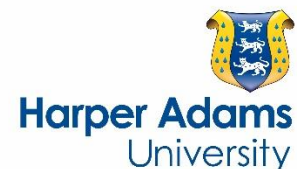


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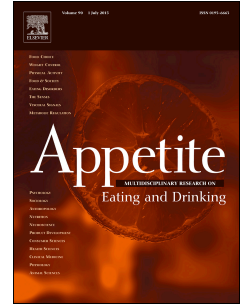
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Effects of Development on Indigenous Dietary Pattern: A Nigerian case study

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1 **Effects of Development on Indigenous Dietary Pattern: A Nigerian case study**

3 **Abstract**

4 The traditional foods of indigenous people in Nigeria are known for their cultural symbolism
5 and agricultural biodiversity which contributes to their daily healthy and rich diet. In the early
6 90s, rapid development of the Federal Capital Territory (FCT) was noted and the
7 resettlement of indigenes to other parts of the region was reported. These changes have
8 facilitated the modification of indigenous diets, as indigenous groups rapidly embraced
9 modern foods and also adopted the food culture of migrant ethnic groups. This has led to a
10 gradual erosion of indigenous diets and traditional food systems in the FCT. This study
11 explored the impact of development on traditional food systems and determined indigenes
12 perception of the modification to their food culture as a result of the development of their
13 land within the FCT. Field survey was carried out in four indigenous communities in the FCT
14 (30 indigenes from each of the four areas) using structured questionnaires, Focus Group
15 Discussions (FGDs) and key informant interviews. Person Chi Square analysis of indigenes
16 socio-economic characteristics revealed significant relationships between gender of
17 indigenes and farm size, Age and farm size, Educational level and farm/herd size.
18 Qualitative analysis of FGDs revealed indigenes opinion on the socio-cultural changes in
19 behaviour and food systems as a result of development. The study also identified indigenous
20 youths as being most influenced by development especially through education, white collar
21 jobs and social interactions with migrant ethnic groups in the FCT. The study recommended
22 that indigenes should be provided with more secure land tenure and “back-to-farm” initiatives
23 should be put in place by the Nigerian government to encourage indigenous youth to
24 engaged more in agriculture.

26 **Keywords:** *Traditional Food; Diet; Indigenous groups; Culture; Development; Nigeria; FCT*

1 **1 Introduction**

2 In most parts of sub-Saharan Africa, the traditional food systems of indigenous people are
3 characterised by rich agricultural biodiversity which contributes immensely to satisfying daily
4 food needs and providing secure livelihoods (Mendez et al., 2005). Hobblink (2004) also
5 added that, in developing countries, the greatest biodiversity is found in rural communities
6 where there is a great dependence on the environment and natural resources for nutritive
7 sustenance. Therefore a sustainable means of promoting food security and nutrition in
8 developing countries is to ensure the viability of their traditional food systems (Smith, 2013).

9 As documented in literature, factors such as, education, food prices, income, political climate
10 and food availability are some of the key drivers of food security and nutrition (Pieters et al.,
11 2013; O'Connor et al., 2016). However, the role of culture and the traditional food systems
12 especially among indigenous people in promoting their food security and nutrition have not
13 been as widely documented as the previously mentioned key drivers.

14 According to Briones (2015), culture shapes food preferences of a group by laying down
15 rules and regulations that determine the acceptance or rejection of certain foods. She added
16 that culture also determines the food production systems, roles and responsibilities in food
17 preparation as well as methods for intra-household food distribution, all of which significantly
18 impacts the food and nutrition security status in the household. Furthermore, indigenous
19 people have been identified as the custodians of traditional knowledge. As such, culture and
20 traditional food systems passed down from previous generations have come to serve as a
21 blueprint for natural resource use and management, which contributes to the sustainability of
22 their food production systems and environment (Kuhnlein et al., 2013).

23 In 1991, the seat of the Nigerian Federal Government moved from Lagos to Abuja resulting
24 in a rapid development of the area and resettlement of indigenes to other parts of the
25 Federal Capital Territory (Adama, 2007). Abuja has also been identified as the fastest
26 growing city in West Africa (LeVan and Olubowole, 2014).

27 This research is based on two indigenous groups within the Federal Capital Territory (FCT)
28 of Nigeria called the Gbagyi (also known as Gwari or Gbari) and Bassa. The research aims
29 to provide an understanding of traditional food systems of indigenous groups in the FCT,
30 determine the extent to which the development of their native land into Federal Capital
31 Territory has influenced their traditional food system and identify indigenes perception of the
32 impact of development on their traditional food system. The research also aims at identifying
33 the key drivers of development that have brought about these changes in food culture and

1 provide recommendations on ways that culture can inform development efforts going
2 forward.

3 **2 Research Methodology**

4 **2.1 Study Area**

5 The study area is the Federal Capital Territory (FCT) of Nigeria, located within 9.2⁰; 9.6⁰N
6 and 6.8⁰; 7.2⁰ E in the heart of the Southern Guinea Savannah (Chuwang et al., 2014)
7 (figure 1). The FCT is divided into six area councils namely; Municipal, Abaji, Bwari,
8 Gwagwalada, Kuje and Kwali area councils (figure 2). The Gbagyi and Bassa indigenes
9 within Gwagwalada and Kuje area councils were selected for this research. As the original
10 settlers in the FCT, the Gbagyi's are considered to be the dominant indigenous group and
11 the Gbagyi language is widely spoken in the region. Other indigenous groups in the FCT are
12 Bassa, Koro, Kadara, Bassankomu, Gade, Ganagana-Nupe, Kurama, Hausa (Maguzawa),
13 Zuru and Kamberi. The major occupations engaged in by these groups are farming, pottery,
14 blacksmith, hunting and woodcutting. These indigenous groups can also be found in other
15 states around the FCT such as Kaduna, Nassarawa and Niger (Filaba, 2008).

16 **Placement of Figure 1**

17 Gwagwalada has a population of about 157, 770 (NPC, 2006) and occupies a land area of
18 1,043 square kilometres. The indigenes of Gwagwalada are mainly Gbagyi, Bassa, Housa-
19 Fulani, koro and Gede. The two communities selected for this research were Bargada
20 (inhabited by Gbagyi indigenes) and Kaida (inhabited by Bassa indigenes) (Nkechi and Paul,
21 2012). Kuje has a population of approximately 97,367 (NPC, 2006) and occupies a land
22 mass of about 1,800sqkm. Like Gwagwalada, Kuje is inhabited by several indigenous
23 groups including; Gbagyi, Bassa, Egbirakoto, Gade, Hausa-fulani and others (Jimme et al.,
24 2015). The two communities selected from Kuje were Chukuku (inhabited by Gbagyi
25 indigenes) and Sketuko (inhabited by Bassa Indigenes).

