Nutritional Potential of Traditional Food Products for the Nutrition of Young Children of dryland Zones

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Background

- Global change processes lead to complex transformations that strongly affects the food environment of people in drylands and makes it difficult for them to adopt a quality diet for a healthy and active life (Fratkin, 2001; UNCCD et CFC, 2009; Sadler et al. 2010).
- Young children are the most vulnerable: malnutrition and micronutrients deficiencies leaving irreversible sequelae throughout their life in drylands in general and North Benin in particular (WHO, 2012).
- However, there are a number traditional foods used by local communities (bariba, peulh, Boo Gando) that might have a high nutritional value and could be used as local solutions to improve children's diets and nutrition.

Goal

- Assess the nutritional potential of traditional children's foods with a view to identify those that are highly nutritious and can counter micronutrient deficiencies.

Methods

- Study areas: 12 villages of Nikki and Banikoara municipalities in North Benin
- Transdisciplary approach involving societal actor (mothers), social nutritionist and foods technology researchers: 2 traditional food fairs, 2 group sessions and 10 individual interviews with women and mothers.

Photo : Traditional food fairs

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- Out of 41 traditional foods exhibited at the fair, 09 staples foods were selected by mothers according to their nutritional perception and to make them as an generating incomes activity.

Photo: Some traditionnal foods selected

- The selection of foods was made during discussion sessions with the mothers. In addition to these foods, the three main foods accompanying basic foods were considered bringing the number of foods to 12

Photo : Staple food product selection session

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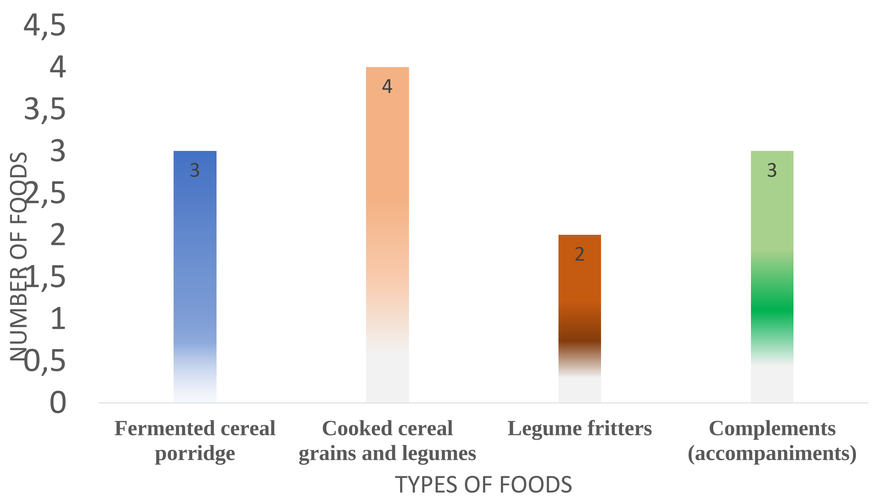
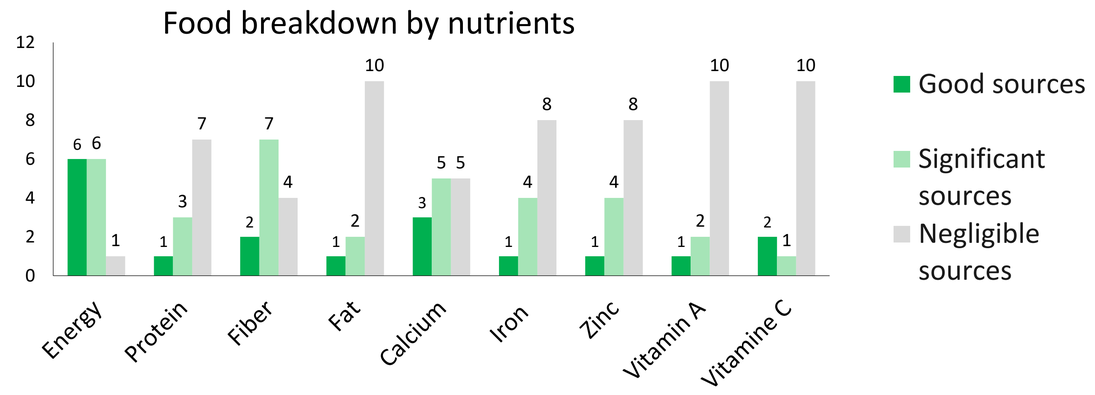
- The staples foods were cooked according to traditional recipes
- We used the West African Food Composition Table (FAO, 2012) to estimate the preliminary nutritional values of foods, before supplementing with laboratory analyzes using standard food analysis methods (AOAC, 2005; AOCS, 2009) to determine the dry matter, proteins, lipids, fibers, total ash, total energy, Iron, Zinc, Calcium and Vitamins A and C.

