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# Plant Nutrition and Sustainable Crop Production in Nigeria

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## Abstract

The aim of this study is to examine the determining factors of plant nutrition and sustainable crop production in Nigeria. The study applied an in-depth review of literature and observed that different biotic and abiotic factors interact together to determine the outcome of plant nutrition and sustainable crop production in Nigeria. These factors include; types of fertilizers applied, atmospheric emissions, level of technological development, infrastructural facilities, climatic conditions, irrigation method, and level of skilled labour force. The study recommended that there should be increased and equal access to credit facilities, social protection incentives, and more innovation and technological involvement in the agricultural sector in order to increase productivity and efficiency.

**Keywords:** credit access, crop production, plant nutrition, productivity

## 1. Introduction

Farmers experience various problems in the quest to produce enough crops in order to meet the demand of the ever-teaming population and still keep constant and without comprising the standard of the available resources for generations to come. Mechanisms are needed to enhance soil and plants nutrients in order to increase crop yields, and plant nutrients are one of the requirements to enhance crop production [1, 2].

Plants' nutritional quality directly affects human nutrition in terms of productivity. It is therefore no gainsaying that the quality of food consumed in a country determines the quality of its populace. In many developing and developed countries, deficiency of micronutrients in pastures and crops has a negative effect on the health of both plants and animals [3]. In addition, the adequate provision of sunlight, air and water is a major prerequisite for optimum plant yield and improved crop management. In a bid to achieve these, various countries have devised means to reduce the negative effects of both abiotic and biotic factors in plants. After dedicating sufficient time and capital for farming, the goal of many Nigerian farmers is to produce sustainable crop yield [1].

However, certain factors come into play which might not augur well for agricultural yield in general and crop production in particular. Considering the rate of food insecurity in most developing countries, resulting from unfavourable weather condition owing to global climate change, the improved sustainable management of plant nutrition has been considered a precondition to reduce the challenge of prevailing hunger in the affected countries, Nigeria not excluded [1].

Owing to inadequate mechanisation and the small-scale nature of agricultural production, Nigeria has not been able to achieve self-sufficiency in food production.

According to Obasi et al. [4], which noted that the sub-Saharan Africa region is among the countries that have continued to experience significant food shortages, more than 40% of the region population is estimated to be suffering from hunger and poor nutrition. Just like many other developing countries, the Food and Agricultural Organisation identified that widespread poverty, poor economic conditions, institutional failure and constraints in logistics, among many other challenges, significantly affect crop production in Nigeria.

In a bid to tackle these challenges, the Nigerian government over the years has intensified efforts towards improving both plant nutrient and crop production mainly through better land use, human resource development in the agricultural sector, research in diversification of types of crops and seeds, fight against pests and diseases and increased use of fertilisers. However, despite the resources devoted to crop production in Nigeria, the productive efficiency of farmers for most crops still fall below 60% [4]. Globally, both socioeconomic and ecological factors interact to determine plant nutrients and sustainable crop production. Efforts to intensify agricultural production in Nigeria has been a continuous process which is taking place through several pathways; therefore, we examined how some of these factors affects plant nutrition and crop production in the case of Nigeria.

## **2. Literature review**

Crop production has continued to play a major role in sustaining economic growth in Nigeria. However, its sustainability has been threatened with major challenges overtime. These challenges range from deficiency in plant nutrient as a result of unfavourable biotic and abiotic factors which includes unfavourable climatic conditions, low level of technological development in the agricultural sector, misapplication of fertilisers, infrastructural decay and so on. Various policies have been recommended overtime to address the issue of low crop production in Nigeria. However, it is salient to know how some of these factors have affected plant nutrition and crop production in Nigeria; examined below are some of the factors as identified in the literature.

In an attempt to correct the deficiencies of nutritional elements in crops, a wide range of Nigerian farmers often apply organic and inorganic fertilisers as both play a prominent role in improving soil fertility. However, fertiliser application is a necessary condition for crop yield but not a sufficient condition for an improved crop yield. According to Awodun et al. [5] cited in Ayeni et al. [6], both organic manure and fertilisers play different roles in improving soil fertility, but they both cannot supply all the nutrients in plants that can solely feed a teeming Nigerian population. Nottidge [7] further identified that fertiliser application leads to nutrient imbalance and low infiltration rate, all of which hinders the uptake of nutrients by plants. Also, Ayeni et al. [6] identified that the constant use of inorganic fertilisers can increase the level of soil acidity thereby leading to soil damage.

It has been globally recognised that the most serious threat to agricultural productivity is environmental issue [8]. For countries with higher temperature, the consequences of climate change tend to be more severe. This is most especially true for many developing countries with little adaptive capacity [9]. In recent times, atmospheric emission has been on the increase due to the improper use of agro chemicals, low level of land and environmental management and inadequate manure management. According to Yobannes [9], one of the most important

emissions that affects crop productivity and plant nutrient is nitrous oxide, which is determined by fertiliser application, irrigation methods and animal feeds.

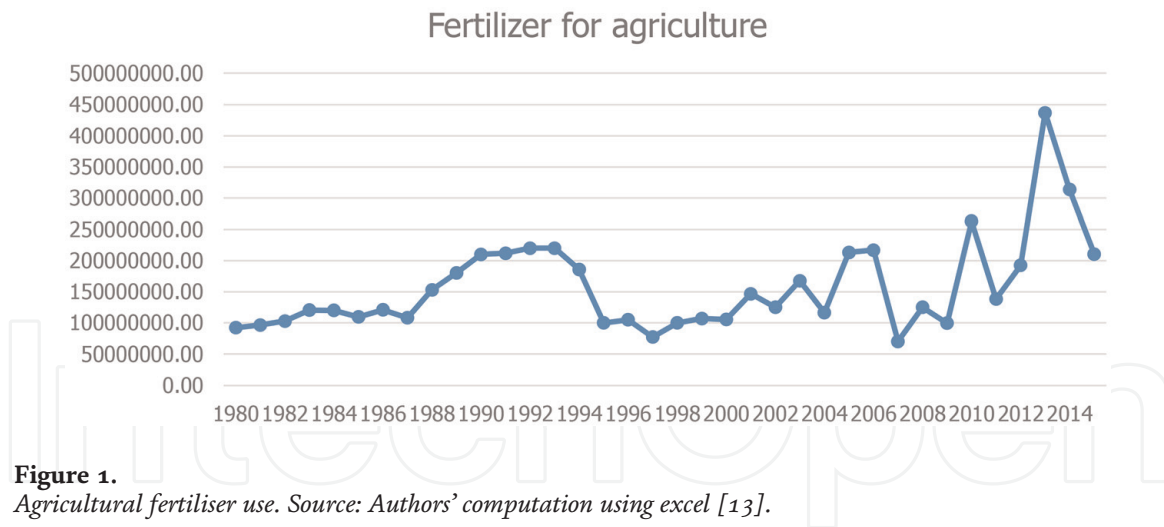
Ufiobor [10] further identified that one of the major factors that determines crop yield in Nigeria is the climatic condition. From 1970 to 2018, temperature has increased from an average of 1.4–1.9°C [11] cited in Ufiobor [10]. The northwest, northeast and southwest of the country are especially being affected by extreme harsh weather conditions. The consequence of this is that higher temperature will decrease soil moisture which will have an attendant effect on plant nutrients and crop production.

In the developed economies, most especially Europe and North America, sustainable crop production has been increasing rapidly due to the developed nature of their farming system which has been made possible as a result of innovation and technological enhancement [10]. Farmers in these countries have accepted the evolving change and are now actively engaged in research and training for a sustainable cropping system [10]. In these countries, the government has also implemented programmes to support rigorous scientific investigation that will improve plant nutrition to produce healthy food for its populace. However, Nigeria has not yet witnessed the kind of agricultural evolution that has taken place in developed countries. One major constraint to agricultural development in Nigeria has been the slow response to technological adoption which in turn leads to low productivity and poor farming system, which affects plant nutrients. Nigeria majorly depends on traditional farming system which has an effect on the use of farmlands as the farming system is mainly carried out without the use of machines.

Just like other developing countries, the role of labour force in determining the level of output in all the sectors cannot be undermined. The agricultural system in Nigeria is highly labour intensive as labour force is a crucial part of its production system. According to Ufiobor [10], labour force accounts for over 90% of its total farm operations. Ufiobor [10] further envisaged that this could be as a result of the fact that many of its educated youth have shown little interest in the agricultural sector over the years, thus causing a shortage of skilled labour force in the agricultural sector that can also affect the nutritional value of plants and total crop production itself.

According to the Nations Encyclopedia [12], major crops cultivated in Nigeria include sesame, beans, nuts, cashew, groundnut, cassava, cocoa, gum Arabic, millet, melon, rice, palm kernels, rubber sorghum, banana, plantain, beans and yams. However, the most widely produced crops are cassava and yams in the south and millet and sorghum in the north. Nigerian farmers also grow many fruits and vegetables. In recent years, the use of fertiliser in many countries has been increasing overtime. However, the use of organic wastes for pasture has been more feasible in the developed countries especially China, than in all other countries including Nigeria [13]. This is an indication of the fact that the Nigerian government has not really encouraged the use and development of organic fertiliser in Nigeria which might be responsible for the low level of manure generated for the purpose of farming.