26 **Placement of Figure 2**

27 **2.2 Sampling Techniques**

28 A combination of random and purposive sampling was adopted for this research (see figure
29 3). Using a ballot system, two out of the six area councils in FCT were selected. In each of
30 these area councils, two communities were purposively selected (one Gbagyi and one
31 Bassa) based on the timeliness of response received from village heads. The research was
32 carried out at the peak of their farming season and there was noticeable reluctance to
33 partake in the survey, for this reason, 30 households in each community were selected
34 based on their willingness and availability to fill questionnaires and participate in focus group

1 discussions. The total sample size was 120 respondents from four communities in two area
2 councils.

3 The fieldwork started with a submission of a letter to Gwagwalada and Kuje area councils
4 which was forwarded (and explained) to the village heads. This was followed by an invitation
5 by the village heads. The field work employed a combination of structured questionnaires,
6 focus group discussions, key informant interviews with village heads and elders and
7 photographic documentation with the permission of respondents. To bridge the language
8 gap and ensure accuracy in translating responses from local Gbagyi and Bassa dialects to
9 English, three translators who spoke both English and Gbagyi dialect were used for
10 interviews in Gbagyi communities and another three translators who spoke English and
11 Bassa dialect were used for interviews in the Bassa communities, and one translator who
12 spoke English and Hausa¹ was also used though out the field survey. Responses to
13 questions for this research were provided by respondents in Gbagyi, Bassa, Hausa or English
14 languages. However, responses to questionnaires which were provided in Gbagyi, Bassa and
15 Hausa dialects were written down in English by the translators. Villages selected for this
16 research were Bargada-BD (Gbagyi) and Kaida-KD (Bassa) in Gwagwalada area council
17 and Chukuku-CK (Gbagyi) and Shetuko-SK (Bassa) in Kuje area council.

18 **Placement of Figure 3**

19 **2.3 Data collection**

20 Both primary and secondary data were used for this research. Primary data was
21 gathered using structured questionnaires, Focus Group Discussions (FGDs) and key
22 informant interviews (with village heads/elders). Field data collection was carried out
23 over four months (between June and September). The first two weeks of the field study
24 was used to train translators on questionnaire administration and response recording.
25 This period was also used as an opportunity to test the questionnaires and FGD
26 interview guide on 20 respondents (5 respondents in each of the selected communities).
27 The pilot revealed that questionnaire was too long because it took more than 90 minutes
28 to complete each questionnaire. Also because respondents were not able to accurately
29 recall previous meals eaten during the week, quantity and quality of meals (in terms of
30 what extra classes of food included to meals), the food security section of the
31 questionnaire was excluded. Therefore, the piloted questionnaire which contained 35
32 questions was reduced to 20 questions and research questions were also re-evaluated.
33 Educated respondents filled out the questionnaires themselves in English, while the
34 responses of uneducated respondents were recorded by translators in English.

¹ Hausa is a common second language spoken by indigenous groups in FCT.

1 Focus group discussions were also carried out by the researcher and translators using
2 an interview guide made up of 20 questions and a Dictaphone to record responses. One
3 session of FGD was carried out in each community, resulting in a total of 4 sessions
4 FGDs. Each FGD lasted approximately 60 minutes, with 10 respondents in each group.
5 Each group was made up of an uneven mix of men and women based on willingness
6 and availability to participate. Questions were asked by the researcher in English then
7 translated to the local dialect by a translator. Responses were provided in Gbagyi,
8 Bassa or Hausa dialect depending on the community. At the end of each FDG and key
9 informant interview, the researcher and translators listened to recorded sessions and
10 transcribed to English. The research employed more than one translator in both
11 questionnaire administration and FDGs to ensure accuracy in obtaining responses from
12 non-English speaking respondents as well as in recording the correct of spellings of
13 local foods and drinks. Data collected from the field survey were used to derive the
14 socio-economic status of individual households and the socio-cultural profile of the
15 Gbagyi and Bassa indigenous groups especially with regards to their traditional food
16 systems. The secondary data used in this research include the population and land
17 mass of the area councils selected as well as the West Africa food composition tables
18 (FAO, 2012) used to determine the nutritional content of food consumed by
19 respondents.

20 **2.4 Data Analysis**

21 Data recording and analysis were carried out in English. Various techniques were used to
22 analyse both quantitative and qualitative field data. To analyse quantitative data, descriptive
23 statistics such as percentages, averages, tables and graphs were used. Some qualitative
24 data were also used for cross tabulation to derive relationships between variables (Witte
25 and Witte, 2004). Statistical Package for Social Sciences (SPSS) was used to obtain a
26 Pearson Chi Square value to determine the presence or absence of statistical significant
27 relationships between variables (Arkkelin, 2014). Data obtained from FDGs were analysed
28 and coded qualitatively using NVivo9 software to identify key themes that explained the
29 socio-cultural characteristics of indigenous groups and their perception of developmental
30 impacts on indigenous food culture.

31 **3 Results and Discussion**

3.1 Socio-economic characteristics of respondents

3.1.1 Gender and educational level of respondents and dependents²

Gender can be a common barrier to equal access to education for boys and girls in indigenous groups (UN 2010). Figure 4 (a) reveals that 41 out of the 120 sampled respondents had no formal education and 10% were male while 24% were female. It should however be noted that there were more female than male respondents. But the study showed that 66% of the entire sampled respondents have had some form of formal education. The reason for the relatively high percentage of sampled respondents that have had some level of education can be attributed to the adult literacy development projects (Odumuh, 2003) which have been instituted in several indigenous communities in FCT including communities in Gwagwalada and Kuje area councils.

Placement of Figure 4

Figure 4 (b) also shows the rate of school attendance among dependents. Again, there were more female than male dependents in this study from which 27% female dependents had at least primary education compared to 20% male dependents. However, despite the higher number of total female dependents, 22% and 4% of the male dependents had obtained secondary and tertiary education respectively while 16% and only 2% of the female dependents had obtained secondary and tertiary education respectively. These figures reflect the change in the dynamics of education after primary level as more males than females are encouraged to attain a higher level of schooling.

