the millers' association of Nigeria, the wheat farmers' association of Nigeria and a private consultant firm. The second step was to serve notification to the selected institutions. Third step: a focus group discussion session was conducted and all the relevant stakeholders fully participated and interacted.

Data collection

The data was collected through primary and secondary sources. The primary data was collected through a national stakeholder focus group discussion (FGD). After consultation with an expert, eleven points were developed to guide the discussion. The report was drafted and later identified the factor following the [1] classification. For secondary data, time series data was collected from 1896 to 2020 with respect to the variables, wheat production, harvested area, and import/export.

Statistical tools

The report of FGD was then analysed using MAXQDA 2022 statistical software to find out the vastness of the factors with regard to the situation. Secondary data was later divided into 3 groups (11, 12, 12). A compound growth rate analysis was computed to compare the rate of growth during each period.

Result and discussion

Social and political factors are believed to be affecting agricultural operations in a way that stagnates their growth or leads to the total collapse of the system. The wheat crop is one largely affected by such action in Nigeria’s agriculture. The present study tried to explore those factors for a possible solution.

Figure 1 shows that one or more political factors and social external factors were identified by every participant during the session. Internal social factors were also playing a significant role. The results indicated the extent to which political factors affect wheat production in Nigeria more than others. The degree to which external social factors affected the sector was lower when compared with political factors and higher than internal social factors.

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Figure 1. Document portrait focus group discussion result