The International Food Policy Research Institute [14] identified that there are signs of an increase use of fertilisers in countries where fertiliser subsidies are being granted to farmers by the government. Prominent among these countries are Malawi, Nigeria and Zambia. The use of fertiliser by Nigerian farmers is however quite common especially among the shareholder farmers. In some cases, these farmers also use some inorganic fertiliser which covers 70% of plots of lands [14]. Since the 1970s, efforts by the Nigerian government to stimulate the demand for fertiliser have been on the increase. This aim has been achieved by growing commercial fertiliser sector through price reduction, extension services to boost soil



**Figure 1.** Agricultural fertiliser use. Source: Authors' computation using excel [13].

fertility, increased use of technology and increased access to credit facilities by farmers [15] (**Figure 1**).

In the year 1980, fertiliser production (kilogrammes per hectare of arable land) in Nigeria was 9,220,000. Over the past 36 years, its highest value was 436,957,273 in the year 2013, while its lowest value was 70,115,000 in the year 2007. The upward and downward movement of this trend is an indication that the level of fertiliser production in Nigeria has not witnessed a stable movement.

According to the International Food Policy Research Institute [14], the types of fertiliser commonly produced and used in Nigeria include urea, nitrogen-phosphorus-potassium (NPK) and superphosphate (SSP). The most commonly used NPK blends are 15-15-15, 20-10-10, 12-12-17 + 2 MgO and 25-10-10. NPK fertilisers are further formulated to be site and crop specific. In a bid to further boost the effective procurement and distribution of fertiliser, the Nigerian government at various times has introduced several measures for its production, procurement and distribution.

In Nigeria, emphasis on increased agricultural productivity of farmers from the perspective of soil conditioning has been on chemical fertiliser, while there has been less emphasis on the impact of the bio-organic input [16]. Even as the quest to ensure the eradication of hunger and poverty has been on the increase, the Nigerian government has taken measures to ensure national self-sufficiency through local fertiliser production, supplemented by importation to ensure adequate and timely fertiliser supply to all farmers. The government also offers a subsidy on the market price of fertiliser so as to make fertiliser affordable to smallholder farmers. Given that the agenda of most successive government is to boost local food production and ensure national self-sufficiency, various efforts has to be intensified to synergise the use of both organic and inorganic medium of improving soil fertility for plant nutrition.

### 3. Methodology

The method used in this study is the survey of literature and stylised facts approach. Relevant data was collected from Food and Agricultural Organization data (FA) data base and the National Bureau of Statistics (NBS) of the Nigerian statistical bulletin for the indicators of crop production and other major agriculture commodities in Nigeria. Tables were used to describe the yields and prices of various agriculture commodities and determinants. **Table 1** presents crop

| Year                           | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006  | 2007 | 2008  | 2009 | 2010  | 2011 | 2012  | 2013  | 2014  | 2015  | 2016  | 2017 |
|--------------------------------|------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|-------|-------|-------|-------|------|
| Crop production                | 80.5 | 79.4 | 83.3 | 87.8 | 93.7 | 99.5 | 106.9 | 97.5 | 104.3 | 90.1 | 104.5 | 96.3 | 107.5 | 104.3 | 117.8 | 120.1 | 118.9 | —    |
| Total agriculture employment   | 57.3 | 57.6 | 60.7 | 58.2 | 51.9 | 51.2 | 49.6  | 48.6 | 44.0  | 40.4 | 30.6  | 33.1 | 35.9  | 38.3  | 36.8  | 36.4  | 36.3  | 36.5 |
| Male agriculture employment    | 51.1 | 51.7 | 55.8 | 52.7 | 45.3 | 44.4 | 42.7  | 41.7 | 35.8  | 30.9 | 19.4  | 22.0 | 25.3  | 28.2  | 26.7  | 26.3  | 26.1  | 26.2 |
| Female agricultural employment | 61.9 | 61.9 | 64.2 | 62.3 | 57.0 | 56.3 | 54.9  | 54.0 | 50.5  | 48.0 | 39.5  | 42.2 | 44.7  | 46.7  | 45.2  | 44.8  | 44.9  | 45.3 |
| Agriculture land area          | 78.3 | 76.3 | 77.5 | 78.8 | 78.8 | 79.8 | 80.5  | 80.9 | 79.8  | 75.8 | 76.9  | 78.0 | 79.1  | 77.7  | 77.7  | 77.7  |       |      |

Source: Authors' compilation.

**Table 1.**  
 Crop production and its determinants.

|   | Jan     | Feb     | Mar     | Apr     | May     | Jun     | Jul     | Aug     | Sep     | Oct     | Nov     | Dec     |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Item labels                             | 42736.0 | 42767.0 | 42795.0 | 42826.0 | 42856.0 | 42887.0 | 42917.0 | 42948.0 | 42979.0 | 43009.0 | 43040.0 | 43070.0 |
| Agric eggs (medium size price of one)   | 47.4    | 42.9    | 43.9    | 46.2    | 45.7    | 45.3    | 44.3    | 42.9    | 45.7    | 42.1    | 40.8    | 41.3    |
| Beans: brown, sold loose                | 353.6   | 337.1   | 353.3   | 357.2   | 365.9   | 374.3   | 382.3   | 370.3   | 404.8   | 382.6   | 369.8   | 362.0   |
| Beans: white black eye, sold loose      | 305.5   | 309.9   | 318.5   | 324.0   | 332.3   | 339.6   | 344.0   | 335.7   | 358.1   | 342.1   | 337.1   | 314.9   |
| Beef bone in                            | 1001.2  | 995.6   | 1010.3  | 1035.4  | 1123.7  | 1129.0  | 1128.9  | 1151.4  | 1078.5  | 1081.3  | 1065.6  | 1067.7  |
| Beef, boneless                          | 1249.5  | 1270.7  | 1281.7  | 1323.1  | 1378.9  | 1393.4  | 1376.9  | 1276.9  | 1324.9  | 1312.7  | 1286.9  | 1236.4  |
| Bread sliced 500 g                      | 302.9   | 299.7   | 297.5   | 296.6   | 307.7   | 320.6   | 314.5   | 304.2   | 310.6   | 305.9   | 299.0   | 290.1   |
| Bread unsliced 500 g                    | 270.3   | 264.9   | 262.3   | 277.7   | 282.3   | 286.8   | 285.6   | 258.7   | 286.3   | 280.3   | 274.3   | 268.2   |
| Broken rice (Ofada)                     | 377.4   | 392.0   | 421.5   | 425.5   | 460.1   | 472.3   | 473.4   | 415.3   | 431.6   | 416.2   | 417.2   | 319.9   |
| Catfish (obokun), fresh                 | 899.6   | 885.1   | 884.1   | 886.7   | 900.7   | 916.5   | 910.6   | 921.2   | 894.5   | 906.9   | 902.0   | 919.8   |
| Catfish, dried                          | 2204.1  | 2150.2  | 2189.6  | 2189.1  | 2213.7  | 2255.2  | 2215.3  | 2176.8  | 2159.0  | 2083.7  | 2214.3  | 2146.6  |
| Catfish, smoked                         | 817.1   | 825.3   | 834.3   | 837.1   | 845.9   | 848.4   | 853.2   | 852.9   | 839.5   | 845.1   | 847.7   | 1007.4  |
| Chicken feet                            | 765.3   | 785.4   | 907.5   | 768.1   | 819.6   | 832.8   | 832.7   | 834.7   | 817.2   | 800.1   | 790.9   | 1156.0  |
| Chicken wings                           | 919.1   | 963.5   | 980.9   | 886.6   | 925.6   | 952.2   | 958.0   | 946.9   | 979.3   | 960.7   | 953.6   | 950.6   |
| Dried fish sardine                      | 959.1   | 935.5   | 958.7   | 972.7   | 991.6   | 989.5   | 968.8   | 972.6   | 947.6   | 967.0   | 968.8   | 1077.8  |
| Evaporated tinned milk carnation, 170 g | 136.3   | 140.5   | 143.6   | 151.5   | 157.9   | 162.8   | 162.7   | 158.8   | 174.4   | 170.6   | 169.4   | 159.7   |
| Evaporated tinned milk (peak), 170 g    | 157.7   | 166.1   | 177.1   | 197.2   | 198.4   | 194.7   | 195.9   | 190.5   | 206.0   | 198.7   | 196.0   | 191.4   |
| Frozen chicken                          | 1419.8  | 1429.0  | 1555.5  | 1606.6  | 1606.0  | 1645.3  | 1623.8  | 1529.3  | 1570.3  | 1580.1  | 1571.5  | 1708.6  |
| Gari white, sold loose                  | 219.6   | 260.9   | 273.7   | 288.5   | 293.0   | 315.6   | 317.1   | 310.1   | 302.0   | 268.1   | 251.9   | 199.7   |
| Gari yellow, sold loose                 | 255.8   | 250.5   | 302.0   | 320.9   | 326.8   | 354.6   | 350.5   | 345.8   | 335.9   | 305.0   | 289.2   | 219.8   |
| Groundnut oil: 1 bottle, specify bottle | 477.9   | 482.9   | 494.1   | 494.2   | 500.2   | 503.3   | 505.1   | 508.3   | 478.0   | 504.0   | 503.8   | 660.4   |
| Iced sardine                            | 1880.0  | 1915.7  | 1902.2  | 1928.0  | 1919.6  | 1916.2  | 1915.2  | 1904.7  | 1878.5  | 1914.5  | 1903.7  | 1545.3  |
| Irish potato                            | 300.9   | 307.3   | 311.8   | 318.9   | 315.9   | 319.3   | 311.4   | 310.5   | 307.5   | 291.1   | 290.6   | 314.2   |
| Mackerel: frozen                        | 759.0   | 764.6   | 774.9   | 778.2   | 785.4   | 794.6   | 795.8   | 797.8   | 785.6   | 828.9   | 844.6   | 1015.6  |