The results from figure 4 a and b are in agreement with Alabi and Alabi (2014) who opined that the girl-child is more susceptible to certain geographic, cultural, religious and economic constraints in obtaining education than the male child in Nigeria. However, the results also show that majority both Gbagyi and Bassa Indigenous children have been exposed to some level of formal education. The increased rate of rural children school attendance, especially female children, can be attributed to the Universal Basic Education which was instituted 1999 to provide free, universal and compulsory basic education for every Nigerian child between the ages of 6 and 15 years (Amuchie et al, 2015). This has increased opportunities for females to gain primary and junior secondary education at decreased cost to parents and guardians.

² Dependents include all individuals within a household who are under the direct care of the respondent. This includes biological and non-biological dependents but excludes biological children who live elsewhere or who are married

1 **3.1.2 Gender and farm size**³

2 The results also show there is a significant relationship between gender and farm size (Chi^2
3 $p < 0.05$). Although gender inequality in the use and ownership of production resources has
4 been identified as one of the key problems with agriculture in Nigeria (Olagunju et al., 2012),
5 all 73 female respondents had access⁴ to land for their farming activities in the study area.
6 This is consistent with the findings of Julius (2014) in his “*evaluation of gender assess to*
7 *farm inputs in Abuja, Nigeria*”. He recorded that there was no significant difference between
8 male and female access to farm inputs, including land, among indigenes of the FCT.

9 **Placement of Table 1**

10 The field survey however revealed that while gender did not influence access to farmland,
11 the size of farmland men and women has access to could be influenced by gender. As
12 shown in table 1, 72% respondents cultivated less than a hectare of farmland were women,
13 yet in contrast, 82% male respondents cultivated over 5 hectares of farmland compared to
14 18% women. The influence of gender on farm size can be attributed to the patriarchal
15 system of most African communities where women have access to farmland from their
16 husband who may have more than one wife. As a result of polygamy, land fragmentation to
17 meet the food production needs of wives may also be the reason for female access to small
18 parcels of land than men (Ngodoo and Idisi, 2014).

19 **3.1.3 Age and farm size**

20 The results show a significant relationship between age and farm size (Chi^2 $p < 0.05$). There
21 were 13% respondents below 30 years of age and 23% of them cultivated less than 1
22 hectare. As shown in table 1, 44% respondents fell between the ages of 30-50 years with
23 52% of them cultivating less than 1 hectare, 45% of them cultivating 1-5 hectares and none
24 of them cultivating above 5 hectares of farmland. The only age group that cultivated above 5
25 hectares were those above 50 years of age. They accounted for 43% of the total sample.

26 The decrease in the area of land cultivated with a decrease in age can be attributed to the
27 fact that younger people who live in indigenous communities tend to have other white and
28 blue collar jobs in urban areas. Also, with the increasing educational level of many young
29 indigenes, as discussed previously in section 3.1.1, farming has become a secondary source
30 of income and is therefore seen as less convenient than white collar jobs. These findings are
31 consistent with Pam (2014) who reported that rural-urban migration among Nigerian youths
32 in search of “better sources of livelihoods” has influenced the level of agricultural activities in

³ Farm size here means area of land in cultivation or on which animals are raised, not area of land owned but not yet used for agricultural purposes (land owned may be greater or equal to farm size)

⁴ Access is not ownership. The land Use Act of 1978 gives custody of all land to the state government and in the case of FCT to the Federal government

1 rural areas, as less land is being cultivated and farming activities are carried out for aged
2 and weaker groups.

3 **3.1.4 Educational level, farm size and herd size**

4 There is also a significant relationship between the level of education attained and the size
5 of farm land cultivated (Chi^2 $p < 0.001$). As shown in table 2, 34.2% of the respondents with
6 no formal education cultivated relatively larger farms in the category of >5 hectares and 1-5
7 hectares. On the other hand, none of the respondent with tertiary education which
8 represented 15% of the sample tested cultivated above 5 hectares.

9 **Placement of Table 2**

10 There was also a significant relationship between educational level and herd size ($p < 0.05$).
11 This is more evident among respondents with a herd size of 10-50 animals. As seen in table
12 3, the number of respondents with a herd size of 10-50 animals decreases with an increase
13 in educational level. Animals raised by indigenous respondents include cattle, sheep, goats,
14 chickens and pigs.

15 **Placement of Table 3**

16 Although no extensive research has been conducted to determine the relationship between
17 education, farm size and herd size in Nigeria, it can be deduced from the results that
18 because farming tends to be the primary source of income for uneducated respondents, they
19 tend to cultivate larger parcels of land as well as diversify their incomes by rearing more
20 animals than respondents who have increased opportunities of securing non-farming
21 employment because they have attained some level of formal education.

22 **3.1.5 Educational level and primary occupation**

23 The indigenous people of FCT are traditionally farmers (Ogundele, 2004). The results reveal
24 a significant relationship between educational level and primary occupation (Chi^2 $p < 0.001$).
25 As seen in Table 4 there were 65 respondents with farming as their primary occupation,
26 56.9% of them had no education, 26.2% had primary education, 16.9% had secondary
27 education and none of the respondents with tertiary education had farming as a primary
28 education. This shows that the number of respondents with farming as a primary occupation
29 decreases with an increase in the level of education attained.

30 **Placement of Table 4**

31 These results are consistent with the findings of Espig (1992) who opined that farmers
32 abandon farming as their educational level increases. Julius (2013) also argued that most
33 farmers with, at least, primary education do not engage in agriculture as a main occupation
34 and farmers without formal education depend mainly on agriculture for their income and

1 livelihood. The research reveal that other primary and secondary occupations which Gbagyi
2 and Bassa respondents engage in include teaching, nursing, catering, security guarding,
3 motorcycle riding, shoe mending, weaving, fire wood trading, pottery, carving and
4 commercial driving.

5 **3.2 Socio-cultural characteristics of the indigenous groups in relation to** 6 **traditional food systems**

7 Data extracted from the focus group discussion was coded using the NVivo9 software under
8 a number of different conceptual headings discussed in this section.

9 For the purpose of this analysis, traditional food system is defined as

10 *“All food within a particular culture that is available from local natural resources and*
11 *culturally accepted. It also includes the sociocultural meanings,*
12 *acquisition/processing techniques, use, compositions and nutritional consequences*
13 *for the people using the food” (Kuhnlein and Receveur, 1996)*

14 Observations and communications with elders of both the Gbagyi and Bassa indigenous
15 groups in the study area revealed that these two groups have very similar traditional food
16 systems. These observations are consistent with Filaba (2007) who found that the Gbagyi
17 and all other indigenous groups in the FCT including the Bassa’s grow and consume the
18 same type of food crops as well as share similar food production system and consumption
19 practices. They added that there was a cordial relationship between all indigenous groups in
20 the FCT because of the similar culture they share.