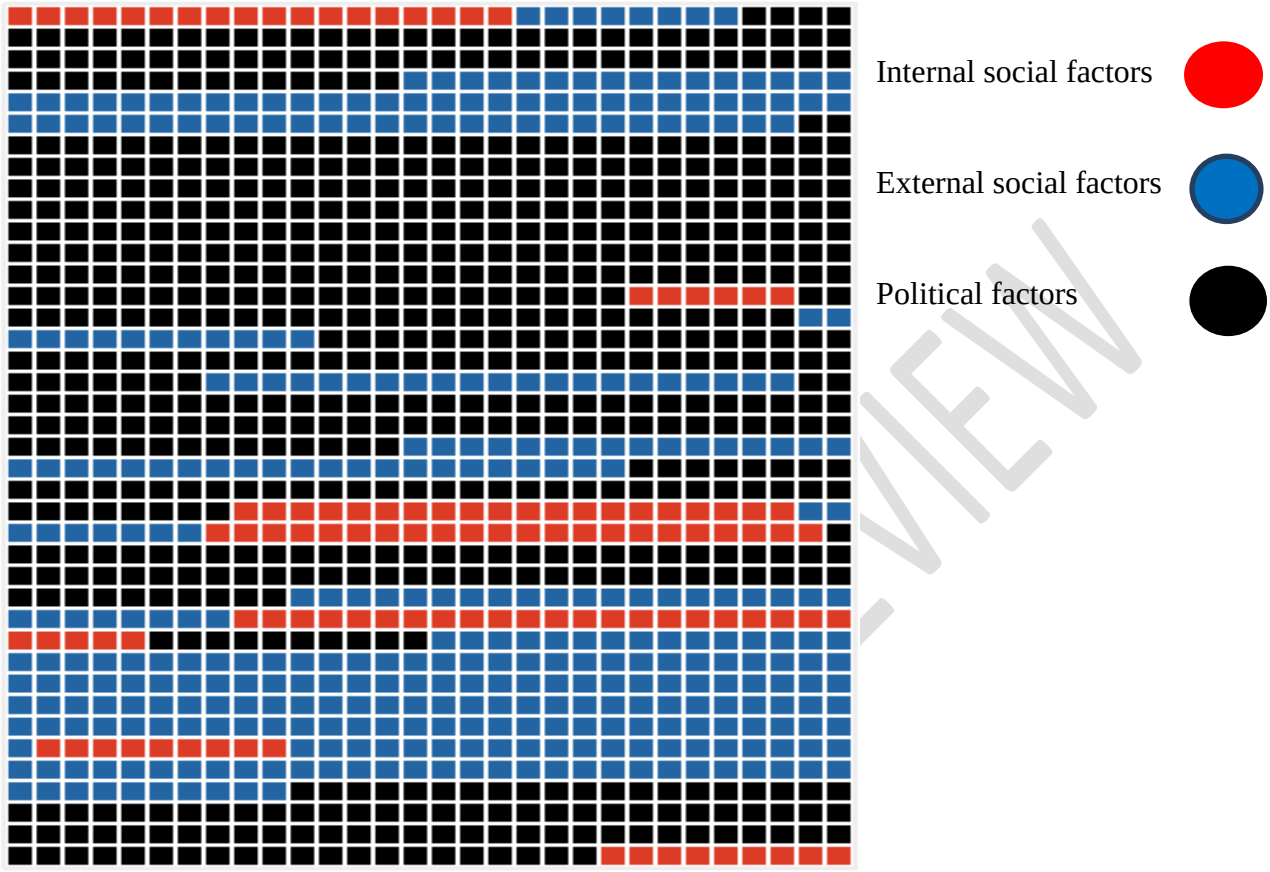

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Table1 shows that poor cultivation conditions, the knowledge level of the farmer, the adoption of recommended agronomic practices, and low yields of the crop are the most common internal social factors affecting the farmer's production. Consumer food habits, consumer demand for convenience, rapid population growth, low price of the product, high cost of input, lack of adequate extension personnel, low yield of the crop, and lack of availability of certified seed are major external social factors affecting the production. While social security issues, the role of the media, inconsistent government policies, intricacies in policy implementation, role-playing by the milling industries, international trade interest, lack of political will, lack of irrigation infrastructure, persistence of corruption, lack of wheat value chain policy, and insufficient funding are the major political factors stagnating growth in the wheat farming sector.

Internal social factor

The stakeholders agreed that the poor yield was a consequence of the non-adoption of proper recommended practices by the farmers. This correlated with the findings of [5, 6] both of which attributed a lack of modern agronomic practices as the core factor hampering wheat production in Nigeria. Now, there is "hope" as the millers are trying everything possible to help Nigeria achieve wheat self-sufficiency by eliminating bunches of middlemen that benefit from the sweat of the farmer through the establishment of 15 wheat aggregation centers in Ajingi, Danbatta, Kura, Garin Malam, Bagwai, Ringin, Taura Birnin Kudu, Kafin Hausa, Malam Madori, Arugungu, Augi, Gunza, Jega, and Birnin Kebbi. The major challenges facing certified seed availability are the lack of adequate seed companies that have the mandate to multiply breeder and foundation seeds and make them available to farmers for all time. This is consistent with the findings of [6, 7 – 9], which found that wheat farmers in Nigeria experienced low yields due to a lack of improved varieties.

External social factors

Food habits were one of the factors, because elites were avoiding Nigerian wheat due to its high gluten content and others were running away from it due to the perceived difficulties in processing it for consumption at household level. Since 1990, when AWPP was aborted, the wheat crop has been left with no policy as it was not considered vital like other crops due to foreign influence. According to [10], a good example is the late 1960s 'eat wheat' campaign in South Korea, which was led by private and public US interests working together. Such forces have also been active in Nigeria.

Political factors

The role of the publication media was that stakeholders disputed the statement credited to [11 – 17], which said Nigeria’s farmers produce an average of 1 tonne of wheat per hectare, which clearly termed it a political attempt to show the inability of Nigeria to achieve wheat self-sufficiency. They rightly pointed out that Nigeria’s farmers produce an average of 2.5–3MT per hectare with the use of the available certified seeds such as Atilla Gan Atilla and the use of the seeds developed by the Lake Chad Research Institute (LACRI). Climate change is termed as a major threat to wheat production in Nigeria due to the shortening of the Harmattan period during which wheat is grown and the high cost of inputs, among other constraints. It is consistent with the findings of [2, 9, 18], all of which attribute low yields to harsh weather conditions. Limited

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land area is one of the factors identified, where the discussion pointed out that Nigeria has over a million hectares that can be put under wheat cultivation. According to [19, 20], only 85, 000 hectares are being put under productive use despite land availability for the same purpose. Social security issues were one of the factors identified. Similar findings were reported by [21 – 23] wheat farmers in Nigeria abandoned their farms due to Boko Haram insurgent attacks, and there has been no significant improvement as of yet.[6] predicted a decrease in a wheat farming area of 5,000 hectares due to an increase in banditry and kidnapping activities in Northwest Nigeria. International trade interest was cited as one of the factors. It is reported that the accelerated wheat production programme (AWPP) failed as a result of pressure from wheat-interested nations. According to [20], American interests are consistently working against wheat production advances in Nigeria. Lack of cohesion in the national strategy in wheat development was clearly seen where government officials pegged $400/MT as the fixed price of wheat grain without involvement of the stakeholders. This supported the findings of [24, 25] that most policies in Nigeria were implemented without the involvement of stakeholders and experts.

The role played by milling industries According to [10], "there is a close link between the international wheat-trading interests and the companies with a stake in the Nigerian milling industry." Further findings revealed that the failure of AWPP was attributed to the millers who reluctantly ignored locally produced wheat [8]. According to [2], wheat millers haven't been willing to comply with 10 per cent to 40 per cent of the future cassava flour inclusion policy. [15], reported that, flour millers also favour imports, citing references of higher protein and gluten content accompanied by low moisture content. This false myth that millers held as an excuse for decades has been overcome since 2014 by LACRI. The discussion pointed out that the farmers' refusal to sell to the millers was sometimes a result of poor yields, which were below the farmer's expectations.