|  | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Maize grain: white, sold loose             | 167.1  | 172.9  | 174.0  | 182.9  | 188.9  | 190.3  | 191.3  | 192.4  | 168.1  | 191.2  | 185.1  | 154.4  |
| Maize grain: yellow, sold loose            | 168.8  | 174.7  | 178.8  | 185.6  | 190.6  | 191.4  | 193.0  | 193.4  | 168.2  | 191.1  | 189.9  | 161.9  |
| Mudfish (aro), fresh                       | 994.4  | 998.7  | 1079.2 | 1008.9 | 1047.3 | 1071.1 | 1080.3 | 998.6  | 1069.9 | 1074.7 | 1081.6 | 1060.0 |
| Mudfish, dried                             | 1812.0 | 1955.1 | 2084.8 | 2319.9 | 2388.1 | 2416.3 | 2395.8 | 2161.7 | 2204.0 | 2190.2 | 2144.2 | 1621.4 |
| Onion bulb                                 | 258.9  | 241.4  | 246.9  | 205.6  | 203.6  | 214.8  | 213.1  | 236.7  | 238.3  | 217.6  | 228.5  | 311.1  |
| Palm oil: 1 bottle, specify bottle         | 420.6  | 434.8  | 442.0  | 452.4  | 458.2  | 471.3  | 478.8  | 492.9  | 439.9  | 473.6  | 475.5  | 551.8  |
| Plantain (ripe)                            | 234.3  | 234.3  | 236.7  | 240.7  | 241.5  | 249.7  | 251.3  | 254.0  | 231.7  | 247.4  | 244.9  | 240.8  |
| Plantain (unripe)                          | 212.5  | 214.4  | 215.8  | 221.8  | 224.7  | 228.5  | 223.5  | 226.3  | 216.0  | 229.9  | 233.3  | 253.1  |
| Rice: agric, sold loose                    | 324.0  | 355.4  | 360.9  | 324.8  | 347.7  | 352.1  | 354.1  | 349.6  | 351.1  | 325.9  | 315.1  | 317.5  |
| Rice: local, sold loose                    | 286.2  | 306.3  | 308.9  | 299.3  | 323.8  | 325.5  | 323.3  | 320.2  | 316.4  | 292.9  | 278.9  | 278.9  |
| Rice: medium, grained                      | 312.1  | 352.7  | 378.0  | 332.8  | 350.4  | 348.2  | 344.4  | 313.5  | 339.5  | 320.6  | 309.9  | 304.9  |
| Rice: imported, high-quality, sold loose   | 402.0  | 410.6  | 418.7  | 388.5  | 410.5  | 415.8  | 409.2  | 384.3  | 398.0  | 368.9  | 360.8  | 371.2  |
| Sweet potato                               | 129.4  | 127.2  | 132.9  | 132.4  | 130.3  | 135.8  | 138.0  | 138.6  | 139.0  | 115.7  | 111.4  | 120.2  |
| Tilapia fish (epiya), fresh                | 792.2  | 795.3  | 798.1  | 800.8  | 805.2  | 817.6  | 823.3  | 820.3  | 795.6  | 822.4  | 813.8  | 1158.8 |
| Titus, frozen                              | 884.8  | 942.2  | 964.6  | 935.0  | 969.6  | 1012.2 | 1014.5 | 998.0  | 974.0  | 1050.4 | 1125.9 | 1109.2 |
| Tomato                                     | 247.5  | 236.6  | 268.6  | 285.7  | 339.7  | 375.0  | 394.1  | 431.3  | 322.4  | 291.5  | 286.4  | 276.2  |
| Vegetable oil: 1 bottle, specify bottle    | 495.3  | 507.4  | 513.4  | 525.7  | 524.8  | 546.3  | 552.9  | 559.0  | 505.5  | 547.1  | 540.2  | 565.0  |
| Wheat flour: prepacked (golden penny 2 kg) | 626.5  | 621.4  | 623.1  | 627.3  | 646.2  | 632.1  | 630.5  | 647.3  | 627.0  | 641.4  | 649.2  | 639.2  |
| Yam tuber                                  | 210.6  | 215.6  | 255.9  | 250.3  | 279.2  | 292.1  | 294.1  | 343.4  | 259.5  | 223.6  | 212.3  | 211.6  |

Source: Authors.

**Table 2.**  
Prices of items of various agricultural/food commodities in 2017 (January to December).



| Item labels                             | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Agric eggs (medium size price of one)   | 38.8   | 41.3   | 41.2   | 42.2   | 41.8   | 41.4   | 41.2   | 41.8   | 41.2   | 41.7   | 42.4   | 42.6   |
| Beans: brown, sold loose                | 385.5  | 387.5  | 395.3  | 395.2  | 407.7  | 418.8  | 411.0  | 410.2  | 416.1  | 411.0  | 396.7  | 386.8  |
| Beans: white black eye, sold loose      | 344.5  | 348.6  | 357.0  | 355.3  | 367.2  | 369.4  | 361.3  | 361.7  | 362.7  | 354.2  | 346.4  | 344.7  |
| Beef bone in                            | 1045.6 | 1017.3 | 1024.6 | 980.3  | 1011.1 | 1034.6 | 1028.1 | 1061.8 | 1027.7 | 1003.3 | 998.7  | 997.7  |
| Beef, boneless                          | 1298.7 | 1274.7 | 1262.5 | 1257.7 | 1275.8 | 1271.5 | 1262.7 | 1281.0 | 1281.6 | 1260.6 | 1251.4 | 1270.8 |
| Bread: sliced, 500 g                    | 313.4  | 314.2  | 305.9  | 306.5  | 306.0  | 308.0  | 305.3  | 308.0  | 303.8  | 299.2  | 305.5  | 296.9  |
| Bread: unsliced, 500 g                  | 282.1  | 284.4  | 278.6  | 278.6  | 278.1  | 275.6  | 272.7  | 278.3  | 278.6  | 272.9  | 277.9  | 271.1  |
| Broken rice (Ofada)                     | 413.2  | 405.7  | 399.5  | 400.9  | 405.0  | 404.4  | 403.6  | 397.3  | 384.5  | 370.2  | 385.6  | 381.6  |
| Catfish (obokun), fresh                 | 1014.6 | 1037.3 | 1008.3 | 993.5  | 1013.1 | 1062.4 | 1064.7 | 1088.9 | 1089.3 | 1080.4 | 1112.1 | 1060.8 |
| Catfish, dried                          | 1852.9 | 1857.2 | 1793.6 | 1753.5 | 1779.7 | 1770.5 | 1792.1 | 1807.1 | 1766.5 | 2362.3 | 1815.0 | 1808.6 |
| Catfish, smoked                         | 1540.8 | 1896.9 | 1524.7 | 1514.5 | 1520.9 | 1527.8 | 1504.4 | 1512.4 | 1499.6 | 1482.3 | 1490.8 | 1519.8 |
| Chicken feet                            | 850.0  | 778.6  | 773.0  | 758.9  | 782.5  | 784.8  | 930.5  | 803.0  | 808.1  | 775.7  | 985.3  | 737.8  |
| Chicken wings                           | 950.8  | 955.0  | 935.8  | 921.5  | 925.5  | 960.6  | 963.0  | 992.5  | 1012.5 | 982.5  | 981.5  | 944.0  |
| Dried fish sardine                      | 1455.5 | 1405.7 | 1410.1 | 1371.8 | 1400.0 | 1378.6 | 1395.4 | 1382.9 | 1374.3 | 1365.7 | 1331.6 | 1343.0 |
| Evaporated tinned milk carnation, 170 g | 172.2  | 166.5  | 158.5  | 160.2  | 165.3  | 166.2  | 165.7  | 163.0  | 166.3  | 163.3  | 162.4  | 163.3  |
| Evaporated tinned milk (peak), 170 g    | 196.7  | 191.1  | 187.6  | 188.1  | 192.9  | 189.9  | 187.8  | 184.2  | 189.3  | 187.2  | 187.6  | 190.0  |
| Frozen chicken                          | 1547.5 | 1548.9 | 1544.9 | 1537.9 | 1536.5 | 1537.2 | 1541.4 | 1533.2 | 1534.2 | 1558.2 | 1551.2 | 1625.1 |
| Gari: white, sold loose                 | 229.3  | 210.2  | 209.1  | 208.2  | 216.0  | 216.7  | 200.7  | 198.8  | 195.9  | 188.4  | 183.6  | 166.6  |
| Gari: yellow, sold loose                | 271.3  | 250.1  | 244.0  | 246.5  | 256.5  | 259.8  | 248.7  | 246.8  | 253.7  | 236.3  | 222.4  | 196.0  |
| Groundnut oil: 1 bottle, specify bottle | 528.6  | 571.1  | 585.2  | 584.5  | 601.5  | 612.4  | 603.6  | 603.4  | 608.4  | 592.5  | 603.9  | 585.5  |
| Iced sardine                            | 861.1  | 885.1  | 899.7  | 907.9  | 941.5  | 923.5  | 940.5  | 937.2  | 931.6  | 916.8  | 921.0  | 906.4  |
| Irish potato                            | 232.9  | 250.9  | 261.8  | 282.1  | 300.6  | 297.1  | 296.6  | 309.5  | 291.9  | 300.1  | 330.1  | 298.6  |