21 The major food security crop for both indigenous groups is guinea corn (*Sorghum bicolor*),
22 also known as “ewyi” in the Gbagyi dialect and “ohiu” in the Bassa dialect. According to the
23 FAO West Africa food composition table, guinea corn is an energy crop rich in carbohydrate,
24 protein and fibre. Guinea corn is also rich in various micronutrients as shown in table 5
25 below.

26 Guinea corn was described by the Sarkin Noma (Chief Farmer among the Bassa people) as
27 “*the king of all foods*” because it is consumed in various forms in the morning, afternoon and
28 night by the indigenous people of FCT. He also added that in times of ill health, guinea corn
29 is made into *pap* (a semi-solid liquid) or *Kunu* (a liquid drink) both of which are believed to
30 facilitate recovery. Pap and kunu are also famous weaning foods used among FCT
31 indigenes as well as the whole of West Africa in general (Onofiok and Nnanyelugo, 1998).

32 The belief that guinea corn is the main sustaining food was also affirmed by a Gbagyi
33 indigene named Kuchazi who said that “*no matter what we eat, it’s only food made from*
34 *guinea corn that gives us true satisfaction*”. He explained that because they are mostly

1 farmers, they eat *azhe*- a stiff porridge – made from guinea corn early in the morning before
2 engaging in their farming activities. When consumed in the morning, this *azhe* sustains them
3 till the return home in the evening. Other traditional food crops produced and consumed by
4 indigenes are presented in table 5.

5 **Placement of Table 5**

6 **3.2.1 Food production, processing, preparation and consumption practices**

7 **a. Food production and processing**

8 The food production roles of FCT indigenous men and women have changed over the years.
9 According to Ogundele (2004), in the past, farming was strictly a role for men while food
10 processing, preparation, presentation as well as firewood cutting was done by women.
11 However, the research revealed that women now actively engage in farming. According to
12 the *Sarkin noma* (Chief farmer) of a Bassa village

13 *“Women now farm as much as men do, to the point that some women realise better*
14 *harvest than men. The yields and income they earn from sales of their produce is*
15 *theirs to do as the wish”.*

16 He also expressed that due to the divide in farming activities, men and women now live
17 relatively separate lives in terms of farm management decisions and income. However, this
18 can be seen as a means of income decentralisation and a means of ensuring continuous
19 food security in the household. Since men and women farm separately, in the case of yield
20 failure on one farm, the household can still be food secure through the food and income
21 obtained from the other farm.

22 Grain processing is mostly done by women and female children. There are several steps
23 involved in grain processing which are both time and energy consuming. After the grain has
24 been harvested and threshed, it is put in a wooden mortal, sprinkled with little water and
25 pounded lightly to separate the grain coat from the grain, it is then air dried, washed and
26 dried again to obtain chaff-free grain. Grain grinding was commonly done on a flat stone to
27 obtain flour. The finer flour is separated to make the stiff porridge (*azhe*) while the residue
28 (*shibia*) is used to make a semi-stiff porridge called *pete* or *Kyai* in bassa dialect. This
29 residue is also added when making bean porridge. However, recently, grain grinding is done
30 using a grain grinding machine which has become a business enterprise for indigenous
31 women who provide this service.

32 Older female indigenes believe that younger indigenes are more inclined to accepting
33 modern and foods from migrant cultures (see table 6) because of how tedious grain

1 processing tends to be compared to the ease and shorter time it takes to prepare moderns
2 foods like noodles, spaghetti or tea. Tnucheyi a 63 year old Gbagyi woman said that;

3 *“In the past, because grain processing was something we had to do in order to feed*
4 *our families, we found ways to make it interesting such as singing, but today because*
5 *there are other types of foods, our children do not find as much joy when processing*
6 *grain, they feel it is hard work”*

7 **Placement of Table 6**

8 ***b. Food preparation and consumption***

9 Food preparation is also mostly done by women and female children. Word frequency
10 queries in the NVIVO analysis revealed that the favourite food among older indigenes is
11 *Tuwo, Zhepwo* and *Jehun*, all made from guinea corn, and pounded yam. Other foods which
12 they enjoy include amala (made from yam peels) and garri (made from cassava) both eaten
13 with local soups. The Gbagyi and Bassa indigenes have evolved a means of preserving their
14 food especially the stiff porridge made from guinea corn- *tuwo*. During the preparation of
15 *tuwo*, ash from the firewood being used cook is added into the boiling water before the
16 guinea corn, millet or corn flour is added. This ash preserves leftover *tuwo* for up to two
17 weeks with it going bad.

18 Two food consumption patterns were observed among Gbagyi and Bassa indigenes. Larger
19 polygamous families practiced the household-communal eating pattern especially during
20 their evening meal. This however largely depends on the relationship among members of
21 households explained Lanisha – 50 year old Bassa woman. Most households are
22 polygamous and it is common for children of each wife to come together and share a meal or
23 for all children to eat together - sometimes from the same bowl, depending on the agreement
24 among wives. It was also noticed that men within a compound⁵ would gather to eat together,
25 while women did the same. When asked the reason for their household- communal eating
26 culture, Awyetalumilo - a 34 year old Gbagyi indigene said

27 *“Eating together keeps us close as a family, it gives us a chance to talk to each other*
28 *and share experiences every day. It is part of our culture”*

29 It is also very common for outsiders who arrive during a meal to be offered a plate of food
30 and asked to join the family meal. Therefore food is always prepared in large quantities to
31 make allowances for visitors.

⁵ A compound is defined as a group of dwelling units sharing common facilities including entrance, toilets, kitchen and eating area (Mai and Shamsuddin, 2012)

1 The second eating practice observed was the individual eating pattern mostly practiced in
2 families where the household was not part of a “compound”. Individuals within this
3 household had their meals at various times during the day depending on their individual
4 schedules. These families were also observed to live in houses built with modern building
5 materials like concrete blocks, unlike most traditional houses which are built with mud bricks.
6 This observation is consistent with the findings of Mai and Shamsuddin (2012) who also
7 observed a change in the social order and eating practices of Gbagyi households as their
8 building patterns changed to emulate modern housing.

