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Production and Assessment of Soft, Sweet and Spicy *Kuli Kuli* (Peanut Cake) as a Tourists' Snack at Tourism Destinations in Nigeria

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Abstract

Gastronomic or culinary tourism is one of the special interest tourism that attracts many tourists to such destinations where food and beverages serve as the main tourist product or supporting product. Nigeria has variety of food products of local contents which can be utilised has tourist products. Kuli kuli production has been one of the special food heritages in Northern part of Nigeria which if well presented, can be developed for culinary tourism. This research is aimed at Production and assessment of sweet and spicy kuli kuli as tourists' snacks in popular tourism destinations in Nigeria. A sensory evaluation was carried out with 20 panellists randomly selected from the academia and tourism and hospitality outlets. In general, the panellists have accepted and recommended kuli kuli to be served as a tourists' snack in tourist destinations within the country. The producers and the tourism outfits like hotels, restaurants etc. should ensure that a tasty and well packaged kuli kuli is available for tourists' consumption.

Keywords: 'kulikuli, Production, Tourist, Snack, Tourism Destination

Introduction

Groundnut or peanut (Arachis hypogaea) originated from South America. It is a shot herbaceous annual plant which produces its pods in the soil. Groundnut was brought to West Africa through the slave trade. It is the 13th most important food crop of the world. It is also the 4th most important food source of edible oil and 3rd most important source of vegetable protein (Halilu, Filli & Haziel, 2012; Hammouns, 1994). Peanut is one of the

most popular commercial crops in Nigeria (Ibrahim, Singbe & Ibrahim, 2010). And the most popular product which groundnut is locally processed into in Nigeria is ***Kuli Kuli*** cake. In every part of Northern Nigeria, kuli kuli is widely produced and largely consumed in all parts of the country (Aletor, Oboh & Ojo, 2013)

Kuli kuli is a popular Nigerian snack made from groundnut widely consume in Nigeria and other West African Countries (Ogunbanwo, Olusola & Adeyemi, 2020). It is a by-product obtained after extraction of oil from groundnut. The cake is believed to be rich in proteins, carbohydrates, crude fibre and minerals (Oko, Abriba, Audu, Kutman & Okeh, 2015). It originated by the Nupe people of North Central Nigeria. It can be eaten either alone or with *garri* flakes, pap (*koko, akamu*) etc. It is also used as condiments for tsire and kilishi. *Kuli kuli* is generally rich in beneficial nutrients like carbohydrates, proteins, vitamins and minerals. It also contains magnesium, phosphorus and vitamin E. it is also high in fibre and fat. *Kuli kuli* also aids weight loss as the copper content present lowers bad cholesterol levels and burns excess fat.

Food plays a crucial role in tourism, as visitors often seek authentic and unique gastronomic experiences (Okpara, Nwosu & Adepoju, 2021). Dinning out is common among tourists and food is believed to rank alongside climate, accommodation, and scenery in importance to tourists. This is refers to as gastronomic/culinary/food tourism. It is tourists' pursuit of unique and memorable eating and drinking experiences. Gastronomy tourism is a high interest level in which tourists travel to a destination with the primary motive of visiting a specific restaurant, market or winery. All or nearly all the activities are food related. It is experiencing the food of the country, region or area, and is now considered a vital component of tourism experience (Alhaji, 2024). Snacking, which is often defined as consuming a food or drink between regular meals, is one of the characteristics of tourist in a destination area (Njike, Smith, Shuval, Shuval, Edshteyn, Kalantari & Yaroch, 2016).

Soft, sweet and spicy kuli kuli aligns with the growing trend of experiential and culinary tourism (Adegbite, Akinola, & Yusuf, 2023) by branding it as unique local delicacy, tourism destinations can offer it as a must-try souvenir. Additionaly, its nutrient-rich composition provides a healthy snack alternative, increasing its marketability. Nigeria with a wide range of culinary product can attract more tourists. This can be actualised by developing our wide range of cultural foods as a product for food tourism market.