| Item labels                                | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mackerel, frozen                           | 915.3  | 875.3  | 915.9  | 896.4  | 927.2  | 908.9  | 922.9  | 926.2  | 944.5  | 921.0  | 937.8  | 934.2  |
| Maize grain: white, sold loose             | 190.5  | 185.2  | 231.6  | 173.5  | 180.5  | 183.7  | 179.4  | 180.1  | 179.9  | 171.1  | 165.0  | 161.5  |
| Maize grain: yellow, sold loose            | 180.0  | 199.8  | 193.8  | 191.1  | 195.7  | 197.3  | 190.4  | 191.1  | 189.8  | 178.4  | 168.9  | 160.4  |
| Mudfish (aro), fresh                       | 1099.8 | 1098.6 | 1069.9 | 1039.0 | 1062.7 | 1070.6 | 1065.6 | 1104.8 | 1072.1 | 1052.1 | 1067.1 | 1032.2 |
| Mudfish, dried                             | 2134.7 | 2066.0 | 1945.3 | 1912.7 | 1928.2 | 1941.9 | 1907.2 | 1897.1 | 1908.0 | 1874.4 | 1894.3 | 1861.7 |
| Onion bulb                                 | 248.7  | 252.0  | 235.3  | 234.4  | 234.0  | 240.0  | 246.9  | 252.1  | 251.3  | 232.8  | 287.7  | 259.4  |
| Palm oil: 1 bottle, specify bottle         | 480.9  | 510.1  | 492.1  | 486.8  | 494.9  | 500.0  | 496.4  | 501.1  | 501.0  | 495.1  | 496.2  | 474.5  |
| Plantain (ripe)                            | 273.7  | 257.6  | 259.8  | 262.3  | 273.5  | 276.6  | 270.8  | 275.8  | 272.6  | 245.6  | 254.1  | 227.3  |
| Plantain (unripe)                          | 248.7  | 232.2  | 242.5  | 235.7  | 247.1  | 248.5  | 248.6  | 247.1  | 244.3  | 226.6  | 225.5  | 215.7  |
| Rice: agric, sold loose                    | 322.8  | 322.8  | 326.6  | 322.5  | 327.8  | 331.1  | 325.1  | 327.0  | 328.4  | 323.3  | 329.1  | 321.6  |
| Rice, local, sold loose                    | 274.7  | 276.3  | 283.6  | 281.5  | 286.2  | 280.8  | 276.3  | 280.3  | 277.8  | 277.9  | 278.5  | 280.8  |
| Rice: medium grained                       | 308.5  | 314.8  | 317.2  | 323.6  | 325.4  | 323.1  | 319.4  | 322.5  | 319.5  | 314.9  | 318.9  | 318.0  |
| Rice: imported, high-quality sold loose    | 360.8  | 365.2  | 363.3  | 369.4  | 374.6  | 373.5  | 370.8  | 375.0  | 371.3  | 373.0  | 376.6  | 370.6  |
| Sweet potato                               | 113.4  | 126.4  | 130.3  | 137.4  | 150.5  | 148.7  | 163.3  | 167.1  | 167.3  | 154.7  | 147.7  | 140.7  |
| Tilapia fish (epiya), fresh                | 864.0  | 885.7  | 890.1  | 889.5  | 924.1  | 939.4  | 935.2  | 947.8  | 979.2  | 923.1  | 934.1  | 887.5  |
| Titus, frozen                              | 894.7  | 901.5  | 905.8  | 898.6  | 921.0  | 950.3  | 924.8  | 946.5  | 941.5  | 923.9  | 1105.2 | 926.4  |
| Tomato                                     | 272.0  | 267.1  | 267.1  | 289.5  | 307.1  | 317.7  | 336.3  | 336.7  | 328.3  | 306.6  | 294.4  | 271.5  |
| Vegetable oil: 1 bottle, specify bottle    | 540.3  | 549.0  | 533.5  | 548.0  | 553.2  | 552.1  | 547.9  | 540.4  | 546.8  | 536.1  | 536.5  | 507.8  |
| Wheat flour, prepacked (golden penny 2 kg) | 655.1  | 646.0  | 657.6  | 649.9  | 659.5  | 660.1  | 657.6  | 661.1  | 651.9  | 656.8  | 659.6  | 662.9  |
| Yam tuber                                  | 226.5  | 230.9  | 254.5  | 279.6  | 291.3  | 285.8  | 280.8  | 293.0  | 280.3  | 252.2  | 239.2  | 212.7  |

Source: Authors.

**Table 3.**  
Prices of items of various agricultural/food commodities in 2018.

| Item                        | Element        | Unit   | 1980       | 1985       | 1986       | 1990       | 1991       | 1995       | 2000       | 2005       | 2010       | 2015       |
|-----------------------------|----------------|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Bast fibres, other          | Area harvested | ha     |            | 1000       | 1000       | 1107       | 1000       | 1000       | 1000       | 1000       | 1000       | 1008       |
| Bast fibres, other          | Yield          | hg/ha  |            | 6000       | 7000       | 7859       | 8800       | 9712       | 10,992     | 12,193     | 13,310     | 14,388     |
| Bast fibres, other          | Production     | tonnes |            | 600        | 700        | 870        | 880        | 971        | 1099       | 1219       | 1331       | 1451       |
| Carrots and turnips         | Area harvested | ha     | 20,000     | 20,000     | 20,000     | 22,000     | 22,303     | 24,285     | 26,492     | 27,750     | 25,300     | 25,704     |
| Carrots and turnips         | Yield          | hg/ha  | 75,000     | 75,000     | 75,000     | 78,636     | 78,464     | 81,531     | 85,097     | 85,586     | 86,921     | 88,010     |
| Carrots and turnips         | Production     | tonnes | 150,000    | 150,000    | 150,000    | 173,000    | 175,000    | 198,000    | 225,440    | 237,500    | 219,911    | 226,222    |
| Cashew nuts, with shell     | Area harvested | ha     | 40,000     | 40,000     | 40,000     | 50,000     | 75,000     | 155,000    | 259,000    | 309,000    | 382,509    | 131,529    |
| Cashew nuts, with shell     | Yield          | hg/ha  | 6250       | 6250       | 6250       | 6000       | 6000       | 6129       | 17,992     | 19,223     | 20,698     | 7386       |
| Cashew nuts, with shell     | Production     | tonnes | 25,000     | 25,000     | 25,000     | 30,000     | 45,000     | 95,000     | 466,000    | 594,000    | 791,726    | 97,149     |
| Cassava                     | Area harvested | ha     | 1,200,000  | 1,075,000  | 1,095,000  | 1,634,130  | 2,551,000  | 2,944,000  | 3,300,000  | 3,782,000  | 3,481,900  | 6,216,434  |
| Cassava                     | Yield          | hg/ha  | 95,833     | 112,465    | 113,132    | 116,533    | 101,936    | 106,671    | 97,000     | 109,902    | 122,155    | 92,727     |
| Cassava                     | Production     | tonnes | 11,500,000 | 12,090,000 | 12,388,000 | 19,043,008 | 26,004,000 | 31,404,000 | 32,010,000 | 41,565,000 | 42,533,180 | 57,643,271 |
| Chillies and peppers, dry   | Area harvested | ha     | 25,700     | 27,200     | 27,500     | 28,700     | 29,000     | 30,200     | 30,410     | 30,750     | 34,000     | 38,077     |
| Chillies and peppers, dry   | Yield          | hg/ha  | 15,370     | 15,441     | 15,455     | 15,505     | 15,517     | 15,563     | 15,624     | 15,610     | 16,765     | 17,077     |
| Chillies and peppers, dry   | Production     | tonnes | 39,500     | 42,000     | 42,500     | 44,500     | 45,000     | 47,000     | 47,512     | 48,000     | 57,000     | 65,022     |
| Chillies and peppers, green | Area harvested | ha     | 69,000     | 80,000     | 80,000     | 89,048     | 75,000     | 72,766     | 88,706     | 91,500     | 94,808     | 96,625     |
| Chillies and peppers, green | Yield          | hg/ha  | 91,304     | 87,500     | 90,000     | 84,224     | 86,667     | 84,105     | 80,677     | 78,798     | 77,381     | 76,941     |
| Chillies and peppers, green | Production     | tonnes | 630,000    | 700,000    | 720,000    | 750,000    | 650,000    | 612,000    | 715,657    | 721,000    | 733,631    | 743,442    |