9 **3.2.2 Rituals, customs and ceremonies**

10 Among all traditional foods consumed by Gbagyi and Bassa indigenes, guinea corn not only
11 has nutritional importance but also has cultural significance. In the past, marriage was strictly
12 by betrothal and a young man seeking a girl's hand in marriage was required to work on the
13 girl's father's farm for seven years and also provide grains – especially guinea corn for her to
14 be fed and fattened before the wedding day. When there is more than one suitor, a farming
15 competition is organised to select the stronger of the two. In recent times however, this
16 tradition has been replaced with the payment of a dowry including boxes of clothing,
17 assorted food items and modern drinks.

18 The Agbamaya festival is celebrated by the Gbagyi at the beginning of the raining season
19 to welcome the rain, while Zhibaje is a festival celebrated to mark the harvest of guinea corn
20 and also celebrated to mark the first rains (Filaba, 2007). During these festivals, a locally
21 brewed beer called *brukutu* made from fermented guinea corn is commonly drunk.

22 **3.3 Development and indigenous food culture (NVIVO)**

23 **3.3.1 Forms of development directly influencing indigenous food culture**

24 Using the query function to identify word frequencies in the NVivo9 analysis, the research
25 was able to identify the forms of development which the indigenous groups believe have
26 directly influenced their food culture. The highest word frequencies include education,
27 immigration, new forms of employment, roads, land tenure, trade, roads and religion.

28 As seen from the results in section 3.1.1 majority of both Gbagyi and Bassa indigenes have
29 attained at least primary education. Education is accompanied with an exposure to other
30 cultures and behaviour patterns (Pam, 2014). This could encourage the modification and in
31 some cases the erosion of indigenous culture. Expressing his concern, a 68 year old Gbagyi
32 indigene- Shekwoduza- said that;

33 *“Our children now go to school but do not learn about their culture there, we*
34 *try to make sure they eat our traditional foods but they now prefer modern*

1 *foods. Children should be taught in school that their traditional foods are good*
2 *and not something to they should be ashamed of”.*

3 Furthermore, the relocation of the Federal Capital Territory from Lagos to Abuja resulted
4 in the immigration of many people with different cultural backgrounds into the area
5 (Filaba, 2007). This has also significantly influenced the types of foods eaten by the
6 indigenes as well as some of their food preparation techniques. Mwaboyi, a Gbagyi
7 indigene said that;

8 *“Now that we have many people from different places living among us, I have*
9 *learnt to eat okpa from the Igbos, amala from the Yoruba’s and masa from the*
10 *Hausa’s. I now use palm oil in making my soup like the Igbo’s and Yoruba’s*
11 *do”*

12 The relocation of the FCT to Abuja also facilitated the creation of new forms of white and
13 blue collar jobs especially with Federal ministries, local government offices, hospitals,
14 schools and private businesses. These jobs have attracted many indigenes especially
15 the youth who more educated than older indigenes. This has facilitated the interaction
16 between indigenous youth and youths from migrant cultures (Mai and Shamsuddin,
17 2012). As a result, their eating habits, mode of dressing and mannerism have also been
18 significantly influenced. Tozabeyi, 78 year old Bassa indigene who explained that;

19 *“Before Abuja became the FCT, we did not see the need for schools, we taught*
20 *our children our culture, but development now makes our traditional methods of*
21 *education look like it is not good enough. If we want our children to become “big*
22 *people” they have to go to school. They now mix with other people, behave*
23 *differently and eat different foods”*

24 As mentioned in section 3.1.6, there was a significant relationship between education
25 and primary occupation. The higher the educational level the less likely the indigene was
26 to engage in farming as a primary occupation and the lower the educational level the
27 more likely the indigene was to engage in farming as a primary occupation.

28 Religion is another factor that has contributed to the modification of the food culture
29 among the Gbagyi and Bassa indigenes. Muslim respondents accounted for 44.2% of the
30 total sample size, and all indicated that they do not eat pork because of religious laws.
31 However, non-Muslim indigenes who accounted for 53.3% of the total sample size
32 indicated that raise pigs and eat pork as part of their source of livelihood and nutrition.
33 Also Christianity forbids the use of traditional healing rituals and foods prepared for the
34 purposes of restoring health by native doctors (Falola, 2001). Traditionalists, who are

1 neither Muslim nor Christian, accounted for 2.5% of the total sample and indicated that
2 they only constrained by traditional taboos, most of which forbid the consumption of
3 snakes, monkeys and bats. However, Christian and Muslim respondents also indicated
4 that they do not eat foods which are also traditionally forbidden such as snakes, monkeys
5 and bats.

6 Furthermore, the creation of new roads has improved access to market and expanded
7 trade opportunities. Common hot spots for trade include the Gwagwalada and Kuje
8 markets which hold their “market days” every four days. These markets attract traders
9 from different cultures selling indigenous, non-indigenous and modern food products,
10 thereby availing indigenes the opportunity to experiment with new foods.

11 **3.3.2 Indigenes perception of the impact of development on their traditional** 12 **food systems**

13 Development from its inception should be human-oriented and take cognisance of the felt-
14 needs of those groups that would be impacted by developmental processes (Nkechi and
15 Paul, 2012). Without taking into account certain socio-cultural factors that tend to influence
16 the ability of recipient’s to fully take advantage and benefit from development activities, such
17 development efforts may not be rightly described as “development” to those groups.

18 The field survey revealed that there was general agreement that development had
19 influenced the traditional food systems of indigenous people in FCT. Indigenes perception of
20 the impact of development on their traditional food systems fell into four categories. These
21 are: indigenes not owning the land they cultivate, youth decreasing engagement in farming;
22 changing roles of indigenous women and lack of government funding to support the
23 promotion of traditional festivals.

24 The land tenure system in Nigeria vests the ownership of all urban land to the state
25 government and ownership of rural land to the local government. However, all lands within
26 the study area- Federal Capital Territory are vested exclusively in the Federal Government
27 of Nigeria. This means that the indigenes do own the land they cultivate and live on but just
28 have access to the land (Alarima, et al 2012).

29 *“Our culture, our food and our traditions are tied to our land. Development has taken*
30 *a lot of our land and given to other people, we have been made tenants on our own*
31 *land. Without our land we have no culture”.* (Malaga-72, Bassa)

32 According to UN (2007), Indigenous peoples’ connection to their traditional lands and
33 territory is deeply rooted in their culture and history and also forms a core part of their
34 spirituality and identity. Therefore, when they do not have complete ownership of their land,
35 it rids them of an important aspect of their identity and culture.

