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Assessing the Perception and Accessibility of Indigenous Foods within Northern Ghanaian Communities

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Abstract

This study assessed the perception of the community about access to indigenous foods in Northern Ghanaian communities. A total of fourteen communities were covered across seven districts encompassing the Northern, Upper East, and Upper West regions of Ghana with a sample of 216 respondents from 72 households. The study adopted a cross-sectional design. Purposive and snowball sampling methods were used. Data collection was done using participatory rural appraisal tools: semi-structured interview schedules, focus group discussions, and visits to the market. Both qualitative and quantitative data were analyzed using content analysis and SPSS. Results showed that there is strong cultural attachment to indigenous foods, with 51.9% of the respondents strongly agreeing on their cultural significance. However, only 20.8% strongly agreed to the easy accessibility of those foods, mainly because availability in season and competition with commercial foods. Dawadawa was the most recognized crop among generations, while for Fonio, the awareness was going down. This study concluded that the indigenous foods are both culturally and nutritionally important but suffer from issues in terms of accessibility. Improving indigenous food systems in Ghana will thus be achieved in a sustainable manner by making recommendations

through educational programs, marketing development of crops, and research on crop productivity improvement.

Key words: Indigenous Foods, Perception and Accessibility

1. Introduction

For most parts of Africa, indigenous foods have remained one of the major components of dietary regimes, food, and nutrition, cultural heritage, and agricultural biodiversity. Generally referred to as traditional or heritage foods, such foods normally originate from locally grown plants or wild species and are closely linked with local customs and social practices (Burlingame & Dernini, 2012). The traditional foods of Ghana such as Dawadawa, Kersting's groundnut, Persa, Sesame, and Fonio are and have continued to be of immense relevance to the diets in the north and contribute vital nutrients and flavours unique to Ghana (Ekpa et al., 2019). However, the modernization of food habits increased with urbanization, changes in lifestyle, and influence of global food systems and contributed to the underutilization and underappreciation of these foods (Akinola et al., 2020).

Different socio-economic factors have influenced access and perceptions of indigenous foods in recent years. For instance, rapid urbanization is associated with a shift away from traditional foods toward "modern" foods, mainly imported or highly processed foods perceived as convenient or symbolic of a higher socio-economic status (Dweba & Mearns, 2011). This has resulted in the gradual marginalization of traditional foods, which are often stigmatized as "foods of the poor" (FAO, 2010). This has consequently made indigenous foods nutritionally dense and ecologically suitable for local climates, yet they are increasingly shunned in favor of imported and processed foods. A trend like this leads to the erosion of Ghana's rich food heritage and further increases the population's reliance on expensive imports, hence affecting the status of food security within the country, especially in rural areas (FAO, 2010; Paddock, 2017).

Indigenous foods are nutrient-dense, and crops such as Fonio and Sesame are notably micronutrient-dense, serving as vital sources of iron, calcium, and important amino acids lacking in imported staples. Indeed, Dawadawa, a fermented paste produced from the bean of the African locust tree, presents great protein and probiotic sources that could favor digestion (Onyeneke et al., 2019). Despite these benefits, underutilization remains one of the huge challenges facing indigenous foods. Decreases in cultivation and consumption have nutritional effects, but they also weaken agricultural biodiversity through the progressive loss of traditional knowledge associated with indigenous crops (Altieri & Toledo, 2011). With these dynamics in place, there is a dire need to understand the perceptions of indigenous foods within the communities in Northern Ghana, since community perceptions could be a major driver for demand and utilization of these foods. Understanding perceptions and accessibility is key to designing effective strategies for promoting the foods as a viable part of daily diets. The improvement of access to indigenous foods has the potential to make more people food secure while supporting sustainable livelihoods and improved cultural identity. Grivetti and Ogle, (2000) note that accessibility to such foods might be hindered by limitations of market infrastructure as well as general harvesting, which tends to be very labor intensive. A study will be carried out aimed at knowing not just the community perception of access but also the actual access to selected indigenous food items in Northern Ghana.