| Item              | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015      |
|-------------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Cocoa, beans      | Area harvested | ha     | 700,000   | 700,000   | 700,000   | 715,000   | 726,000   | 788,000   | 966,000   | 1,198,902 | 1,272,430 | 1,057,174 |
| Cocoa, beans      | Yield          | hg/ha  | 2186      | 2286      | 2114      | 3413      | 3691      | 2576      | 3499      | 3678      | 3137      | 2857      |
| Cocoa, beans      | Production     | tonnes | 153,000   | 160,000   | 148,000   | 244,000   | 268,000   | 203,000   | 338,000   | 441,000   | 399,200   | 302,066   |
| Coconuts          | Area harvested | ha     | 32,000    | 34,500    | 34,500    | 35,500    | 37,000    | 28,500    | 36,000    | 39,000    | 39,000    | 38,701    |
| Coconuts          | Yield          | hg/ha  | 28,125    | 29,565    | 30,145    | 33,239    | 34,865    | 52,281    | 44,444    | 53,590    | 67,645    | 69,744    |
| Coconuts          | Production     | tonnes | 90,000    | 102,000   | 104,000   | 118,000   | 129,000   | 149,000   | 160,000   | 209,000   | 263,815   | 269,920   |
| Coffee, green     | Area harvested | ha     | 7000      | 12,000    | 2400      | 3434      | 3500      | 3122      | 3190      | 3670      | 1990      | 1534      |
| Coffee, green     | Yield          | hg/ha  | 5000      | 5000      | 5000      | 8824      | 9143      | 9896      | 12,006    | 13,597    | 12,063    | 12,899    |
| Coffee, green     | Production     | tonnes | 3500      | 6000      | 1200      | 3030      | 3200      | 3090      | 3830      | 4990      | 2400      | 1979      |
| Cotton lint       | Production     | tonnes | 29,324    | 10,524    | 36,290    | 95,000    | 103,000   | 95,000    | 147,000   | 190,000   | 220,000   |           |
| Cottonseed        | Production     | tonnes | 55,075    | 24,000    | 63,000    | 180,000   | 195,000   | 153,000   | 247,000   | 323,000   | 370,000   |           |
| Cow peas, dry     | Area harvested | ha     | 1,463,000 | 1,405,000 | 1,405,000 | 1,805,000 | 1,885,740 | 3,585,000 | 3,583,000 | 4,140,000 | 2,859,760 | 3,635,700 |
| Cow peas, dry     | Yield          | hg/ha  | 3486      | 4349      | 4569      | 7490      | 7180      | 4884      | 6001      | 6800      | 11,778    | 6343      |
| Cow peas, dry     | Production     | tonnes | 510,000   | 611,000   | 642,000   | 1,352,000 | 1,354,000 | 1,751,000 | 2,150,000 | 2,815,000 | 3,368,250 | 2,306,200 |
| Fibre crops nes   | Production     | tonnes |           |           |           | 11        | 12        |           |           |           |           |           |
| Fonio             | Area harvested | ha     | 30,000    | 38,000    | 44,000    | 65,000    | 72,000    | 108,000   | 133,000   | 198,000   | 151,766   | 187,560   |
| Fonio             | Yield          | hg/ha  | 6000      | 6579      | 6136      | 6000      | 5972      | 5370      | 5714      | 4798      | 5211      | 4405      |
| Fonio             | Production     | tonnes | 18,000    | 25,000    | 27,000    | 39,000    | 43,000    | 58,000    | 76,000    | 95,000    | 79,087    | 82,617    |
| Fruit, citrus nes |                | ha     | 550,000   | 570,000   | 570,000   | 580,000   | 630,000   | 643,589   | 727,596   | 731,000   | 790,000   | 821,533   |

| Item                    | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015      |
|-------------------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                         | Area harvested |        |           |           |           |           |           |           |           |           |           |           |
| Fruit, citrus nes       | Yield          | hg/ha  | 32,727    | 35,088    | 35,088    | 35,914    | 39,683    | 42,263    | 44,668    | 45,179    | 48,101    | 48,757    |
| Fruit, citrus nes       | Production     | tonnes | 1,800,000 | 2,000,000 | 2,000,000 | 2,083,000 | 2,500,000 | 2,720,000 | 3,250,000 | 3,302,611 | 3,800,000 | 4,005,520 |
| Fruit, fresh nes        | Area harvested | ha     | 145,000   | 184,500   | 196,000   | 197,349   | 208,520   | 238,082   | 284,711   | 218,500   | 177,000   | 180,210   |
| Fruit, fresh nes        | Yield          | hg/ha  | 64,138    | 65,041    | 66,327    | 65,873    | 63,337    | 62,902    | 63,575    | 64,119    | 67,797    | 68,225    |
| Fruit, fresh nes        | Production     | tonnes | 930,000   | 1,200,000 | 1,300,000 | 1,300,000 | 1,320,713 | 1,497,578 | 1,810,060 | 1,401,000 | 1,200,000 | 1,229,484 |
| Garlic                  | Production     | tonnes |           |           |           |           |           |           |           |           | 587       | 800       |
| Ginger                  | Area harvested | ha     | 400       | 16,000    | 30,000    | 84,000    | 100,000   | 148,000   | 158,000   | 181,000   | 52,330    | 64,356    |
| Ginger                  | Yield          | hg/ha  | 5000      | 5000      | 5000      | 5000      | 5000      | 5338      | 6203      | 6906      | 31,000    | 44,198    |
| Ginger                  | Production     | tonnes | 200       | 8000      | 15,000    | 42,000    | 50,000    | 79,000    | 98,000    | 125,000   | 162,223   | 284,440   |
| Groundnuts, with shell  | Area harvested | ha     | 563,000   | 594,000   | 793,000   | 707,000   | 112,7000  | 1,767,000 | 1,934,000 | 2,187,000 | 2,789,180 | 2,801,756 |
| Groundnuts, with shell  | Yield          | hg/ha  | 8366      | 10,455    | 11,299    | 16,492    | 12,076    | 8936      | 15,000    | 15,903    | 13,621    | 12,376    |
| Groundnuts, with shell  | Production     | tonnes | 471,000   | 621,000   | 896,000   | 1,166,000 | 1,361,000 | 1,579,000 | 2,901,000 | 3,478,000 | 3,799,240 | 3,467,446 |
| Karite nuts (shea nuts) | Area harvested | ha     | 100,000   | 94,000    | 87,000    | 184,000   | 204,000   | 235,000   | 232,000   | 257,239   | 342,750   | 409,963   |
| Karite nuts (shea nuts) | Yield          | hg/ha  | 11,000    | 10,638    | 11,839    | 15,707    | 15,980    | 16,340    | 15,905    | 15,940    | 9500      | 8786      |
| Karite nuts (shea nuts) | Production     | tonnes | 110,000   | 100,000   | 103,000   | 289,000   | 326,000   | 384,000   | 369,000   | 410,029   | 325,610   | 360,177   |
| Kola nuts               | Area harvested | ha     | 140,000   | 175,000   | 175,000   | 125,000   | 130,000   | 105,000   | 91,000    | 94,250    | 270,143   | 244,705   |

| Item                         | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015       |
|------------------------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Kola nuts                    | Yield          | hg/ha  | 9643      | 9829      | 9943      | 10,800    | 12,692    | 9048      | 9011      | 9045      | 5366      | 6608       |
| Kola nuts                    | Production     | tonnes | 135,000   | 172,000   | 174,000   | 135,000   | 165,000   | 95,000    | 82,000    | 85,250    | 144,950   | 161,711    |
| Maize                        | Area harvested | ha     | 465,000   | 1,556,000 | 2,800,000 | 5,104,000 | 5,142,000 | 5,472,000 | 3,159,000 | 3,589,000 | 4,149,310 | 6,771,189  |
| Maize                        | Yield          | hg/ha  | 13,161    | 11,735    | 12,679    | 11,301    | 11,299    | 12,666    | 13,001    | 16,598    | 18,502    | 15,599     |
| Maize                        | Production     | tonnes | 612,000   | 1,826,000 | 3,550,000 | 5,768,000 | 5,810,000 | 6,931,000 | 4,107,000 | 5,957,000 | 7,676,850 | 10,562,050 |
| Maize, green                 | Area harvested | ha     | 46,000    | 156,000   | 172,000   | 150,000   | 155,000   | 167,706   | 162,619   | 161,500   | 183,916   | 200,356    |
| Maize, green                 | Yield          | hg/ha  | 35,000    | 29,231    | 25,233    | 30,533    | 30,645    | 33,704    | 34,662    | 35,697    | 36,774    | 37,699     |
| Maize, green                 | Production     | tonnes | 161,000   | 456,000   | 434,000   | 458,000   | 475,000   | 565,240   | 563,667   | 576,500   | 676,338   | 755,319    |
| Mangoes, mangosteens, guavas | Area harvested | ha     | 80,000    | 80,000    | 80,000    | 85,000    | 88,000    | 106,000   | 125,000   | 125,500   | 130,000   | 131,132    |
| Mangoes, mangosteens, guavas | Yield          | hg/ha  | 50,000    | 50,000    | 50,000    | 59,294    | 59,091    | 59,528    | 58,400    | 58,247    | 65,385    | 68,239     |
| Mangoes, mangosteens, guavas | Production     | tonnes | 400,000   | 400,000   | 400,000   | 504,000   | 520,000   | 631,000   | 730,000   | 731,000   | 850,000   | 894,833    |
| Melon seed                   | Area harvested | ha     | 76,000    | 183,000   | 150,000   | 230,000   | 231,000   | 285,000   | 575,000   | 694,000   | 469,690   | 967,937    |
| Melon seed                   | Yield          | hg/ha  | 12,368    | 8033      | 10,200    | 9043      | 9481      | 10,070    | 6000      | 6499      | 10,802    | 5758       |
| Melon seed                   | Production     | tonnes | 94,000    | 147,000   | 153,000   | 208,000   | 219,000   | 287,000   | 345,000   | 451,000   | 507,340   | 557,328    |
| Millet                       | Area harvested | ha     | 2,824,000 | 2,346,000 | 3,917,000 | 4,778,000 | 4,560,000 | 5,107,000 | 5,814,000 | 4,685,000 | 4,364,140 | 1,591,803  |
| Millet                       | Yield          | hg/ha  | 8336      | 15,277    | 10,495    | 10,749    | 9011      | 10,893    | 10,501    | 15,300    | 11,848    | 9331       |
| Millet                       | Production     | tonnes | 2,354,000 | 3,584,000 | 4,111,000 | 5,136,000 | 4,109,000 | 5,563,000 | 6,105,000 | 7,168,000 | 5,170,430 | 1,485,387  |
| Nuts, nes                    |                | ha     |           | 100       | 300       | 2500      | 2500      | 5421      | 2965      | 2550      | 2800      | 2799       |