1 Focus Group discussions and key informant interviews revealed that young indigenes
2 increasingly prefer white collar jobs over farming. This seems to threaten the long term
3 sustainability of traditional food systems in the study area. As many young indigenes get
4 educated, they become exposed to the relatively easy way of life these white collar jobs and
5 non-farming enterprises could provide. This makes them less inclined to engage in farming
6 as a source of income because they want to be like the other young people they meet in
7 cities.

8 *I am worried that development has made our children more eager to live modern*
9 *lives and eat modern foods. They are not as strong as we were when we were*
10 *younger because of these new foods they eat, that is why they cannot farm as much*
11 *as we did” (Pambolo – 68, Gbagyi)*

12
13 Odia and Odia (2013) opined that the reduction in employment opportunities for Nigerian
14 graduates is a call for youths to develop entrepreneurial skills as this will reduce their
15 dependence on salaried employment. Therefore, indigenous youth who already have access
16 to land are in a better position to earn a living from agriculture than migrant youths who face
17 challenges in acquiring land for farming purposes in the FCT. Encouraging indigenous youth
18 to engage in farming as a source of income will contribute to the sustainability of their
19 traditional food system.

20
21 In terms of income diversification and off farming season employment, most indigenous
22 women viewed development as a form of financial empowerment. Women now own
23 businesses and engage in other less tedious jobs besides the usual farming, grain
24 processing, weaving and carving. Although this empowerment has led to many women
25 becoming key providers for their families, they see this as an opportunity to contribute
26 meaningfully to the household.

27 *“The change is good because I can do other things to support my family while I wait*
28 *for my harvest. I own a shop and also do some cleaning jobs in the city. I have learnt*
29 *to prepare other foods which do not take as much time to process like our traditional*
30 *foods. This gives me the time I need to do other types of work and provide for my*
31 *family” (Kukuta – 38, Bassa)*

32 Filaba (2007) also explained that the empowerment of FCT indigenous women through
33 income diversification avenues was borne out of earning low incomes from their farming
34 activities as well as the negative health effect of farm labour. This made them keen to

1 embrace the new forms of employment created by development so as to supplement their
2 farm incomes.

3
4 Lastly, in terms of the sustainability of their traditional food system and culture, Focus group
5 Discussions also revealed that indigenes are of the opinion that if they are encouraged to
6 display their rich culture through festivals and cultural events, their children will have a better
7 identity among migrant cultures and migrants will also have a better appreciation of the
8 cultural heritage of FCT indigenous groups.

9
10 *“I do not think development can completely take over our traditional foods or our*
11 *land. Our culture has been around for many years and cannot die, but the*
12 *government should encourage us by sponsoring our traditional festivals so we can*
13 *show people our rich culture”.* (Donamu- 45 year old Gbagyi indigene)

14 It is not uncommon for the government to show support for indigenous culture. For instance, in
15 Cross River state, Nigeria, the government sponsors the annual *Calabar festival*. This festival is
16 an opportunity for indigenes to showcase their traditional dance, foods, attires and creativity.
17 The festival is not done only among the indigenous groups in Cross River state, but is openly
18 displayed on the streets for all to participate and appreciate. This festival has received
19 international recognition and is believed to contribute to the sustainability of the Akwa Ibom
20 tradition and culture (Agba, 2013).

21

22 **4 Conclusion**

23 This research has been an expose on the impact of development on the traditional food
24 systems of indigenous groups in FCT. The research found that the relocation of the Nigerian
25 Federal Capital from Lagos to Abuja brought development in the form of education, roads,
26 jobs and immigrants. These forms of development have modified the FCT indigenous food
27 culture, resulting in some sort of hybrid traditional food system which now includes modern
28 foods and non-indigenous traditional foods, both of which are contributing to the erosion of
29 the indigenous food culture in FCT.

30 The study also highlight younger indigenous people are most influenced by development
31 and are more likely to adopt new food cultures as they mix with people from other cultures
32 and ethnic groups in schools, white collar jobs and through trade. As a result, it can be
33 argued that the introduction of a new social order in the FCT has borne some sort of identity
34 crisis among indigenous youth. This is also because they live in close proximity to a
35 cosmopolitan city but are still a part of their indigenous society. As such they are mentally

1 and physically exposed to a culture completely different from what they are born into and
2 strive to fit into the modern culture without losing their cultural identity.

3 The research identified that young female indigenes embrace other food ways because of
4 the difficulty in processing and preparing indigenous foods like guinea corn as opposed to
5 modern foods such as noodles that takes less than 10 minutes to prepare. This research
6 therefore recommends the incorporation of food and nutrition courses in adult education
7 classes to train women on easier grain processing techniques.

8 While over 60% of respondents were averse to change as they felt it was a threat to their
9 culture, others had positive views about development especially with regards to income
10 diversification, ease of food preparation, varieties of foods they now consumed and trade
11 expansion. The traditional food system of both ethnic groups relegated women to food
12 production, processing and preparation. But with development, women have diversified into
13 other roles and embraced other food systems that do not require as much labour and time to
14 prepare.

15 The research recommends that the Nigerian government should take advantage of the 2016
16 United Nations international year of pulses to initiate agricultural development projects to
17 encourage indigenes to grow and consume more of their indigenous pulses especially the
18 black eyed beans. This will not only supplement their high carbohydrate intake from guinea
19 corn but will also promote nitrogen fixation and improved soil fertility on farmers' fields.
20 However, it is important that implementing these development projects is informed by
21 indigenous knowledge, respect traditional culture and focuses on the real needs of
22 indigenous people. This will ensure that development efforts do not to change indigenous
23 food ways by introducing new knowledge or techniques that do not agree with traditional
24 systems.

25 The research also recommends that FCT indigenes should have more secure titles to their
26 land. Security of tenure is fundamental to Indigenous Peoples' cultural identity and security,
27 and can be improved through acknowledgment of customary tenure and practices". The
28 2007 UN Declaration on the Rights of Indigenous Peoples and the 1989 ILO Convention No.
29 169 gives indigenous people the right to control their natural resources and also demands
30 that states respect indigenous lands and territories (Woodley et al., 2009).

31 Finally, more research is required to explore the impact of the increasing market-demand for
32 indigenous crops on the food and nutrition security of indigenes and also ascertain whether
33 FCT indigenous groups are more susceptible to hidden hunger than migrant ethnic groups
34 within the FCT.