Preliminary Results

- The foods selected can be ranked in 4 categories



- Nutritional value of selected foods



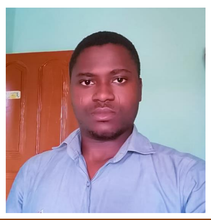
- The staples foods are rich in energy, fiber and calcium for some ones and low in iron, zinc, and vitamins A and C.
- Accompaying foods like African locust bean pulp and dried moringa leaf are rich in fiber, calcium, iron, zinc and vitamins A and C

Aliments	Energy (kcal)	Dry matter (g)	Protein (g)	Fat (g)	Carbohydrates (g)	Fiber (g)	Ash (g)	Ca (mg)	Iron (mg)	Zn (mg)	Vit A-RAE (mcg) UI
Kpankpanu (fermented millet porridge)	87	22,08	2,7	1,02	15,66	2,22	0,48	8,4	2,34	0,354	0
Wagarou (Cooked corn and cowpea grains)	125	32,94	4,44	1,23	22,87	3,76	0,67	11,5	1,58	0,858	0
Sotè Kokoli (Cooked corn and cowpea grains)	128,5	33	4,25	1,275	23,125	3,75	0,625	10,75	1,5	0,81	0
Brum Su kodè (Baked sorghum grain and flour in paste form)	267,4	68,48	7,8	1,66	53,16	4,46	1,46	11,2	2,92	1,62	0
Kodè Balgui(sorghum grain plundered and cook in butter)	223,2	43,93	3,51	11,44	24,57	3,69	0,72	9	1,44	0,756	0
Soru mora/Bohiri lamouni (fermented sorghum prridge)*	337	84,425	0,975	0,4	81,825	1,025	0,2	2,5	0,4	0,21	0
Soru mora/Bohiri lamouni (fermented corn porridge)*	333	83,325	0,825	0,375	81,1	0,925	0,1	1,75	0,275	0,1425	0
Sotè(grains de maïs entier cuit)	129,98	36,077	3,395	1,552	23,862	3,589	0,679	6,79	1,164	0,5626	0
Kaladjè afuludjè/ Kiaru bakuru (Steamed cowpea flour donut)	113,45	32,876	6,802	0,579	18,563	3,771	1,256	21,38	2,598	1,4622	1,59
Kaha Gbara (Cowpea flour fritter fried with shea butter)	114,46	65,863	6,887	0,582	18,721	3,783	1,261	21,34	2,619	1,4841	0
African locust bean, flour from fruit, pulp	333	92,3	4,6	1,3	69	13,3	4,1	162	4	1,1	44
Dried moringa leaf	339,1	94,1	27,2	6,3	26,8	19,4	11,1	2098,1	28,3	5,4	14300
Cow milk	65	12,3	3,4	3,7	4,4	0	0,8	120	0,05	0,39	33

Conclusion

- The nutritional potential of traditional foods in the dry areas of northern Benin shows that staple foods are rich in energy from carbohydrates (cereals), in fiber, not negligible in proteins (as cowpeas) and poor in essential vitamins and minerals for good nutrition for young children. Although there are accompaniments to these foods such as African locust bean pulp or dried moringa leaves which are good sources of essential vitamins and minerals for children; the latter are under-used and little valued, and find themselves increasingly neglected in favor of other imported accompaniments.
- It is therefore important to improve the values of essential vitamins and minerals in basic foods and to promote accompaniments such as African locust bean pulp or dried moringa leaves in children's diets to improve their nutrition.

CONTACT INFORMATION



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