| Item                    | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015      |
|-------------------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                         | Area harvested |        |           |           |           |           |           |           |           |           |           |           |
| Nuts, nes               | Yield          | hg/ha  |           | 20,000    | 20,000    | 24,000    | 20,000    | 6118      | 17,416    | 20,196    | 25,000    | 25,915    |
| Nuts, nes               | Production     | tonnes |           | 200       | 600       | 6000      | 5000      | 3316      | 5163      | 5150      | 7000      | 7253      |
| Oil palm fruit          | Area harvested | ha     | 2,300,000 | 2,200,000 | 2,220,000 | 2,300,000 | 2,450,000 | 2,938,000 | 3,080,000 | 3,350,000 | 3,200,000 | 3,076,881 |
| Oil palm fruit          | Yield          | hg/ha  | 25,000    | 25,909    | 26,577    | 26,957    | 26,531    | 26,549    | 26,688    | 25,373    | 25,000    | 25,683    |
| Oil palm fruit          | Production     | tonnes | 5,750,000 | 5,700,000 | 5,900,000 | 6,200,000 | 6,500,000 | 7,800,000 | 8,220,000 | 8,500,000 | 8,000,000 | 7,902,277 |
| Oil, palm               | Production     | tonnes | 650,000   | 615,000   | 650,000   | 730,000   | 760,000   | 860,000   | 899,000   | 1,170,000 | 970,820   |           |
| Oilseeds nes            | Production     | tonnes |           |           |           | 548       | 759       | 820       | 596       | 700       | 814       | 600       |
| Okra                    | Area harvested | ha     | 200,000   | 230,000   | 250,000   | 260,000   | 231,278   | 259,393   | 292,135   | 350,000   | 397,290   | 1,859,900 |
| Okra                    | Yield          | hg/ha  | 21,000    | 20,652    | 19,600    | 20,231    | 22,916    | 24,287    | 25,719    | 27,143    | 27,275    | 11,118    |
| Okra                    | Production     | tonnes | 420,000   | 475,000   | 490,000   | 526,000   | 530,000   | 630,000   | 751,342   | 950,000   | 1,083,620 | 2,067,900 |
| Onions, dry             | Area harvested | ha     | 30,000    | 30,000    | 35,000    | 36,667    | 63,403    | 87,996    | 115,501   | 264,174   | 179,984   | 434,500   |
| Onions, dry             | Yield          | hg/ha  | 133,333   | 133,333   | 142,857   | 137,649   | 60,904    | 56,654    | 51,342    | 44,763    | 74,797    | 22,967    |
| Onions, dry             | Production     | tonnes | 400,000   | 400,000   | 500,000   | 504,719   | 386,152   | 498,539   | 593,008   | 1,182,520 | 1,346,218 | 997,900   |
| Onions, shallots, green | Area harvested | ha     | 10,000    | 10,000    | 10,000    | 10,476    | 6046      | 10,128    | 10,794    | 11,250    | 13,232    | 14,366    |
| Onions, shallots, green | Yield          | hg/ha  | 100,000   | 100,000   | 105,000   | 119,320   | 223,291   | 215,057   | 206,277   | 196,000   | 175,089   | 163,848   |
| Onions, shallots, green | Production     | tonnes | 100,000   | 100,000   | 105,000   | 125,000   | 135,000   | 217,815   | 222,656   | 220,500   | 231,684   | 235,383   |
| Palm kernels            | Area harvested | ha     |           |           |           |           |           |           |           |           | 450,000   |           |

| Item                 | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015      |
|----------------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Palm kernels         | Production     | tonnes | 279,000   | 360,000   | 355,000   | 356,000   | 369,000   | 543,000   | 577,000   | 465,000   | 233,000   |           |
| Papayas              | Area harvested | ha     | 55,000    | 55,000    | 55,000    | 65,000    | 66,000    | 80,000    | 89,315    | 91,500    | 92,865    | 93,445    |
| Papayas              | Yield          | hg/ha  | 72,727    | 72,727    | 72,727    | 79,538    | 80,303    | 81,000    | 83,371    | 82,568    | 80,763    | 93,680    |
| Papayas              | Production     | tonnes | 400,000   | 400,000   | 400,000   | 517,000   | 530,000   | 648,000   | 744,626   | 755,500   | 750,000   | 875,401   |
| Pineapples           | Area harvested | ha     | 95,000    | 95,000    | 95,000    | 100,000   | 105,505   | 105,802   | 117,005   | 116,500   | 180,000   | 184,551   |
| Pineapples           | Yield          | hg/ha  | 63,158    | 73,684    | 73,684    | 76,300    | 75,825    | 75,613    | 75,733    | 76,395    | 82,631    | 81,270    |
| Pineapples           | Production     | tonnes | 600,000   | 700,000   | 700,000   | 763,000   | 800,000   | 800,000   | 886,110   | 890,000   | 1,487,350 | 1,499,840 |
| Plantains and others | Area harvested | ha     | 180,000   | 185,500   | 187,200   | 162,000   | 178,000   | 250,000   | 386,000   | 447,000   | 449,220   | 486,048   |
| Plantains and others | Yield          | hg/ha  | 57,889    | 60,000    | 60,203    | 75,000    | 75,225    | 65,280    | 51,010    | 57,964    | 59,559    | 62,977    |
| Plantains and others | Production     | tonnes | 1,042,000 | 1,113,000 | 1,127,000 | 1,215,000 | 1,339,000 | 1,632,000 | 1,969,000 | 2,591,000 | 2,675,530 | 3,060,962 |
| Potatoes             | Area harvested | ha     | 5500      | 7000      | 7600      | 7700      | 9400      | 13,600    | 212,000   | 260,000   | 265,992   | 328,009   |
| Potatoes             | Yield          | hg/ha  | 72,727    | 61,429    | 60,526    | 70,130    | 70,213    | 69,853    | 28,255    | 29,846    | 38,584    | 36,727    |
| Potatoes             | Production     | tonnes | 40,000    | 43,000    | 46,000    | 54,000    | 66,000    | 95,000    | 599,000   | 776,000   | 102,6311  | 120,4676  |
| Pulses, nes          | Area harvested | ha     | 115,000   | 120,000   | 120,000   | 131,832   | 74,309    | 87,216    | 102,492   | 119,432   | 130,000   | 140,095   |
| Pulses, nes          | Yield          | hg/ha  | 4609      | 4167      | 4167      | 4162      | 3870      | 3966      | 4087      | 4104      | 4308      | 4609      |
| Pulses, nes          | Production     | tonnes | 53,000    | 50,000    | 50,000    | 54,870    | 28,756    | 34,592    | 41,887    | 49,018    | 56,000    | 64,570    |
| Rice, paddy          | Area harvested | ha     | 550,000   | 670,000   | 700,000   | 1,208,000 | 1,652,000 | 1,796,000 | 2,199,000 | 2,494,000 | 2,432,630 | 3,121,562 |
| Rice, paddy          | Yield          | hg/ha  | 19,818    | 21,343    | 20,233    | 20,695    | 19,528    | 16,258    | 14,998    | 14,302    | 18,386    | 20,042    |
| Rice, paddy          | Production     | tonnes | 1,090,000 | 1,430,000 | 1,416,322 | 2,500,000 | 3,226,000 | 2,920,000 | 3,298,000 | 3,567,000 | 4,472,520 | 6,256,228 |



| Item            | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015      |
|-----------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Rubber, natural | Area harvested | ha     | 73,000    | 73,000    | 73,000    | 22,5000   | 268,000   | 297,000   | 330,000   | 339,500   | 360,541   | 365,622   |
| Rubber, natural | Yield          | hg/ha  | 6164      | 8219      | 8219      | 6533      | 5784      | 4209      | 3242      | 3998      | 4019      | 4228      |
| Rubber, natural | Production     | tonnes | 45,000    | 60,000    | 60,000    | 147,000   | 155,000   | 125,000   | 107,000   | 135,716   | 144,912   | 154,571   |
| Seed cotton     | Area harvested | ha     | 476,000   | 220,000   | 285,000   | 575,000   | 643,000   | 431,000   | 538,000   | 659,000   | 398,570   | 401,441   |
| Seed cotton     | Yield          | hg/ha  | 1801      | 1591      | 3509      | 4800      | 4806      | 5824      | 7416      | 7906      | 15,115    | 6913      |
| Seed cotton     | Production     | tonnes | 85,733    | 35,000    | 100,000   | 276,000   | 309,000   | 251,000   | 399,000   | 521,000   | 602,440   | 277,523   |
| Sesame seed     | Area harvested | ha     | 135,000   | 116,700   | 104,700   | 110,000   | 115,000   | 133,000   | 151,000   | 196,000   | 324,570   | 329,460   |
| Sesame seed     | Yield          | hg/ha  | 3037      | 2999      | 3343      | 4000      | 4000      | 4511      | 4768      | 5102      | 4603      | 5218      |
| Sesame seed     | Production     | tonnes | 41,000    | 35,000    | 35,000    | 44,000    | 46,000    | 60,000    | 72,000    | 100,000   | 149,410   | 171,900   |
| Sorghum         | Area harvested | ha     | 3,286,000 | 4,862,000 | 5,147,000 | 4,185,000 | 5,538,000 | 6,095,000 | 6,885,000 | 7,284,000 | 4,960,130 | 5,899,134 |
| Sorghum         | Yield          | hg/ha  | 11,229    | 10,101    | 10,540    | 10,000    | 9691      | 11,480    | 11,200    | 12,600    | 14,397    | 11,875    |
| Sorghum         | Production     | tonnes | 3,690,000 | 4,911,000 | 5,425,000 | 4,185,000 | 5,367,000 | 6,997,000 | 7,711,000 | 9,178,000 | 7,140,970 | 7,005,025 |
| Soybeans        | Area harvested | ha     | 270,000   | 205,000   | 210,000   | 729,000   | 468,000   | 617,000   | 517,000   | 601,000   | 281,890   | 609,333   |
| Soybeans        | Yield          | hg/ha  | 2778      | 2927      | 3238      | 2990      | 3098      | 4652      | 8298      | 9401      | 12,951    | 9658      |
| Soybeans        | Production     | tonnes | 75,000    | 60,000    | 68,000    | 218,000   | 145,000   | 287,000   | 429,000   | 565,000   | 365,080   | 588,523   |
| Spices, nes     | Area harvested | ha     | 2900      | 3000      | 3000      | 3600      | 1428      | 1971      | 2634      | 3250      | 3600      | 4087      |
| Spices, nes     | Yield          | hg/ha  | 13,793    | 14,667    | 13,333    | 13,333    | 12,962    | 13,112    | 13,299    | 13,846    | 15,278    | 15,746    |
| Spices, nes     | Production     | tonnes | 4000      | 4400      | 4000      | 4800      | 1851      | 2585      | 3503      | 4500      | 5500      | 6436      |