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8

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Table 1: The relation of gender / age groups and Farm size

		Farm size			Total
		< 1 ha	1-5 ha	> 5 ha	
Gender	Male	28%	43%	82%	39%
	Female	72%	57%	18%	61%
Age	Below 30	23 %	4%	0%	13%
	30-50	52%	45%	0%	44%
	above 50	25%	51%	100%	43%

Table 2: Relation between educational level and farm size

		Farm size			Total
		< 1ha	1-5ha	>5 ha	
Education	none	20.0%	40.8%	81.8%	34.2%
	primary	38.3%	18.4%	9.1%	27.5%
	secondary	36.7%	10.2%	9.1%	23.3%
	tertiary	5.0%	30.6%	0.0%	15.0%
Total		100.0%	100.0%	100.0%	100.0%

Table 3: Relation between education level and herd size

		Herd size		Total
		<10 heads	>10 heads	
Education	none	15.6%	45.3%	34.2%
	primary	37.8%	21.3%	27.5%
	secondary	33.3%	17.3%	23.3%
	tertiary	13.3%	16.0%	15.0%
Total		100.0%	100.0%	100.0%

Table 4: Relation between educational level and primary occupation

		Primary occupation		
		farming	other	Total
Education	none	56.9%	7.3%	34.2%
	primary	26.2%	29.1%	27.5%
	secondary	16.9%	30.9%	23.3%
	tertiary	0.0%	32.7%	15.0%
	Total	100.0%	100.0%	100.0%

Table 5: Indigenous foods consumed with nutrient content (Adapted from: FAO, 2012)

Food type	Gwari name	Bassa name	Nutritional Content				
			Energy (kcal)KJ	Protein (g)	Fat (g)	Carbohydrate (g)	Fibre (g)
Grain							
Millet (raw)	Sari	Arshina	(364)1540	8.8	5.8	64.8	9
Maize, yellow, whole kernel, dried, raw	Kamba	Akaraba	(353)1490	9	4.5	64.3	9.7
Guinea corn (red)	Enyi/Enwi	Ohiu	(348)1470	10.5	3.5	63.6	9.9
Beniseed (sesame), whole, dry, raw	Durgua	Gwaga	(577)2380	18.2	48.9	10	11.8
Rice, native, raw, Hulled	Chenwi	Owere	(359)1520	7.4	2.2	77.3	0.4
Tubers							
Sweet potato, raw	Dunku	Otumriku	(116)490	1.5	0.2	25.5	3
water yam, raw	Shyama	Akalabeh	(125)529	2.4	0.1	26.5	4.1
water yam, raw	Shyama	Akalabeh	(125)529	2.4	0.1	26.5	4.1
Animal products							
beef, meat, lean, raw, boneless	Nagwo	Na'a/Ine	(126)528	21.7	4.3	0	0
Goat meat (raw)	Enna	Biyoyo	(165)689	17.5	10.6	0	0
Pork, raw (approx. 20 % fat)	kusu	Sundokrusu	(265)1100	16.8	22	0	0
Chicken, raw	Pyise	Alema	(232)962	16.7	18.3	0	0
Guinea fowl (raw)	Azu	Alema/Iwo	(232)962	16.7	18.3	0	0
Guinea pig (raw)	Zezetsu	Asun	(265)1100	16.8	22	0	0
Forest Foods							
Moringa	Zegele	Zegole	(86)364	8.3	1.2	9.6	2
Legumes							
locust beans	Chola	Gindo	(445)1860	32.2	19.5	33	4.1
Cowpea	Ebuwi	Gwageshege	(316)1340	21.2	1.3	47.2	15.3
Oils							
Soya oil	Soyami	Soya goje	(900)3700	0	100	0	0
Vegetables							
Spinach	Alefo	Afa	(28)115	2.8	0.6	1.7	2.2
Garden Eggs	Okun	Enyor	(30)125	1.1	0.2	4.6	2.6
Fruits							
Pawpaw	Kambuli	Tukomburu	(36)151	0.5	0.1	7.3	1.9
Cashew	Kashina	Kassiu	(56)235	1	0.7	10.7	1.5
Guava	Gwava	Gwava	(57)238	1	0.4	9.5	5.6
Nuts							
Bambara nut, dried	Ebu/Afhi	Gwoje Kape	(376)1590	20.1	5.9	58.9	3.7
Drinks							
Local Beer (guinea corn)	Ede	Mayaga/Loca	(31)128	0.5	Trace	2.7	0.1

Table 6: Modern and Non-indigenous traditional foods consumed by FCT indigenes

NAME OF FOOD	CATEGORY	CLASS	REGION
INDOMIE	Noodles	Modern	General
SPAGETTI	Pasta	Modern	General
COKE, FANTA, SPRITE	Soft fizzy drinks	Modern	General
GUINNESS, STAR, GIN	Alcoholic drinks	Modern	General
OKPA, MOI-MOI, AKARA	Bean cakes	Traditional	Igbo/ Yoruba culture
AMALA	Stiff porridge	Traditional	Yoruba culture
MASA	Rice cake	Traditional	Hausa culture
BISCUITS, CAKES, PIES	Snacks	Modern	Global
GOLDEN MORN	Cereal	Modern	General
TEA	Beverage drink	Modern	General

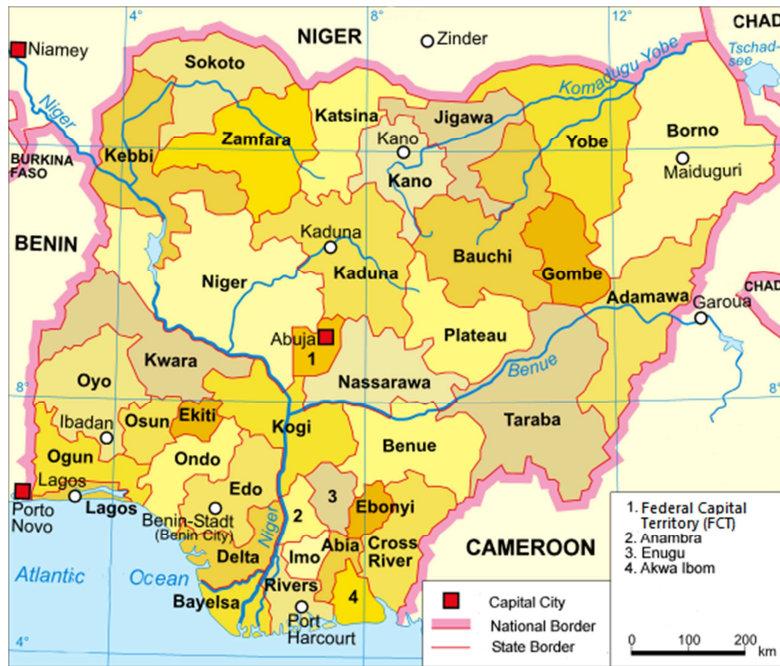


Figure 1: Map of Nigeria showing the 36 states and the Federal Capital Territory. (Released under the GNU Free Documentation License)