This study is aimed at introducing a standardised *Kuli kuli* (peanut cake) as tourists' snack to be served in our hotels, restaurants and other catering outfits for tourists and visitors consumption.

METHODOLOGY

Materials used

i. Big bowl
ii. Pestle
iii. Mortar
iv. Working surface
v. Rolling pin
vi. Rolling board
vii. Basket
viii. Frying pan
ix. Perforated spoon
x. Pastry Cutter
xi. Packaging Nylon

Recipe

i. 2kg of groundnut
ii. 200g of sugar
iii. 50g of salt
iv. 75g of pepper
v. 50g of dried ginger
vi. 4 litres of water
vii. One medium size onion

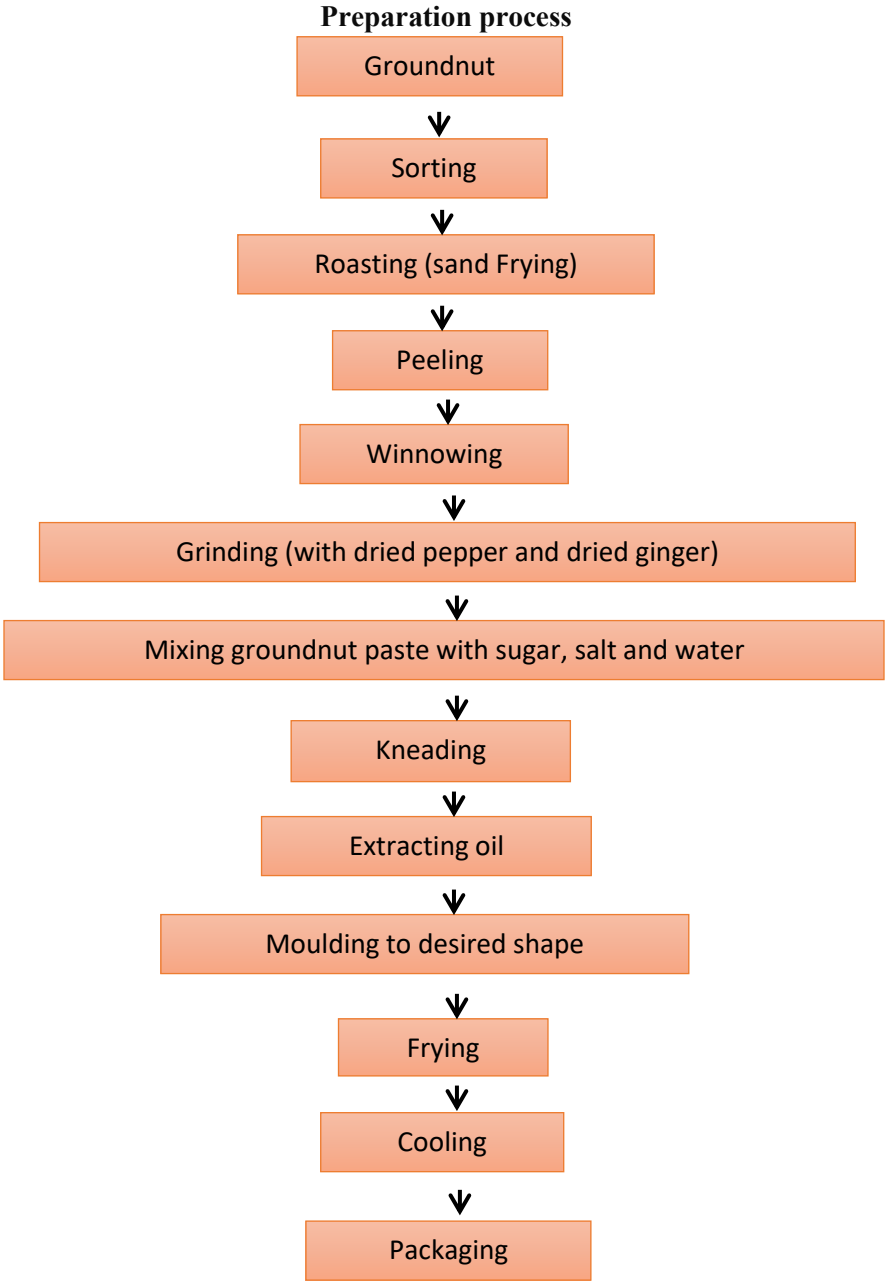

Figure 1: Flow Chart for the production of Kuli Kuli

Figure 2: Fried kuli kuli

Figure 3: Packaged kuli kuli

Sample Size of the Study

The study, utilizes quantitative approach, a random sample is adopted in chosen panelists. The selected sample gives information that represents the assessment of the populace in a pure survey. 20 sample size was obtained representing the Hospitality, Tourism and related organisation.

Method of Data Collection

The sample of the product was taking to the individual panellist for sensory evaluation. Questionnaires were also given to the panellists to give responses on the sensory attributes (appearance, colour, taste, aroma, texture and presentation/packaging), sustainability as tourist product and acceptability of Kuli Kuli as tourist product.

Result and Discussion

The respondents of the study were mostly males (60%) and mostly married representing (50%) of the total respondents. The larger percentage of respondents are relatively well educated with graduate and postgraduate certificates (70%). The respondents are mainly of the ages of between 41 and 50 (50%). The majority of the respondents work in public and private organisations (75%). And lastly, the hospitality professionals constituted the highest number of respondent (55%).