| Item                    | Element        | Unit   | 1980    | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005      | 2010      | 2015      |
|-------------------------|----------------|--------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Sugar cane              | Area harvested | ha     | 22,000  | 21,400    | 22,400    | 22,400    | 22,200    | 19,270    | 24,000    | 44,000    | 45,680    | 88,135    |
| Sugar cane              | Yield          | hg/ha  | 395,455 | 402,804   | 400,446   | 410,714   | 400,000   | 305,656   | 289,583   | 207,727   | 186,055   | 164,516   |
| Sugar cane              | Production     | tonnes | 870,000 | 862,000   | 897,000   | 920,000   | 888,000   | 589,000   | 695,000   | 914,000   | 849,898   | 1,449,963 |
| Sweet potatoes          | Area harvested | ha     | 12,000  | 12,000    | 13,000    | 28,000    | 31,000    | 299,000   | 823,000   | 989,000   | 1,298,486 | 1,499,015 |
| Sweet potatoes          | Yield          | hg/ha  | 83,333  | 66,667    | 63,846    | 51,071    | 59,355    | 39,064    | 29,988    | 32,406    | 26,701    | 25,652    |
| Sweet potatoes          | Production     | tonnes | 100,000 | 80,000    | 83,000    | 143,000   | 184,000   | 1,168,000 | 2,468,000 | 3,205,000 | 3,467,073 | 3,845,248 |
| Taro (cocoyam)          | Area harvested | ha     | 65,000  | 70,000    | 91,000    | 141,000   | 166,000   | 229,000   | 587,000   | 667,000   | 520,130   | 826,800   |
| Taro (cocoyam)          | Yield          | hg/ha  | 32,000  | 33,143    | 40,989    | 51,844    | 49,940    | 51,616    | 66,201    | 75,982    | 56,853    | 39,631    |
| Taro (cocoyam)          | Production     | tonnes | 208,000 | 232,000   | 373,000   | 731,000   | 829,000   | 1,182,000 | 3,886,000 | 5,068,000 | 2,957,090 | 3,276,700 |
| Tobacco, unmanufactured | Area harvested | ha     | 20,680  | 19,500    | 20,000    | 22,000    | 18,522    | 17,463    | 37,000    | 25,000    | 14,789    | 9500      |
| Tobacco, unmanufactured | Yield          | hg/ha  | 6286    | 5385      | 4500      | 4091      | 4859      | 5268      | 5946      | 6000      | 6131      | 5263      |
| Tobacco, unmanufactured | Production     | tonnes | 13,000  | 10,500    | 9000      | 9000      | 9000      | 9200      | 22,000    | 15,000    | 9066      | 5000      |
| Tomatoes                | Area harvested | ha     | 32,500  | 35,000    | 35,500    | 37,500    | 38,000    | 55,000    | 210,000   | 250,000   | 272,950   | 557,500   |
| Tomatoes                | Yield          | hg/ha  | 100,000 | 100,000   | 100,000   | 100,000   | 100,000   | 103,455   | 60,038    | 81,714    | 65,945    | 75,862    |
| Tomatoes                | Production     | tonnes | 325,000 | 350,000   | 355,000   | 375,000   | 380,000   | 569,000   | 1,260,794 | 2,042,861 | 1,799,960 | 4,229,330 |
| Vegetables, fresh nes   | Area harvested | ha     | 210,000 | 260,000   | 265,000   | 350,000   | 380,000   | 440,000   | 620,754   | 725,000   | 724,335   | 753,081   |
| Vegetables, fresh nes   | Yield          | hg/ha  | 46,286  | 48,231    | 48,792    | 50,314    | 53,289    | 59,273    | 63,552    | 71,517    | 82,818    | 91,171    |
| Vegetables, fresh nes   | Production     | tonnes | 972,000 | 1,254,000 | 1,293,000 | 1,761,000 | 2,025,000 | 2,608,000 | 3,945,000 | 5,185,000 | 5,998,811 | 6,865,947 |

| Item                      | Element        | Unit   | 1980      | 1985       | 1986       | 1990       | 1991       | 1995       | 2000       | 2005       | 2010       | 2015       |
|---------------------------|----------------|--------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Wheat                     | Area harvested | ha     | 10,000    | 55,000     | 67,000     | 60,000     | 50,000     | 20,000     | 52,000     | 60,000     | 74,399     | 60,000     |
| Wheat                     | Yield          | hg/ha  | 24,000    | 20,545     | 19,701     | 8333       | 12,000     | 21,800     | 14,038     | 11,000     | 14,844     | 10,000     |
| Wheat                     | Production     | tonnes | 24,000    | 11,3000    | 13,2000    | 50,000     | 60,000     | 43,600     | 73,000     | 66,000     | 110,441    | 60,000     |
| Yams                      | Area harvested | ha     | 498,000   | 840,000    | 924,000    | 1,276,000  | 1,639,000  | 2,118,000  | 2,647,000  | 2,957,000  | 2,868,990  | 5,389,870  |
| Yams                      | Yield          | hg/ha  | 105,382   | 56,405     | 56,374     | 106,771    | 103,453    | 107,734    | 98,984     | 114,981    | 13,0109    | 84,748     |
| Yams                      | Production     | tonnes | 5,248,000 | 4,738,000  | 5,209,000  | 13,624,000 | 16,956,000 | 22,818,000 | 26,201,000 | 34,000,000 | 37,328,180 | 45,677,939 |
| Cereals (rice milled eqv) | Area harvested | ha     | 7,165,000 | 9,527,000  | 12,675,000 | 15,400,000 | 17,014,000 | 18,598,000 | 18,242,000 | 18,310,000 | 16,132,376 | 17,631,248 |
| Cereals (rice milled eqv) | Yield          | hg/ha  | 10,363    | 11,979     | 11,195     | 10,939     | 10,310     | 11,582     | 11,113     | 13,568     | 14,357     | 13,254     |
| Cereals (rice milled eqv) | Production     | tonnes | 7,425,030 | 11,412,810 | 14,189,687 | 16,845,500 | 17,540,742 | 21,540,240 | 20,271,766 | 24,843,189 | 23,160,948 | 23,367,984 |
| Cereals, total            | Area harvested | ha     | 7,165,000 | 9,527,000  | 12,675,000 | 15,400,000 | 17,014,000 | 18,598,000 | 18,242,000 | 18,310,000 | 16,132,376 | 17,631,248 |
| Cereals, total            | Yield          | hg/ha  | 10,870    | 12,479     | 11,567     | 11,479     | 10,941     | 12,105     | 11,715     | 14,217     | 15,280     | 14,435     |
| Cereals, total            | Production     | tonnes | 7,788,000 | 11,889,000 | 14,661,322 | 17,678,000 | 18,615,000 | 22,512,600 | 21,370,000 | 26,031,000 | 24,650,297 | 25,451,307 |
| Citrus fruit, total       | Area harvested | ha     | 550,000   | 570,000    | 570,000    | 580,000    | 630,000    | 643,589    | 727,596    | 731,000    | 790,000    | 821,533    |
| Citrus fruit, total       | Yield          | hg/ha  | 32,727    | 35,088     | 35,088     | 35,914     | 39,683     | 42,263     | 44,668     | 45,179     | 48,101     | 48,757     |
| Citrus fruit, total       | Production     | tonnes | 1,800,000 | 2,000,000  | 2,000,000  | 2,083,000  | 2,500,000  | 2,720,000  | 3,250,000  | 3,302,611  | 3,800,000  | 4,005,520  |
| Coarse grain, total       | Area harvested | ha     | 6,605,000 | 8,802,000  | 11,908,000 | 14,132,000 | 15,312,000 | 16,782,000 | 15,991,000 | 15,756,000 | 13,625,346 | 14,449,686 |
| Coarse grain, total       | Yield          | hg/ha  | 10,104    | 11,754     | 11,012     | 10,705     | 10,011     | 11,649     | 11,256     | 142,16     | 14,728     | 13,243     |
| Coarse grain, total       | Production     | tonnes | 6,674,000 | 10,346,000 | 13,113,000 | 15,128,000 | 15,329,000 | 19,549,000 | 17,999,000 | 22,398,000 | 20,067,337 | 19,135,079 |