Table 1 social and political factors identified

Internal social factor	External social factor	Political factors

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• Poor cultivation condition • Knowledge level of the farmers • Adoption of the recommended agronomic practices • Low yield of the crop	• Consumer food habits • Consumer demand for convenience • Low price of the produce • High cost of input. • Lack of adequate extension personnel • Low yield of the crop • Lack of availability of certified seed • Rapid population growth	• Social security issues • Role of publication media • Inconsistent government policies • Intricacies in policy implementation • Role playing by the milling industries • International trade interest • Lack of political will • Limited land area • Lack of irrigation infrastructure • Persistence of corruption • Lack of wheat value chain policy. • Insufficient funding • Lack of cohesion among the national strategy in wheat development.

Table 2 shows the list of certified seeds developed by the Lake Chad research Institute (LACRI) in an attempt to overcome the millers' claim. The findings disputed [14] and [2], respectively, that claimed the variety of wheat in Nigeria is called "Hard wheat" (Triticum durum). All the available varieties in Nigeria before now (December 2021) were soft wheat (Triticum aestivum). Two durum wheat varieties were released recently by LACRI and will be made available for usage by farmers.

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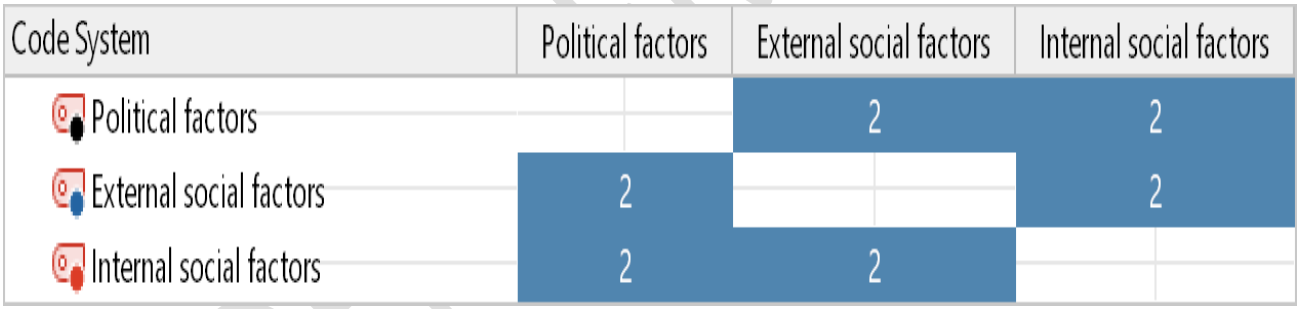
Table 2 List of variety developed by Lake Chad research institute

S/n	Variety name	Old variety name	Potential yield	Released year
1	LACRIWHIT – 5	Norman	5 to 6	2014
2	LACRIWHIT – 6	Reyna 28	5 to 5.5	2014
3	LACRIWHIT – 9	Pastor	6 to 7	2016
4	LACRIWHIT - 10	Kauz	6.5 to 7.5	2016
5	LACRIWHIT - 11	Imam	6 to 7	2019
6	LACRIWHIT – 12D	MBA-MAJA (Durum)	6.2	December 2021
7	LACRIWHIT – 13D	ALTAR-84 (Durum)	5.6	December 2021

Figure 2 shows there was an existing relationship among the identified factors. This means some factors could be categorized as internal social factors as well as external social factors, and they could also be political factors.

Fig. 2 Code relationship



4.3.1. Comparing different administration regime commitment toward wheat production in Nigeria from 1986 – 2020

Table 3 Nigeria's administration regime

S/n	Administration	Regime	Wheat related Policy
1	Military Head of state	1986 – 1993	Accelerated wheat production programme AWPP (SAP era)

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2	Military head of state	1993 – 1998	there was no significant agricultural policy initiated
3	Military head of state	1998 – 1999	No policy enacted
4	Civilian administration	1999 – 2007	Less agricultural policy plenty of poverty reduction
5	Civilian administration	2007 – 2015	Agricultural transformation agenda
6	Civilian administration	2015 – 2021	Anchor borrower program, and Agricultural Promotion Policy

Impact of each regime on wheat production

- Accelerated wheat production program (AWPP) 1986 – 1990

Figure 3 demonstrates this. Nigeria imported 1 MMT of wheat and produced 67000MT in 1986. AWPP Initiated in the same year where wheat importation was banned outright, the selected farmers were supplied with necessary inputs and wheat production rose to 72000MT in 1987, and instantly the production went down despite working policy from 1988 to 1990. Consequently, wheat imports lost up to 80% in 1987 when compared with 1986, and continued to rise slowly despite the ban. Furthermore, the area under wheat cultivation moved up in 1987 and down in 1988. In 1990, the area under wheat crop production reached a 76.19% increase compared with the land area in 1989.