2. Methodology

The research was conducted in fourteen communities across seven districts in Northern Ghana. The districts selected cut across the Northern, Upper East, and Upper West regions - noted for their different ecological zones and specific cultural practices related to food. These are varieties of indigenous Ghanaian food crops, such as Fonio, African locust bean, and Kersting's groundnut, which have cultural importance to the people and thus chosen for study in recognition of their nutritional content and opportunity for regeneration into local diets.

In addition, the study population consisted of the rural farming households in the selected districts. Eligible respondents were those men and women aged 15 years and above who had knowledge about the cultivation or consumption of the identified indigenous foods. These respondents were expected to give an insight into the community's practices, perceptions, and challenges on the use of the indigenous foods. This study used a cross-sectional study design with mixed research approach. The design targeted the assessment of the state of indigenous food usage and perceptions amidst diverse communities, thereby allowing the collection of data on practices as well as challenges within the study areas.

The sampling procedure employed in this study utilized a non-probability sampling approach to select districts, communities, and participants. Specifically, purposive sampling and snowball sampling techniques were adopted to identify suitable districts. The study focused on two communities within each selected district, resulting in a total of 12 communities. These communities were strategically chosen to represent various indigenous food items targeted for the study. For participant selection, simple random sampling was used to choose a total of 72 households per district, leading to 216 respondents overall, with 18 households surveyed in each community. Purposive sampling was applied to identify initial respondents who possessed relevant knowledge about indigenous foods. Subsequently, snowball sampling facilitated the recruitment of additional participants through referrals made by key informants within the communities. This approach ensured a diverse and informed participant pool, enhancing the study's comprehensiveness in capturing perceptions and accessibility of indigenous foods.

Primary data was collected through the use of interviews and focus group discussions with a semi-structured interviews guide and checklist. This study employed both qualitative and quantitative approaches for data analyses. Qualitative data from interviews and discussions were transcribed and coded manually. Content analysis was used for recurred themes and patterns. Quantitative data were analyzed by way of using SPSS version 22.0 for carrying out descriptive statistics, which

included percentage and frequency in the context of demographic characteristics and indigenous food use. These results were then represented in table form to show the main findings and enable easy understanding of perception and access regarding indigenous foods.

3.1 Results and discussion

3.1.1 Demographic characteristics of respondents

The demographic characteristics of respondents in the study assessing the perception and accessibility of indigenous foods within Northern Ghanaian communities reveal some interesting trends. Among the 216 participants, the age distribution shows a relatively even spread across three groups: 34.7% were aged 18-30, 33.3% were 31-50 years old, and 31.9% were 51 years and above. This age diversity suggests a broad range of experiences and perspectives, which may influence their perceptions of indigenous foods.

In terms of sex, the sample slightly favored females, who constituted 53.7% of respondents, while males made up 46.3%. This gender distribution is typical of many rural surveys in Ghana, where women often play significant roles in household food preparation and decision-making regarding indigenous food consumption (Osei-Asare, 2017).

The religious background of respondents' shows a higher proportion of Christians (45.8%), followed by Muslims (28.7%) and adherents of African Traditional Religion (25.5%). This distribution reflects the broader religious composition of Northern Ghana, where Christianity and Islam are dominant, although traditional beliefs remain important in rural areas (Ghana Statistical Service, 2021).

Regarding education, the majority of respondents (53.7%) had no formal education, with 28.2% having basic education, 16.2% holding secondary education, and just 1.9% attaining tertiary education. This aligns with findings from other studies in similar contexts, where education levels are often low in rural areas, affecting knowledge and access to diverse food options (Asante et al., 2019).

Finally, the primary occupation of most respondents was farming (88.9%), which is typical in Northern Ghana, where agriculture is the backbone of the local economy. The remaining participants were traders (2.8%) or students (8.3%). This occupation distribution highlights the deep connection between rural livelihoods and agriculture, where farmers' perceptions of indigenous foods are shaped by both their role as producers and consumers (Appiah et al., 2020). In comparison to other studies, the demographic trends in this sample align with rural populations in Northern Ghana, where age, gender, and occupation characteristics influence food choices and accessibility. For example, studies in similar regions have noted that older individuals, particularly those in farming communities, are more likely to maintain traditional food practices due to cultural attachment and limited exposure to modern alternatives (Acheampong, 2018). However, the low education levels may present challenges in promoting the broader use of indigenous foods, as access to education is a key determinant in dietary diversity (Appiah et al., 2020).

