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**STANDARDIZED EXISTING TRADITIONAL BAMBARA  
FLOUR RECIPES FOR NORTHERN GHANA**

**WITH NUTRITION INFORMATION**

**Submitted under the DFID/CPHP/FRI Bambara Processing and  
Utilization Project**

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**MARCH 2003**

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## INTRODUCTION

Bambara groundnut (*Vigna subterranean*) is an important source of protein, and is complementary to staple cereals which are low in certain essential amino acids. It also has significant levels of calcium and phosphorus. It was ranked the second most important grain legume in Ghana after cowpea. For many years in Ghana, production and utilization was slightly ahead of cowpea, but the introduction of high yielding varieties of cowpea and improved methods for controlling cowpea field pests led to the neglect of bambara. The cooking properties of bambara is an important factor which has led to a decline in its utilization, especially in the urban centres of Ghana. Observations indicate that the water absorption capacity of bambara is very poor as compared to cowpea, and the thick testa could be responsible for this. This results in long cooking periods and the effort and time required to cook and process bambara, in addition to the large quantities of water and especially, fuel needed cannot be afforded by many homemakers.

The need for the development of appropriate bambara processing technologies to address the problems with utilization and consequent decline in production was first identified under CPHP project R6503 by farmers in northern Ghana who attributed the decline in production of the crop to lack of processing technologies capable of removing the drudgery involved in its utilization. Subsequently, appropriate technologies were developed under CPHP project R7581 and these were assessed at a stakeholders' workshop in February 2002 where the urgent need was identified for extensive and effective promotion of the bambara flour technology as the most effective means to enhance bambara utilization and stimulate resurgence in its cultivation for improved livelihood.

Under a new coalition partnership arrangement for the dissemination of the bambara flour production technology in northern Ghana, it is considered very necessary to expand the utilization base of the product through the development of more end uses. As a first step, this report documents the existing traditional recipes for bambara flour in northern Ghana. It also provides relevant information on the nutritional benefits of these recipes.

## TRADITIONAL BAMBARA RECIPES

### 1. BAMBARA OBKORE (NYONGBEEKA)

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara flour	400 g	2 cups
Cooking oil	250 g	¼ bottle
Salt petre (Kanwe)	3.7 g	1 teaspoon
Beans Leave	140 g	2 bundles
Onion	160 g	1 large
Salt	to taste	to taste
Pepper	to taste	to taste

#### Method

1. Pound bean leaves and kanwe until mashy
2. Mix bean flour with pounded bean leaves
3. Make balls out of the mixture
4. Wrap in leaves and steam
5. Heat oil, add onions, pepper and salt
6. Serve hot

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	77.2	11.0
Fat (g) ... ..	26.4	3.8
Carbohydrates (g) ... ..	268.6	38.4
Calcium (mg) ... ..	574.7	82.1
Iron (mg) ... ..	35.6	5.1
Vitamin A (µg) .. ..	2,564	366.3
Thiamin (mg) ... ..	1.33	0.2
Riboflavin (mg) ... ..	0.73	0.1
Ascorbic acid (mg) .. ..	115.8	16.5
Niacin (mg) ... ..	10.0	1.4
Energy (Calories) ... ..	1,617	231

## 2. BAMBARA KOOSE

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara flour	200 g	1 cup
Cooking oil	500 g	½ bottle
Pepper	10 g	4 fingers
Thyme	5 g	3
Shallots/Onion	80 g	4 medium/2 small
Salt	to taste	to taste
Black Pepper	2 g	½ teaspoon
Ginger	to taste	A pinch

### Method

1. Clean, break and hull bambara
2. Mill into flour
3. Clean onion and other spices and grind into paste
4. Mix bambara flour with a little water and beat until dough is light and fluffy
5. Add spices to bambara paste and mix thoroughly
6. Put oil in a saucepan and allow to heat
7. Drop small balls of the paste into oil and fry until golden brown
8. Remove and drain off the oil
9. Serve hot or cold with porridge