| Item                       | Element        | Unit   | 1980       | 1985       | 1986       | 1990       | 1991       | 1995       | 2000       | 2005       | 2010       | 2015       |
|----------------------------|----------------|--------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Fibre crops primary        | Area harvested | ha     | 476,000    | 221,000    | 286,000    | 576,107    | 644,000    | 432,000    | 539,000    | 660,000    | 399,570    |            |
| Fibre crops primary        | Yield          | hg/ha  | 616        | 503        | 1293       | 1664       | 1613       | 2222       | 2748       | 2897       | 5539       |            |
| Fibre crops primary        | Production     | tonnes | 29,324     | 11,124     | 36,990     | 95,881     | 103,892    | 95,971     | 148,099    | 191,219    | 221,331    |            |
| Fruit primary              | Area harvested | ha     | 1,105,000  | 1,170,000  | 1,183,200  | 1,189,349  | 1,276,025  | 1,423,473  | 1,729,627  | 1,730,000  | 1,819,085  | 1,896,920  |
| Fruit primary              | Yield          | hg/ha  | 46,805     | 49,684     | 50,093     | 53,660     | 54,934     | 55,699     | 54,288     | 55,902     | 59,166     | 60,973     |
| Fruit primary              | Production     | tonnes | 5,172,000  | 5,813,000  | 5,927,000  | 6,382,000  | 7,009,713  | 7,928,578  | 9,389,796  | 9,671,111  | 10,762,880 | 11,566,040 |
| Oil crops, cake equivalent | Area harvested | ha     | 3,852,000  | 3,553,200  | 3,797,200  | 4,686,500  | 5,071,000  | 6,199,500  | 6,831,000  | 7,726,000  | 7,736,900  |            |
| Oil crops, cake equivalent | Yield          | hg/ha  | 1287       | 1680       | 1920       | 2239       | 2147       | 2262       | 3110       | 3253       | 3159       |            |
| Oil crops, cake equivalent | Production     | tonnes | 495,908    | 597,030    | 728,900    | 1,049,229  | 1,088,695  | 1,402,352  | 2,124,177  | 2,513,260  | 2,444,181  |            |
| Oil crops, oil equivalent  | Area harvested | ha     | 3,952,000  | 3,647,200  | 3,884,200  | 4,870,500  | 5,275,000  | 6,434,500  | 7,063,000  | 7,983,239  | 8,052,650  |            |
| Oil crops, oil equivalent  | Yield          | hg/ha  | 2599       | 2958       | 3101       | 3040       | 2994       | 2933       | 3397       | 3619       | 3322       |            |
| Oil crops, oil equivalent  | Production     | tonnes | 1,026,982  | 1,078,950  | 1,204,640  | 1,480,674  | 1,579,318  | 1,887,136  | 2,399,149  | 2,888,867  | 2,675,077  |            |
| Pulses, total              | Area harvested | ha     | 1,578,000  | 1,525,000  | 1,525,000  | 1,936,832  | 1,960,049  | 3,672,216  | 3,685,492  | 4,259,432  | 2,989,760  | 3,775,795  |
| Pulses, total              | Yield          | hg/ha  | 3568       | 4334       | 4538       | 7264       | 7055       | 4862       | 5947       | 6724       | 11,453     | 6279       |
| Pulses, total              | Production     | tonnes | 563,000    | 661,000    | 692,000    | 1,406,870  | 1,382,756  | 1,785,592  | 2,191,887  | 2,864,018  | 3,424,250  | 2,370,770  |
| Roots and tubers, total    | Area harvested | ha     | 1,780,500  | 2,004,000  | 2,130,600  | 3,086,830  | 4,396,400  | 5,603,600  | 7,569,000  | 8,655,000  | 8,435,498  | 14,260,128 |
| Roots and tubers, total    | Yield          | hg/ha  | 96,018     | 85,744     | 84,948     | 108,833    | 100,171    | 101,126    | 86,093     | 97,763     | 10,3505    | 78,294     |
| Roots and tubers, total    | Production     | tonnes | 17,096,000 | 17,183,000 | 18,099,000 | 33,595,008 | 44,039,000 | 56,667,000 | 65,164,000 | 84,614,000 | 87,311,834 | 1.12E+08   |

| Item               | Element        | Unit   | 1980      | 1985      | 1986      | 1990      | 1991      | 1995      | 2000      | 2005       | 2010       | 2015       |
|--------------------|----------------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|
| Tree nuts, total   | Area harvested | ha     | 40,000    | 40,100    | 40,300    | 52,500    | 77,500    | 16,0421   | 26,1965   | 31,1550    | 38,5309    | 13,4328    |
| Tree nuts, total   | Yield          | hg/ha  | 6250      | 6284      | 6352      | 6857      | 6452      | 6129      | 17,986    | 19,231     | 20,730     | 7772       |
| Tree nuts, total   | Production     | tonnes | 25,000    | 25,200    | 25,600    | 36,000    | 50,000    | 98,316    | 471,163   | 599,150    | 798,726    | 104,402    |
| Vegetables primary | Area harvested | ha     | 617,500   | 821,000   | 867,500   | 955,691   | 971,030   | 1,117,275 | 1,527,001 | 1,881,174  | 1,891,815  | 3,942,033  |
| Vegetables primary | Yield          | hg/ha  | 51,142    | 47,320    | 46,651    | 48,894    | 48,980    | 52,794    | 54,208    | 59,090     | 63,911     | 40,898     |
| Vegetables primary | Production     | tonnes | 3,158,000 | 3,885,000 | 4,047,000 | 4,672,719 | 4,756,152 | 5,898,594 | 8,277,564 | 11,115,881 | 12,090,760 | 16,122,242 |

Source: Authors.

**Table 4.**  
Crop production in Nigeria (1980–2015): harvest area, yield and production.

production index, employment in agriculture (male, female and total employment in the agricultural sector) and agricultural land.

From **Table 1**, crop production in Nigeria shows an increase and decrease trend; it was observed among those that are employed in the agriculture; the number of women in agriculture is more than the number of men in agriculture. The price of various agricultural items across Nigeria in 2017 is presented in **Table 2**.

In **Table 3**, prices of agriculture commodities resulting from production are presented. Such commodities include eggs; beans: brown; beef; rice (Ofada); catfish (obokun), fresh; catfish, dried; catfish, smoked; chicken feet; chicken wings; dried fish sardine; evaporated tinned milk carnation 170 g; and evaporated tinned milk (peak) 170 g. Frozen chicken; gari, white, sold loose; gari, yellow; groundnut oil; iced sardine; Irish potato; mackerel; maize grain; mudfish (aro), fresh; mudfish, dried; onion bulb; palm oil; plantain (ripe); plantain (unripe); sweet potato; tilapia fish (epiya) fresh; titus (frozen); tomato; vegetable oil; wheat flour, prepacked (golden penny 2 kg); and yam tuber, among other commodities not included. The prices of those commodities vary from January to December in 2017. This is also similar in 2018 as presented in **Table 3**.

**Table 4** presents the area of crops harvested (ha), yield of crop production (hg/ha) and output level of various crops (tonnes) from 1980 to 2015.

Various crops presented in **Table 4** include bast fibres, carrots and turnips, cashew nuts (with shell), cassava, chillies and peppers (dry), chillies and peppers (green), cocoa, beans, coconuts, coffee (green), cotton (lint), cottonseed, cow peas (dry), fibre crops (nes), fruit, citrus (nes), garlic, groundnuts, karite nuts (shea nuts), kola nuts, maize, maize (green), mangoes, mangosteens, guavas, melon seed, millet, nuts (nes), nuts (nes), oil palm fruit, oilseeds (nes), okra, onions (dry), shallots (green), palm kernels, papayas, potatoes, pulses (nes), rice (paddy), rubber (natural), seed cotton, sesame seed, sorghum, soybeans, spices (nes), sugar cane, sweet potatoes, taro (cocoyam), tobacco, unmanufactured, tomatoes, vegetables (fresh nes), wheat, yams, cereals (rice milled eqv), cereals (total), citrus fruit (total), coarse grain (total), fibre crops primary, fruit primary, oil crops, cake equivalent, pulses (total), roots and tubers (total), tree nuts (total), vegetables primary, etc.

Therefore, to ensure sustainable crop production, the agricultural sector needs to be invested on through various means like credit facilities and incentives such as social protection for the mitigation of risk and shocks [1]. Also, the nutritional level of plants should be improved through fertiliser application among other means to enhance crop yields [17].

#### **4. Conclusion**

The study aims at examining factors that improve agricultural production, especially crop yields that can be made possible by plant nutrients. Increase in crop production (food and cash crops) will lead to food security in the long run. The study employed a review of literature and stylised fact approach using tables to know the level of crop production in Nigeria. From the stylised facts and the reviewed literature, authors noticed that there are fluctuations of prices of food items in Nigeria.

With respect to the factors contributing to crop and agricultural production, employment in agriculture was observed to be a major factor. Also, the proportion of women in agriculture is higher than the proportion of men in agriculture; this invariably implies that women actually contribute more to production level. In this regard, to further enhance productivity, there should be equal access to

production resources such land, credit facilities, access to social protection incentives to mitigate risks and shocks and more innovation and technological advancement in the agricultural sector thereby improving the sustainability of crop production.

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