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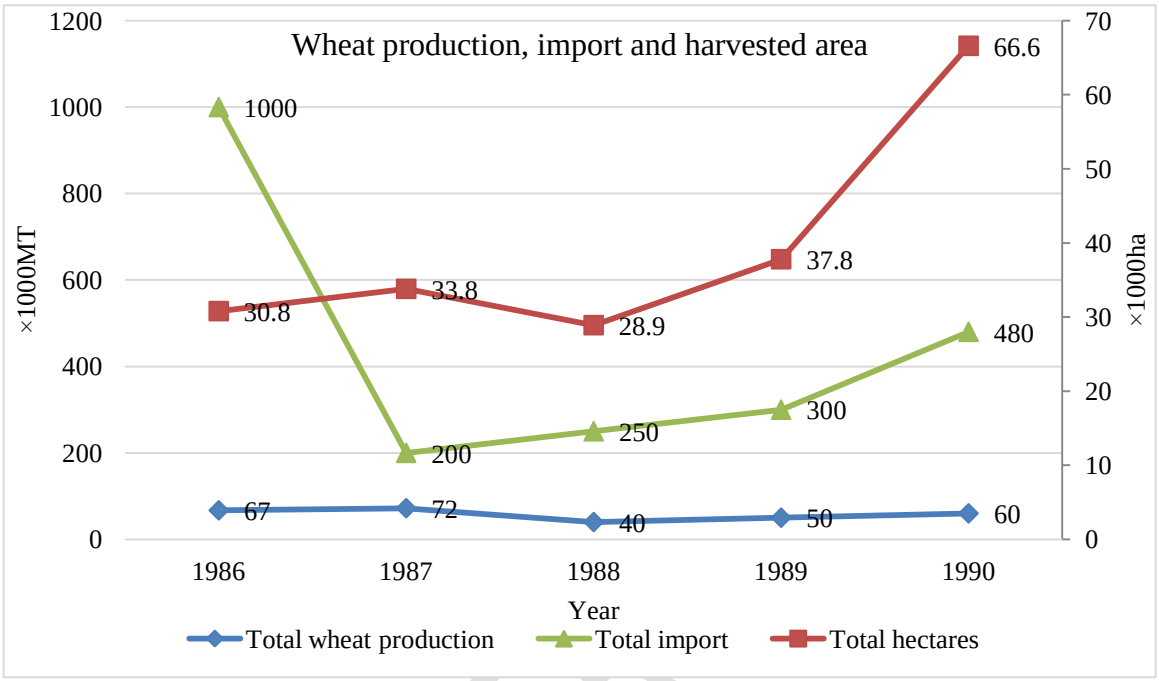
Figure 3 Nigeria's wheat production, harvested area, and import within AWPP period



Source: Production, Supply and Distribution of Agricultural Commodities by Market Year, 25 May 2021

- Pre wheat policy era (under military head of states) 1991 – 1999

Evident from figure 4. It could be seen that, there was no reasonable volume of production recorded during the period as the average production stood at 30,688MT, while importations continued to record success as they kept increasing year by year, although there was mere sway in the importation sector. During this era, there were no significant increases in both production and land area under wheat cultivation.

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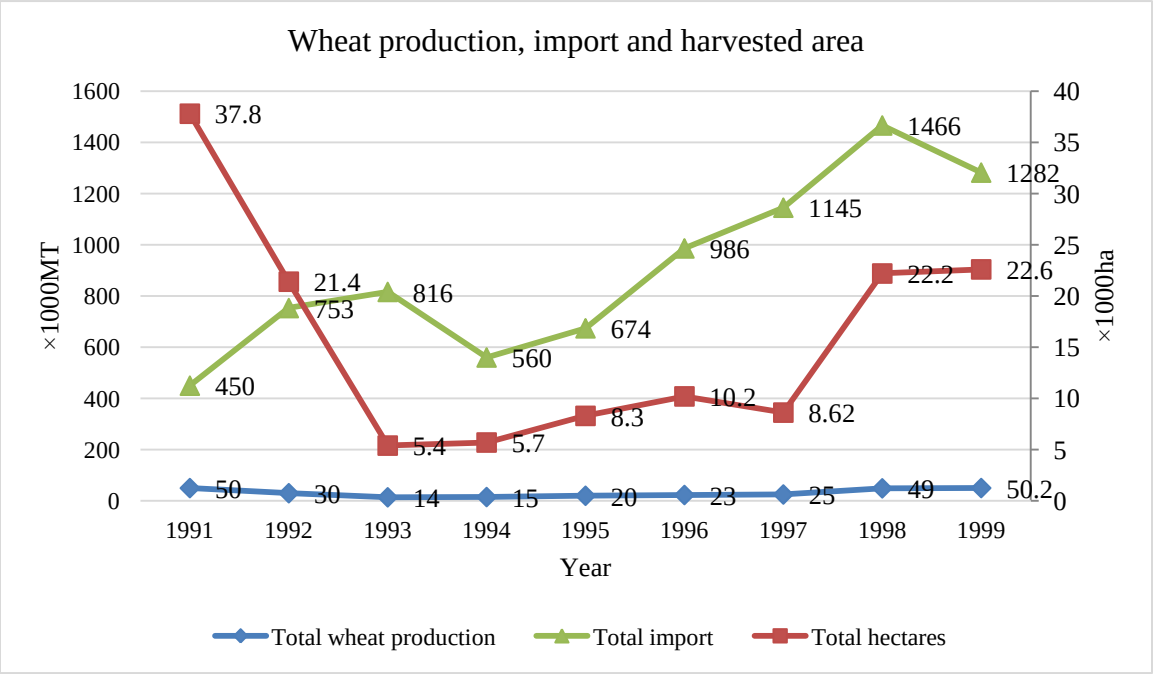
Figure 4. Nigeria's wheat production, harvested area, and import under militaries head of states