Figure 2: Map of the Federal Capital Territory showing the main councils. (Released under the GNU Free Documentation License)

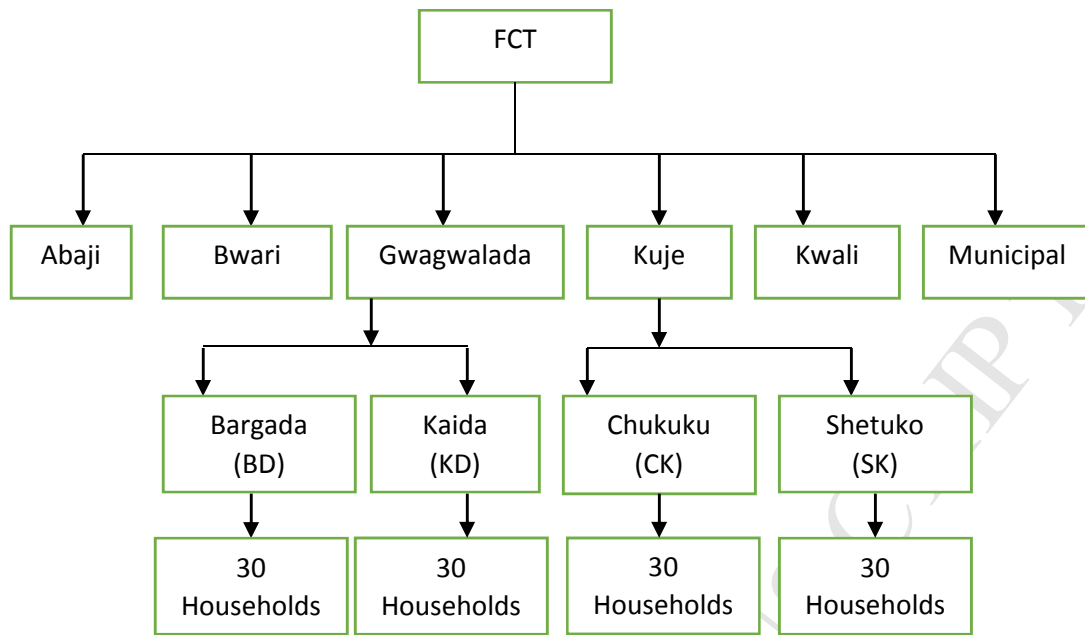


Figure 3: Stepwise selection of area councils, indigenous communities and respondents within the study area

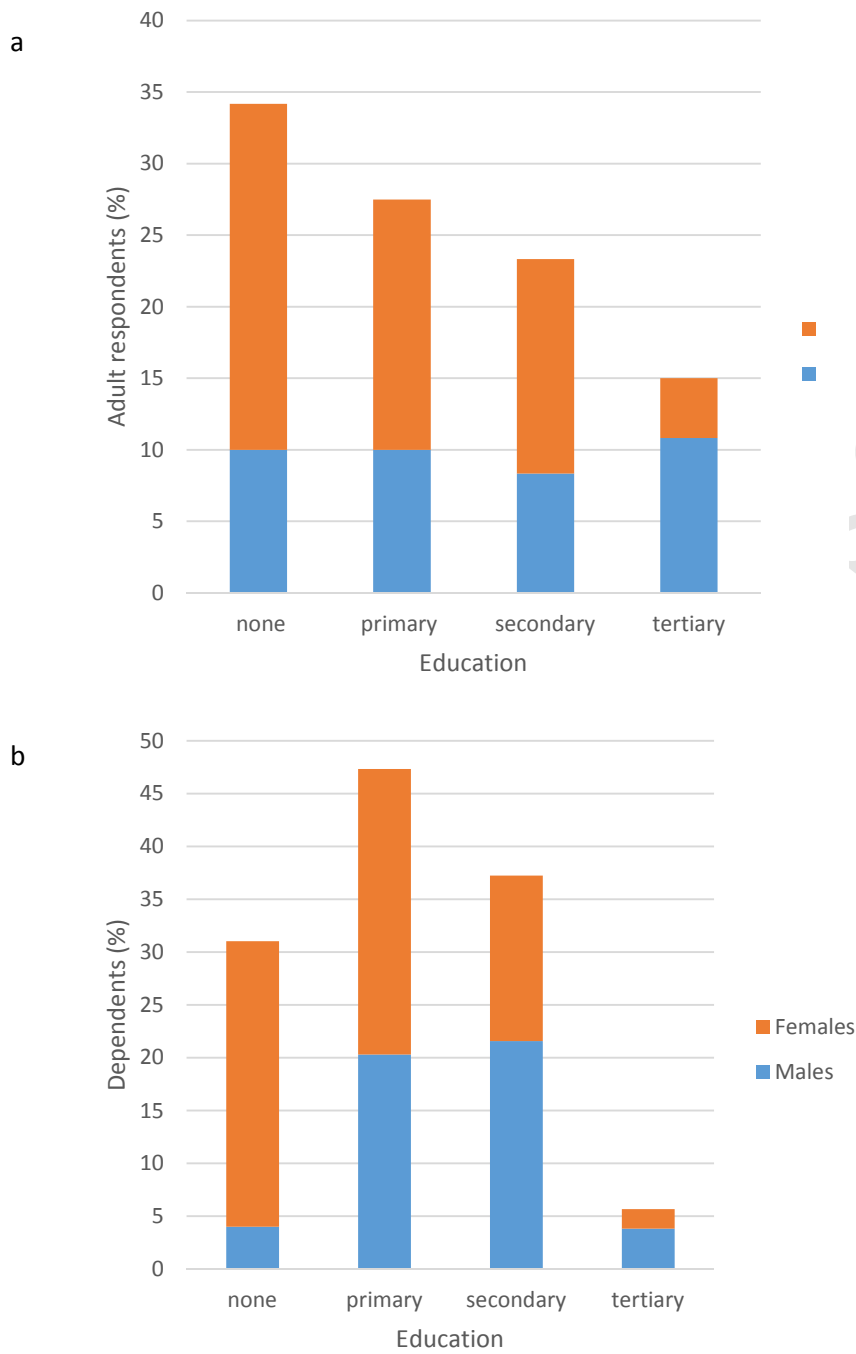


Figure 4: The relationship between gender and educational level of adult respondents (a) and dependents (b)