Table 1 shows the means (m), standard deviation (SD) and the overall mean for the panellists' responses. The highest means among the items were: m = 4.450 for item 2: 'The sweet flavor is well-balanced and not overwhelming'' with SD = 0.6048; follow by m = 4.050 for item 5: 'The color of the kulikuli is attractive and appetizing SD = 0.8870; then m = 3.900 for item 3: 'The spicy flavor is enjoyable and complements the overall taste' with SD = 0.7182. The lowest means among the items are: m = 3.000 for item 1 and 4: 'The texture of the kulikuli is soft and pleasant' with SD = 0.8335 and 'The aroma of the kulikuli is appealing and inviting' with SD = 0.9515.

The overall means for responses for sensory attributes is 4.000 and SD = 0.8870 which indicates that the panellists agreed with these variables as having the required sensory attributes.

Table 1 Descriptive Analysis for Sensory Attributes of Kuli Kuli
Respondents: Sensory Attributes (n=20)

Item No	Item	Mean (M)	SD
1	The texture of the kulikuli is soft and pleasant	3.800	0.8335
2	The sweet flavor is well-balanced and not overwhelming	4.450	0.6048
3	The spicy flavor is enjoyable and complements the overall taste.	3.900	0.7182
4	The aroma of the kulikuli is appealing and inviting	3.800	0.9515
5	The color of the kulikuli is attractive and appetizing	4.050	0.8870
	Overall Scores	4.000	0.7990

The study used descriptive analysis to establish the mean scores based on 5 point Likert scale (1-Very Unsatisfied to 5-Very Satisfied). The result indicates that the Sensory attributes has a positively nod from overall scores with mean score of 4.000. The main findings of this study, is the approval of the sensory attributes of the product to be introduced as tourist snack in our tourism destination.

Table 2 shows the means (m), standard deviation (SD) and the overall mean for the panellists' responses on Suitability as a Tourist snack. The highest means among the items were: m = 4.650 for item 1: 'The kulikuli is unique and stands out as a local snack'' with SD = 0.4894; follow by m = 4.500 for item 2: 'The combination of soft, sweet, and spicy flavors makes it appealing to a diverse audience' SD = 0.6070; then m = 4.360 for item 5: 'The kulikuli represents the local culture and cuisine effectively' with SD = 0.5871. and next is m = 4.000 for item 4: 'The packaging is convenient and enhances its appeal as a tourist snack' with SD = 0.4588. The lowest means among the items are: m = 3.550 for item 3: 'The portion size is suitable for a snack' with SD = 1.0990.