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	36.4	13.0
Fat (g) ... ..	13.0	4.6
Carbohydrates (g) ... ..	130.9	46.7
Calcium (mg) ... ..	173.7	62.0
Iron (mg) ... ..	15.8	5.7
Vitamin A (µg) .. ..	20.4	7.3
Thiamin (mg) ... ..	0.6	0.2
Riboflavin (mg) ... ..	0.2	0.1
Ascorbic acid (mg) .. ..	8.5	3.0
Niacin (mg) ... ..	4.5	1.6
Energy (Calories) ... ..	785.1	280.4

### 3. BAMBARA MANGUOLO

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara	600 g	3 cups
Cooking oil	500 g	½ bottle
Onion	160 g	2 medium
Salt	to taste	to taste
Pepper	to taste	to taste

#### Method

1. Soak, dehull and dry bambara
2. Mill into flour
3. Mix into paste and beat till fluffy
4. Add ground onions, pepper and salt to taste
5. Drop small balls of the paste into oil and fry until golden brown
6. Serve hot

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	107.3	14.1
Fat (g) ... ..	38.5	5.1
Carbohydrates (g) ... ..	379.7	50.0
Calcium (mg) ... ..	476.6	62.7
Iron (mg) ... ..	47.0	6.2
Vitamin A (µg) .. ..	25.4	3.4
Thiamin (mg) ... ..	0.2	0.1
Riboflavin (mg) ... ..	0.7	0.1
Ascorbic acid (mg) .. ..	10.6	1.4
Niacin (mg) ... ..	13.0	1.7
Energy (Calories) ... ..	2,291	301.5

#### 4. BAMBARA SAWALA

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara	600 g	3 cups
Cooking oil	For frying	For frying
Salt petre	to taste	to taste
Salt	to taste	to taste

#### Method

1. Mill bambara into flour
2. Mix flour with water to thicken mixture
3. Add a little potash and salt to taste
4. Heat oil in a sauce-pan
5. Fry in bits (very small balls) till golden brown. Allow to cool
6. Serve with stew, boiled rice or pound and add to soups.

NB: It can be preserved between 1-4 weeks

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	105.9	17.7
Fat (g) ... ..	38.1	6.4
Carbohydrates (g) ... ..	370.6	61.8
Calcium (mg) ... ..	444.8	74.1
Iron (mg) ... ..	46.6	7.8
Vitamin A (µg) ... ..	-	-
Thiamin (mg) ... ..	1.7	0.3
Riboflavin (mg) ... ..	0.6	0.1
Ascorbic acid (mg) .. ..	-	-
Niacin (mg) ... ..	12.7	2.1
Energy (Calories) ... ..	2,245	374

## 5. BAMBARA GABLEE

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara flour	600 g	3 cups
Kokonte (optional)	160 g	½ cup
Onion	160 g	1 large
Groundnut oil or shea-butter	232 g	½ cup
Salt petre (ground)	3.7 g	1 teaspoon
Sesame seed (powdered)	100 g	½ cup
Pepper	to taste	to taste
Water	for steaming	for steaming
Salt	to taste	to taste
Leaves or sponge for steaming	for steaming	for steaming

### Method

- Put water on fire to heat slowly. Sieve bambara flour into a mixing bowl
- Add a little water and beat batter till fluffy. Add kokonte (optional) and salt petre and mix well. Add enough water and mix into batter. Put on fire.
- When water begins to boil, wash sponge or leaves and put in pot or saucepan to form a bed for the gablee
- Fetch half hand-full of batter and arrange over steamer on leaves or sponge. Allow water to boil over first layer, arrange second layer over the first allowing water to boil over before another layer is added till the batter is finished. Cover and cook for 30 min.
- Mix pounded sesame seed, pepper and salt
- Chop onions and fry in oil till brown
- Serve gablee in dishes, sprinkle spices over, then followed by oil and onion or serve with gravy