Source: Production, Supply and Distribution of Agricultural Commodities by Market Year, 25 May 2021

- Pre wheat policy era (under civilian administrations) 2000 – 2009

It could be seen from Figure 5 that, wheat importers were having a field day to maintain the wheat trap idea, while local production was still suffering. Figure 5 Nigeria's wheat production, harvested area, and imports under civilian administrations

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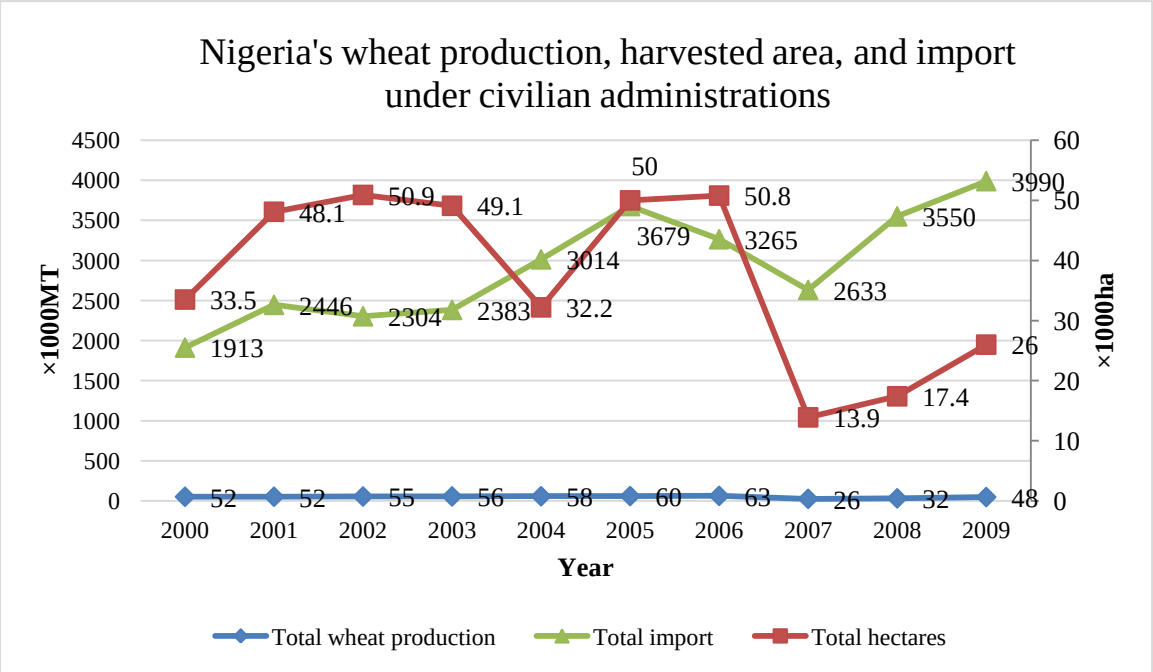
Figure 5 Nigeria's wheat production, harvested area, and import under civilian administrations



Source: Production, Supply and Distribution of Agricultural Commodities by Market Year, 25 May 2021

- Agricultural transformation agenda (ATA) 2010 – 2015.

ATA played a significant role in the agricultural sector in Nigeria. In 2010, wheat production increased from 48000MT in 2009 to 74399MT in 2010. Nigeria produced 165,000MT of wheat in 2011. Till date, no production has been officially recorded that tallies 2011 production. This is described as a success recorded under the ATA. The wheat transformation agenda was initiated as a scheme toward achieving the stated objectives.