Table 1: Demographic characteristics

Variable	Frequency	Percentage
Age of respondents:		
18-30	75	34.7
31-50	72	33.3
51+	69	31.9
Total	**216**	**100.0**
Sex of respondents:		
Male	100	46.3
Female	116	53.7
Total	**216**	**100.0**
Religion of respondents:		

African Traditional Religion	55	25.5
Muslim	62	28.7
Christian	99	45.8
Total	**216**	**100.0**
Education of respondents:		
No formal education	116	53.7
Basic	61	28.2
Secondary	35	16.2
Tertiary	4	1.9
Total	**216**	**100.0**
Total	**216**	**100.0**
Primary Occupation:		
Farmer	192	88.9
Trader	6	2.8
Student	18	8.3
Total	**216**	**100.0**

Source: Field Data, (2018)

3.1.2 Community members' perceptions about the value and origin of indigenous foods in Northern Ghana

Results in Table 2 present how members of the community perceive the value and source of indigenous foods in Northern Ghana. Very important to the participants in their culture and heritage concerning indigenous food, 51.9% strongly agree and 33.3% agree. This finding signifies the cultural importance attached to traditional foods within the community. Other studies on indigenous food systems in Africa also share these sentiments. For instance, a study by Asante et

al. (2018) has also indicated that indigenous foods are deemed to be integral to the identity of communities in general in Ghana.

About the indigenous foods consumed, 45.4% of the respondents strongly agreed and 35.2% agreed that such foods are consumed in their households quite often; this implies that the foods keep a perpetual state in their diets. This is also in agreement with the Ghana Statistical Service (2017), which reported, "*Traditional foods are still being widely consumed in rural Ghanaian households amidst a growing interest in processed foods*".

However, when asked about the availability of indigenous foods within their community, responses were more mixed: fully 20.8% strongly agreed, while 28.2% agreed that indigenous foods are readily available; although a considerable proportion, 23.1%, disagreed. That would mean that though indigenous foods may be available, accessibility could be restricted by seasonality, local market availability, and competition with more available commercial foods. A study by Sefa-Dedeh and Nti (2014) also showed that rural communities in Ghana found it hard to access traditional foods due to economic reasons and different farming practices.

On heritage, the larger proportion agreed strongly, 60.2%, which indigenous foods were passed on from their ancestors to them. The rest, 23.1%, simply agreed to this. This brings out the perceived ancestral link and intergenerational transfer of food knowledge and highlights the cultural and historic importance of indigenous foods. The same sentiments have been reported in studies by Juma and Ezenwaka (2020), who wrote that indigenous food knowledge is passed between generations normally at the core of community identity and resilience.

Finally, the perception of indigenous foods in terms of health and wellbeing was strongly agreed at 55.6% and agreed at 32.4%. This simply reflects the entrenched belief in the nutritional and medicinal values of indigenous foods, for which literature has time and again pointed to the role of traditional diets in promoting health Ayernor et al., 2019). This is supported by the qualitative

comments of the respondents; some saying, "*Indigenous foods help to cure diseases like malaria and stomach problems," and "We use them to keep our bodies strong and healthy."*

Hence, perception in the community about the value and origin of indigenous foods in northern Ghana is largely positive. The reasons for which indigenous foods are valued have to do with cultural identity, consumption, and health benefits.