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	109.6	11.9
Fat (g) ... ..	38.5	4.2
Carbohydrates (g) ... ..	508.0	55.2
Calcium (mg) ... ..	567.0	61.6
Iron (mg) ... ..	53.2	5.8
Vitamin A (µg) .. ..	25.4	2.8
Thiamin (mg) ... ..	1.7	0.2
Riboflavin (mg) ... ..	0.7	0.1
Ascorbic acid (mg) .. ..	10.6	1.2
Niacin (mg) ... ..	14.2	1.5
Energy (Calories) ... ..	1,810	305

## 6. BAMBARA TUBANI

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara flour	600 g	3 cups
Kokonte (optional)	160 g	½ cup
Onion	160 g	1 large
Groundnut oil or shea-butter	232 g	½ cup
Salt petre (ground)	5 g	1 teaspoon
Sesame seed (powdered)	100 g	½ cup
Pepper	to taste	to taste
Water	for steaming	for steaming
Salt	to taste	to taste
Leaves for steaming & wrapping	for steaming	for steaming

### Method

1. Put water on fire to heat slowly
2. Sieve bambara flour into a mixing bowl, add a little water and beat until light and fluffy.
3. Add kokonte (optional) and salt petre and mix well.
4. Add enough water and mix into batter
5. Fetch handfuls or spoonfuls and wrap in leaves and steam for 30 minutes
6. Cut tubani to desirable pieces and serve just like gablec

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	109.6	11.9
Fat (g) ... ..	38.5	4.2
Carbohydrates (g) ... ..	508.0	55.2
Calcium (mg) ... ..	567.0	61.6
Iron (mg) ... ..	53.2	5.8
Vitamin A (µg) .. ..	25.4	2.8
Thiamin (mg) ... ..	1.7	0.2
Riboflavin (mg) ... ..	0.7	0.1
Ascorbic acid (mg) .. ..	10.6	1.2
Niacin (mg) ... ..	14.2	1.5
Energy (Calories) ... ..	2,811	306



## 7. BAMBARA BENTINTAARI/TENDAR

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara flour	600 g	3 cups
Kokonte (optional)	160 g	½ cup
Onion	160 g	1 large
Groundnut oil or shea-butter	232 g	½ cup
Salt petre (ground)	5 g	1 teaspoon
Sesame seed (powdered)	100 g	½ cup
Pepper	to taste	to taste
Water	for steaming	for steaming
Salt	to taste	to taste
Leaves or sponge for steaming	for steaming	for steaming

### Method

1. Put water on fire to heat slowly
2. Sieve bambara flour into a mixing bowl, add a little water and beat until light and fluffy.
3. Add konkonte (optional) and salt petre and mix well. Add salt petre and mix
4. Add enough water and mix into batter
5. Smear paste on a pot and steam for 10 – 15 minutes
6. Serve by sprinkling spices and oil or serve with gravy

APPROXIMATE NUTRITION INFORMATION		
Component	Total	Per 100g
Protein (g) ... ..	109.6	11.9
Fat (g) ... ..	38.5	4.2
Carbohydrates (g) ... ..	508.0	55.2
Calcium (mg) ... ..	567.0	61.6
Iron (mg) ... ..	53.2	5.8
Vitamin A (µg) .. ..	25.4	2.8
Thiamin (mg) ... ..	1.7	0.2
Riboflavin (mg) ... ..	0.7	0.1
Ascorbic acid (mg) .. ..	10.6	1.2
Niacin (mg) ... ..	14.2	1.5
Energy (Calories) ... ..	2,811	306

## 8. BAMBARA BENN SAWELE

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara flour	100 g	½ cup
Roasted corn meal	100 g	½ cup
Bean leaves (powdered)	240 g	4 cups
Kanwe (salt petre)	15 g	1 desert spoon
Onion	160 g	2 medium
Pepper	10 g	1 desert spoon
Salt	10 g	1 desert spoon

### Method

1. Wash and pound bean leaves with kanwe (salt petre)
2. Mix roasted corn meal and bambara flour with pounded leaves
3. Add a little water, form balls and steam
4. Season oil with onion, and pound salt and pepper together
5. Break steamed balls; add seasoned oil, pepper and salt.
6. Mix well and serve hot.