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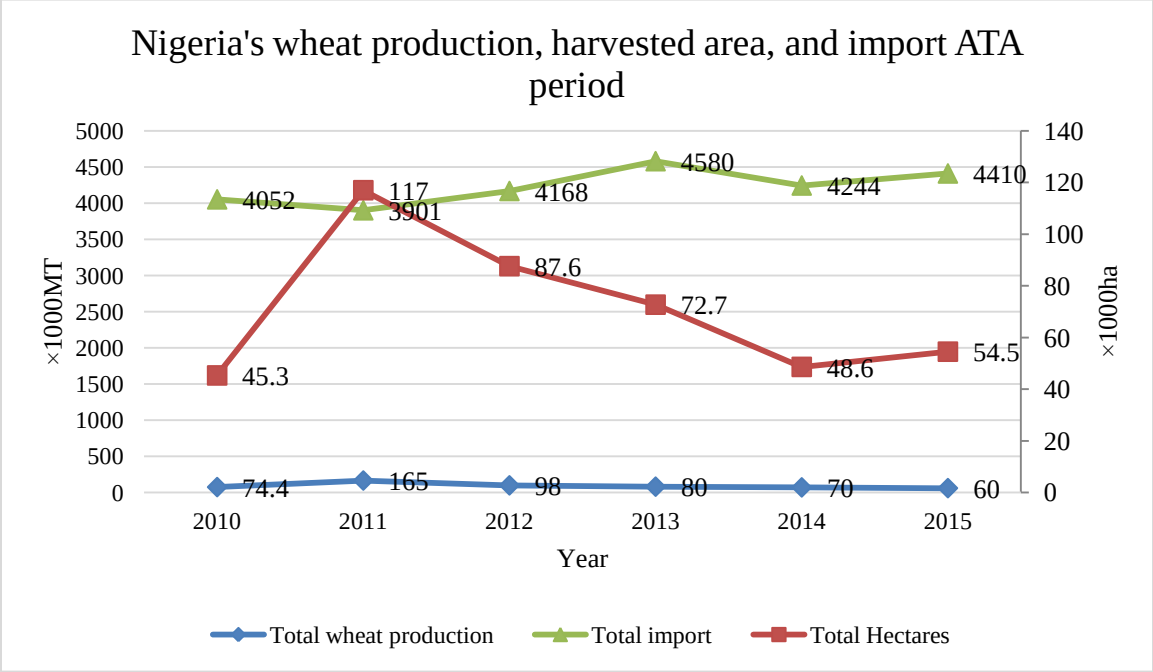
Figure 6 Nigeria's wheat production, harvested area, and import ATA period



Source: Production, Supply and Distribution of Agricultural Commodities by Market Year, 25 May 2021

- Agricultural promotion policy (APP) 2016 – 2020

Figure 7 shows that wheat importation continued to grow at a rapid pace as demand increased due to population growth, while actors swayed local wheat production in their favor. Under APP, an anchor borrower scheme was initiated to facilitate the achievement of specific crops, and wheat farmers were included in 2020.

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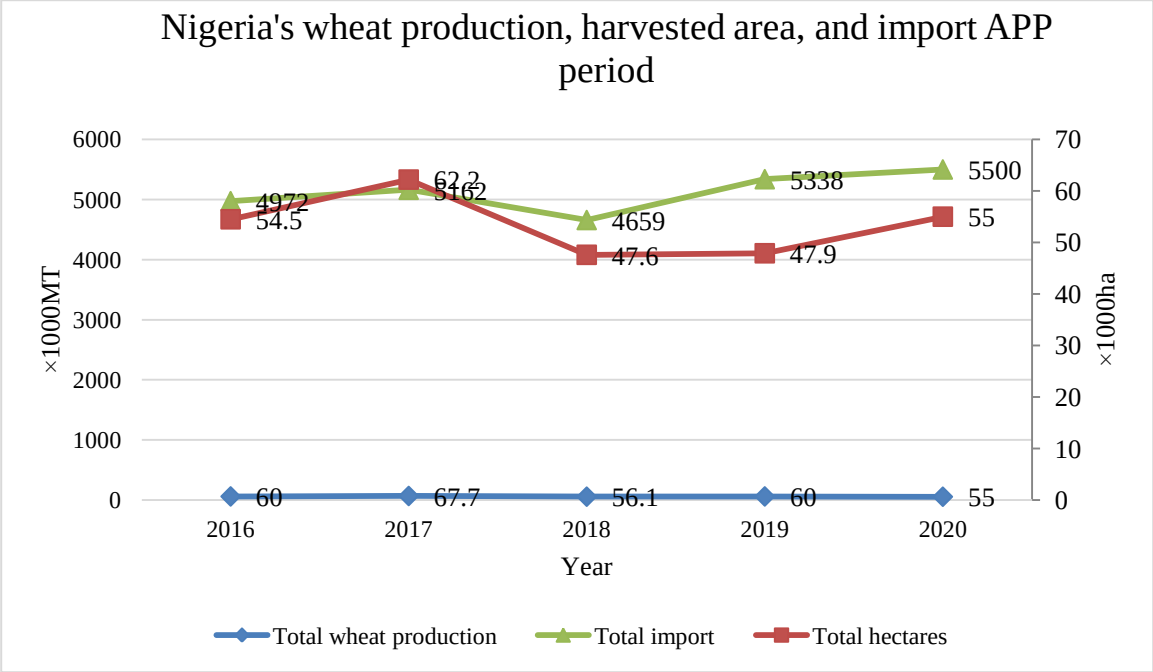
Figure 7 Nigeria's wheat production, harvested area, and import APP period