Table 2: Community members' perceptions about the value and origin of indigenous foods

Perception Statement	**Level of agreement**				
	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Indigenous foods are essential to our culture and heritage	112 (51.9%)	72 (33.3%)	20 (9.3%)	8 (3.7%)	4 (1.8%)
Indigenous foods are commonly consumed in our households	98 (45.4%)	76 (35.2%)	26 (12.0%)	12 (5.6%)	4 (1.8%)
Indigenous foods are easily accessible in our community	45 (20.8%)	61 (28.2%)	34 (15.7%)	50 (23.1%)	26 (12.0%)
Our ancestors passed down indigenous foods to us	130 (60.2%)	50 (23.1%)	20 (9.3%)	10 (4.6%)	6 (2.8%)
Indigenous foods are beneficial for health and well-being	120 (55.6%)	70 (32.4%)	10 (4.6%)	10 (4.6%)	6 (2.8%)

Source: Field Data, (2018)

3.1.3 Indigenous Crops Known Across Generations of Respondents

Results across Table 3 detail the awareness and recognition of indigenous crops among grandparents, parents, and grandchildren. Dawadawa was most recognized by about 10.2%, 12.0%, and 11.1% among grandparents, parents, and grandchildren, respectively. This continuity may indicate that across most West African communities, Dawadawa is a culturally important crop

down through generations; it is likely to remain relevant due to its place in traditional diets (Ajayi et al., 2022). In contrast, Fonio is relatively less known by all generations, as evidenced by 3.7% for grandparents, steady 2.3% for both parents and grandchildren, which does indicate that the knowledge of this crop may be lost over time.

The Kersting groundnut variety also shows moderate awareness, though a little more among parents 8.3%, than among grandparents 6.9%, and grandchildren 6.9%. This may, therefore, imply a generational peak in awareness, considering it gained popularity in recent years as a healthier alternative. Less known crops, such as Persa and Sesame, are recognized by fewer people; from grandparents to grandchildren, the increase is small, possibly due to gradual awareness of their benefit or wider dissemination of information (Owusu & Mensah, 2021). Comparatively, other studies also identify that some traditional crops are invariably passed on from generation to generation owing to their cultural and dietary value, whereas others are more liable to being lost over generations (Adu-Gyamfi & Boadu, 2020; Adeyemi et al., 2023).

Table 3: Distribution of Indigenous Crops Known Across Generations of Respondents

Indigenous Crops Known	**Generation *f (%)***		
	Grandparents	**Parents**	**Grandchildren**
Dawadawa	22 (10.2)	26 (12.0)	24 (11.1)
Fonio	8 (3.7)	5 (2.3)	5 (2.3)
Kersting Groundnuts	15 (6.9)	18 (8.3)	15 (6.9)
Persa	7 (3.2)	8 (3.7)	9 (4.2)
Sesame	5 (2.3)	6 (2.8)	7 (3.2)
Total	**57 (26.4)**	**63 (29.2)**	**60 (27.8)**

Source: Field Data, (2018)

3.2 Conclusion and recommendation

This study concludes that indigenous foods are of high cultural, dietary, and health significance in Northern Ghana. It is reported that members of the communities have a very strong attachment to the foods since these symbolize aspects of cultural heritage, identity, and self-identify. A large number of the respondents reported that traditional foods are eaten regularly and perceived to contribute toward good health and well-being. The fact that knowledge of those foods has been passed from generation to generation reveals the position they hold in cultural continuity. Most of them, like Dawadawa, are well-known across generations, while some others, like Fonio, are not as widely known across generations, raising the issue of challenges in holding onto the knowledge of some crops. Moreover, while traditional foods continue to feature in daily diets, access to them raises issues perhaps symptomatic of more fundamental challenges; access to indigenous foods is restricted by seasonal availability and the continued rise in the consumption of commercial foods. With these in mind, and to enhance the conservation and use of indigenous foods in Northern Ghana, specific programs of education are required within Northern Ghana to raise awareness, particularly regarding crops that are underutilized, such as Fonio.

It also requires government support in the form of growing and commercializing such crops with incentives and access to markets. Integration of indigenous foods into public health initiatives helps demonstrate their nutrition values, while this is reinforced by documenting traditional knowledge led by the communities themselves and improving local market access. This should be followed by investment in research for the enhancement of crop productivity and marketability, while policies should be directed at protecting indigenous food systems that are part of Ghana's cultural heritage for sustainability and relevance.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interest.

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