The overall means for responses for sensory attributes is 4.210 and SD = 0.7657 for Suitability as a Tourists Snack which indicates that the panellists agreed with these variables as suitable to be used as tourists snack in our destinations.

Table 1 Descriptive Analysis for Suitability as a Tourist Snacki
Respondenses: Suitability as a Snack (n=20)

Item No	Item	Mean (M)	SD
1	The kulikuli is unique and stands out as a local snack	4.650	0.4894
2	The combination of soft, sweet, and spicy flavors makes it appealing to a diverse audience	4.500	0.6070
3	The portion size is suitable for a snack	3.550	1.0990
4	The packaging is convenient and enhances its appeal as a tourist snack	4.000	0.4588
5	The kulikuli represents the local culture and cuisine effectively	4.350	0.5871
	Overall Scores	4.210	0.7657

The study used descriptive analysis to establish the mean scores based on 5 point Likert scale (1-Very Unsatisfied to 5-Very Satisfied). The result indicates that there is a general recognition for its Suitabilty as a Tourists Snack has with overall mean score of 4. The main findings of this study shows general recognition for the product to be recommended as suitable for tourist snack in our tourism and hospitality outlets.

Table 3 shows the means (m), standard deviation (SD) and the overall mean for the panellists' responses on Overall Acceptance of the product. The highest means among the items were: m = 4.400 for item 3: 'I would purchase this kulikuli again'' with SD = 0.5026; follow by m = 4.350 for item 1: 'I would recommend this kulikuli as a tourist snack' with SD = 0.6708. The lowest means among the items are: m = 4.200 for item 2: 'The overall quality of the kulikuli meets my expectations' with SD = 0.4104.

The overall means for responses for Overall Acceptance is 4.317 and SD = 0.5279 which indicates that the panellists have accepted the introduction of soft, sweet and spicy kuli kuli as a tourists snack at our tourism destinations.

Table 1 Descriptive Analysis for Overall Acceptance

Responses: Overall Acceptance (n=20)

Item No	Item	Mean (M)	SD
1	I would recommend this kulikuli as a tourist snack	4.350	0.6708
2	The overall quality of the kulikuli meets my expectations	4.200	0.4104
3	I would purchase this kulikuli again	4.400	0.5026
	Overall Scores	4.317	0.5279

The study used descriptive analysis to establish the mean scores based on 5 point Likert scale (1-Very Unsatisfied to 5-Very Satisfied). The result indicates that there is a general acceptance for the product's Sensory Attributes and its Suitability as a Tourists Snack with overall mean score of 4.317. The main findings of this study shows general recognition and acceptability of the product and to be recommended as suitable for tourist snack in our tourism and hospitality outlets.

CONCLUSION

The diversification and standardisation of kuli kuli into soft, sweet and spicy variants represent a promising avenue for enhancing its appeal as a tourist snack. By addressing the associated challenges and leveraging the opportunities, stakeholders can promote cultural heritage, stimulate local economies and provide tourists with unique and enjoyable culinary experiences. Nigeria has varieties of food which can be presented and served in tourist destinations. Most of these food elements can be prepared and presented to attract many tourists whose interest is on gastronomy tourism. With introduction of such unique food preparation styles, the future of Nigeria as a food tourism destination is bright.

RECOMMENDATIONS

- Tourist outfits in the nation should accept and serve kuli kuli as snack in their establishment for tourists.
- Food technologists in the country should carryout research on how best kuli kuli can be preserved for a longer period and safely.
- The government (Nigeria Tourism Development Corporation (NTDC)) should encourage both the caterers and tourist establishments to dwell into how to make Nigeria a Food Tourism Destination.
- Future research should be carried out to dwell into standardising the quality and safety of taking kuli kuli.
- Future research should also be carried out to measure tourists acceptance of the producte

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