Source: Knoem.com Production, Supply and Distribution of Agricultural Commodities by Market Year, 25 May 2021

Compound growth rate analysis

To determine the average growth rate over three periods, a compound annual growth rate was computed. The result in table 4 shows that there was a negative growth rate in all the three variables under study from 1986–1996 with values of-9%, -10%, and -0.00 for production, harvested area, and imports, respectively. Positive growth rates were recorded from 1997–2008; production increased by 2%, harvested area by 6%, and imports increased by 10%. From 2009–2020, all variables recorded positive increases of 1%, 6%, and 3% for production, harvested area, and imports, respectively. This indicated that the total average growth rate of production was negative and low positive growth was recorded in the harvested area, while the highest positive growth was recorded in imports. This indicates a backward in production and a forward in importation.

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Table 4 compound growth rate analysis

S/n	Range	Production	Harvested area	Import
1	1986 – 1996	- 0.09	- 0.10	- 0.00
2	1997 – 2008	0.02	0.06	0.10
3	2009 - 2020	0.01	0.06	0.03

- **Conclusion**

The social and political situations affecting wheat production were identified as internal social factors, external social factors, and political factors. Poor cultivation practises and the knowledge level of the farmers were the major internal social factors. These, among others, prevented the farmer from fully adopting the recommended agronomic practices. While the major external social factors were consumer food habits, consumer demand for convenience, low produce prices, and high input costs. The political factors identified were social security issues, inconsistent government policies and intricacy in implementation, the role of the publication media, role playing by the milling industries, international trade interests, and lack of political will. No doubt wheat millers imported more than required in 1986. It may have been a means for them to sabotage AWPP's success. The role played by the milling industry in ensuring the production of adequate inputs (certified seed) to the farmers and the establishment of 15 aggregation centers in different states will boost the wheat crop production in the country. Presently, Nigeria’s farmers produce 2.5–3MT/ha. The result also indicated that the total average growth rate of production was negative, and low positive growth was recorded in the harvested area, while the highest positive growth was recorded in imports. The premium price should be considered whenever having agreements with farmers. The high cost of inputs and the lowest price will be overcome, and it would ensure regular supply to the milling industries, and farmers will be encouraged when a remunerative price is offered to them. In order to achieve 75% of the country's wheat self-sufficiency by 2035, as pointed out by the stakeholders, governments, NGOs, and Millers must sustain their current approaches for the desired result.

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COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

References

1. Archer, D. W., Julie, D., Urs, P. K., Mary, H., and John, M. H. 2008. Social and political influences on agricultural systems. *Renewable Agric. Food Syst.* 23(4): 272–284. Available: doi: 10.1017/S174217050700169X [17th September, 2020].
2. Haruna, S. A., Adejumo, B. A., Chukwu, O., and Okolo, C. A. 2017. Getting out of the Nigerian "Wheat Trap": A multi-disciplinary approach. Int. J. Eng. Res. Tech. 6. ISSN: 2278-0181. Available: https://www.ijert.org/research/getting-out-of-the-nigerian-wheat-trap-a-multi-disciplinary-approach-IJERTV6IS070174.pdf. [13thMarch, 2020]
3. Oirere, S. 2019. Nigeria seeking grain self-sufficiency [online]. Available: https://www.world-grain.com/articles/11898-nigeria-seeking-grain-self. [16 April 2020]
4. Wikipedia. Geography of Nigeria. [Online]. Available https://en.wikipedia.org/wiki/Geography_of_Nigeria#:~:text=Nigeria%20is%20a%20country%20in,Lake%20Chad%20to%20the%20northeast [21/08/2021].
5. Ibrahim, M. G. 2020. Nigeria: Kano May Experience Wheat Shortage This Year – Farmers. Daily Trust (Abuja). 15th march, 2020. Available: https://allafrica.com/stories/202003150029.html. [16/04/2021]
6. Boluwade, E. 2021. Grain and Feed Annual, Nigeria. In: United state department of agriculture. Report number NI2021-0002. Available: https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Grain%20and%20Feed%20Annual_Lagos_Nigeria_03-15-2021. [21/06/21]
7. Kolawole, A. 1993. Economic analysis of dry lands farming in Nigeria with special reference to the accelerated wheat production programme in Kano and Kaduna states. African Arid Lands 3. ISSN 1102-4488. Nordiska Afrikainstitutet (The Scandinavian Institute of African Studies) p O Box 1703, S-751 47 Uppsala, Sweden