### APPROXIMATE NUTRITION INFORMATION

Component	Total	Per 100g
Protein (g) ... ..	36.5	6.1
Fat (g) ... ..	10.1	1.7
Carbohydrates (g) ... ..	158.1	26.4
Calcium (mg) ... ..	506.3	84.4
Iron (mg) ... ..	22.0	3.7
Vitamin A (µg) .. ..	4,350	725.0
Thiamin (mg) ... ..	0.6	0.1
Riboflavin (mg) ... ..	0.7	0.1
Ascorbic acid (mg) .. ..	190.6	31.8
Niacin (mg) ... ..	6.3	1.1
Energy (Calories) ... ..	868	145

## 9. BAMBARA WEANIMIX

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara	2.2 kg	1 American tin
Groundnut	2.2 kg	1 American tin
Corn	8.8 kg	4 American tins

### Method

1. Roast bambara, groundnuts and corn separately
2. Dehull roasted groundnut and bambara, mix with roasted corn and mill into flour
3. Add bambara flour, and mix well to obtain bambara weanimix
4. This is used for the preparation of traditional breakfast porridges

### APPROXIMATE NUTRITION INFORMATION

Component	Total	Per 100g
Protein (g) ... ..	1,739.2	13.2
Fat (g) ... ..	1,475.5	11.2
Carbohydrates (g) ... ..	8,426.0	63.8
Calcium (mg) ... ..	3,573.0	27.1
Iron (mg) ... ..	4,459.0	33.8
Vitamin A (µg) .. ..	-	-
Thiamin (mg) ... ..	6.2	0.1
Riboflavin (mg) ... ..	11.7	0.1
Ascorbic acid (mg) .. ..	931.9	7.1
Niacin (mg) ... ..	233.0	1.8
Energy (Calories) ... ..	55,439	420

## 10. BAMBARA WEANIMIX PORRIDGE

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara weanimix	200 g	1 cup
Salt	to taste	to taste
Sugar	to taste	to taste

### Method

1. Mix bambara weanimix with water
2. Add salt and bring to boil while stirring continuously to avoid formation of lumps
3. Allow to boil at low heat for 10 – 15 minutes
4. Add sugar to taste and serve

### APPROXIMATE NUTRITION INFORMATION

Component	Total	Per 100g
Protein (g) ... ..	26.4	2.1
Fat (g) ... ..	22.4	1.8
Carbohydrates (g) ... ..	127.6	10.2
Calcium (mg) ... ..	54.2	4.3
Iron (mg) ... ..	67.6	5.4
Vitamin A (µg) .. ..	-	-
Thiamin (mg) ... ..	0.1	0.02
Riboflavin (mg) ... ..	0.2	0.02
Ascorbic acid (mg) .. ..	14.1	1.1
Niacin (mg) ... ..	3.5	0.3
Energy (Calories) ... ..	840	67

## 11. SPICED BAMBARA WEANIMIX PORRIDGE

INGREDIENT	QUANTITY	HANDY MEASURE
Bambara weanimix	400 g	2 cups
Pepper (ground)	5 g	1 teaspoon
Ginger (ground)	5 g	1 teaspoon
Sugar	to taste	to taste

### Method

1. Mix bambara weanimix with water and bring to boil
2. Mix ground pepper and ginger together and strain well
3. Add strained spices to porridge and mix well
4. Allow to boil at low heat for 10 – 15 minutes
5. Add sugar to taste and serve

### APPROXIMATE NUTRITION INFORMATION

Component	Total	Per 100g
Protein (g) ... ..	26.4	2.1
Fat (g) ... ..	22.4	1.8
Carbohydrates (g) ... ..	127.6	10.2
Calcium (mg) ... ..	54.2	4.3
Iron (mg) ... ..	67.6	5.4
Vitamin A (µg) .. ..	-	-
Thiamin (mg) ... ..	0.1	0.02
Riboflavin (mg) ... ..	0.2	0.02
Ascorbic acid (mg) .. ..	14.1	1.1
Niacin (mg) ... ..	3.5	0.3
Energy (Calories) ... ..	840	67