UNDER PEER REVIEW

8. Magaji, M. D., Abubakar, B. Y., and Olabanji, O. 2012. Current status of wheat research and production in Nigeria: implication for food security. [Online]. Available:https://www.slideshare.net/CIMMYT/09-magajiabubakarolabanjicurrent-statusofwheatinnigeria. [16th May, 2020].
9. WFAN [Wheat Farmers Associations of Nigeria]. 2020. Achieving accelerated wheat production in Nigeria. The guardian, 28 May, 2020. Available: https://guardian.ng/business-services/achieving-accelerated-wheat-production-in-nigeria/. [28/06/2020]
10. Andrae, G. and Beckman, B. 1985. The wheat trap: bread and underdevelopment in Nigeria. ISBN 0-86232-520-X Zed Books Ltd. 57 Caledonian Road, London NI 9B U, in association with the Scandinavian Institute of African Studies, PO Box 1703, S 751 47 Uppsala, Sweden, in 1985.
11. USDA [United States Department of Agriculture] 2015. USDA GAIN: Nigeria Grain and Feed Annual 2016. Available: http://www.thecropsite.com/reports/?id=415. [04th April, 2020]
12. USDA [United States Department of Agriculture] 2016. Grain and feed annual Lagos Nigeria. Available: https://www.fas.usda.gov/data/nigeria-grain-and-feed-annual-0. [15th April, 2020]
13. USDA [United States Department of Agriculture] 2015. Nigeria's imports of wheat and rice to rise. Available: https://www.fas.usda.gov/data/nigeria-grain-and-feed-annual-3. [21st April, 2020].
14. USDA [United States Department of Agriculture] 2018. Wheat and rice imports up, with rice still crossing the land border despite restrictions. Available: https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Grain%20and%20Feed%20Update_Lagos_Nigeria_12-6-2018.pdf. [21st April, 2020]
15. USDA [United States Department of Agriculture] 2019. Nigeria's imports of wheat and rice to rise. Available: https://www.fas.usda.gov/data/nigeria-grain-and-feed-annual-3. [21st April, 2020]
16. USDA [United States Department of Agriculture] 2020. Grain and Feed Update. Available:https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fi

UNDER PEER REVIEW

leName=Grain%20and%20Feed%20Update_Lagos_Nigeria_09-16-2020. [15th April, 2021]

17. KPMG [Klynveld, Peat, Marwick and Goerdeler] 2016. Wheat based consumer foods in Nigeria. [Online]. Available: https://home.kpmg/ng/en/home/insights/2016/08/wheat-based-consumer-foods-in-nigeria.html. [02.02.2020]
18. Oche, C. Y. 1998. Agro-climatic Zonation for Wheat Production in savanna Region of Nigeria. Singapore Journal of Tropical Geography. Vol. 19, No. 1, 39-50. Available: https://doi.org/10.1111/j.1467-9493.1998.tb00249.x
19. Richard, P. N. 2019 Jun. 12. Why wheat farming is suffering setback in Nigeria. Kano. Daily Trust (Abuja). Available: https://www.dailytrust.com.ng/why-wheat-farming-is-suffering-setback-in-nigeria.html. [16.04.20.]
20. Ime, N. 2020. Wheat production in Nigeria to improve post COVID-19. [Online]. Available: https://www.von.gov.ng/wheat-production-in-nigeria-to-improve-post-covid-19/ [11th August, 2020]
21. Odum, F. 2015 Dec. 06. Why Nigeria's wheat production programme is under threat. Guardian Newspaper. Available: https://guardian.ng/features/why-nigerias-wheat-production-programme-is-under-threat/. [11.05.2020]
22. LCRI [Lake Chad Research Institute] 2017. Boko Haram Conflict Cuts Nigeria Wheat Crop as Farmers Flee. [Online]. Available: https://www.agweb.com/article/boko-haram-conflict-cuts-nigeria-wheat-crop-as-farmers-flee-blmg [11th August, 2020]
23. Donley, A. 2018. Wheat imports rising in Nigeria [online]. Available: https://www.worldgrain.com/articles/11395-wheat-importsrising-in-ni.[Access on16/04/20].
24. Victoria, V. D. 2018. Analysing Poverty in Nigeria through Theoretical Lenses. *J. Sust. Devt.* 11(1): 20-31. ISSN 1913-9063. Available: https://doi.org/10.5539/jsd.v11n1p20. [4th June, 2020].
25. Dauda, R. S. 2019. The paradox of persistent poverty amidst high growth: the case of Nigeria. ISBN-13: 9780198832317. Available: https://doi:10.1093/oso/9780198832317.001.0001. [05th June, 2020].

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