

*Improving potato production for increased food security of
indigenous communities in Colombia*

Characterization of potato consumption pattern
in rural families from Nariño province

Sara Del Castillo Matamoros

*improving potato production for increased food security of
indigenous communities in Colombia*

Third parties



Collaborators



Universidad de Nariño



Alcaldías municipales:

- Carlosama
- Cumbal
- Guachucal
- Pasto
- Túquerres

Subproject's team

- **Sara Del Castillo Matamoros** : Leader of the nutrition sub-project. ND, licentiate in Chemistry, Educational and Social Development MSc, PhD in Social Sciences, childhood and youth. Public nutrition professor, coordinator Centre for Food Safety and Nutrition OBSAN.
- **Patricia Heredia**: Co-researcher, in charge of the component of epidemiology. ND, Epidemiologist.
- **Gloria Johanna Bustos**: ND, Masters student of clinic epidemiology.
- **Nancy Catalina González**: ND. sub-project assistant.
- **Claudia López**: Exchange student in nutrition, McGill university – UNC.

Justification



Fuente: <https://commons.wikimedia.org/wiki/File:Colombia-deps-narino.svg>

- ✓ 32% of Nariño's economy is based on agriculture.
- ✓ Potato's production corresponds to 84% of agricultural production.
- ✓ The department of Nariño is the third largest potato producer.

- ✓ According to the ENSIN (Encuesta Nacional de Situación Nutricional 2005-2010 → national survey of nutritional situation 2005-2010), potato is part of this region's most frequently consumed foods.
- ✓ There is no data available for distinct populations such as the indigenous.

- ✓ Therefore it is impossible to evaluate potatoes' nutritional input as a food source of energy and nutrients.

- ✓ Potato is part of the consumption pattern of the families of Nariño, and is acquired through purchase or cultivation



General Objective

Characterize food intake in native potato production communities in Nariño.

SPECIFIC OBJECTIVES

1. Characterize pattern of consumption of the rural families in selected municipalities.

2. Characterize the calorie and nutrient intake of the rural families, among the population aged from 2 to 64 years.

3. Characterize the participation of the different varieties of potato in the food consumption of the potato-growers' population aged from 2 to 64 years.

4. Assess the nutritional status, by anthropometry of the population aged from 0 to 64 years in selected potato-growing families.



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SPECIFIC OBJECTIVES

Cont.

5. Evaluate the influence of the inclusion of improved native potato in food intake of children from 2 to 4 years old, in reference to the serum retinol levels.

6. Develop a manual of good dietary practices of the potato-growing families linked to the ECAs.

7. Establish strategies to promote public policies in order to incorporate the project results.



Some related theoretical keys

1. Food intake of the population:

- Only 42.3% of the population consume dairy products daily,
- 63% consumes fruits daily, and 75.1% meats and eggs (data from the ENSIN 2010 for Nariño y Cauca, littoral not included)
- 69.4% of the population of the Pacific region consume tubers and plantains daily.

2. Nutritional situation

Under 5 years old (Nariño)

16.9% chronic malnutrition

1.1% Acute malnutrition

Adults (Nariño)

1.1% Malnutrition

3.9% Global malnutrition

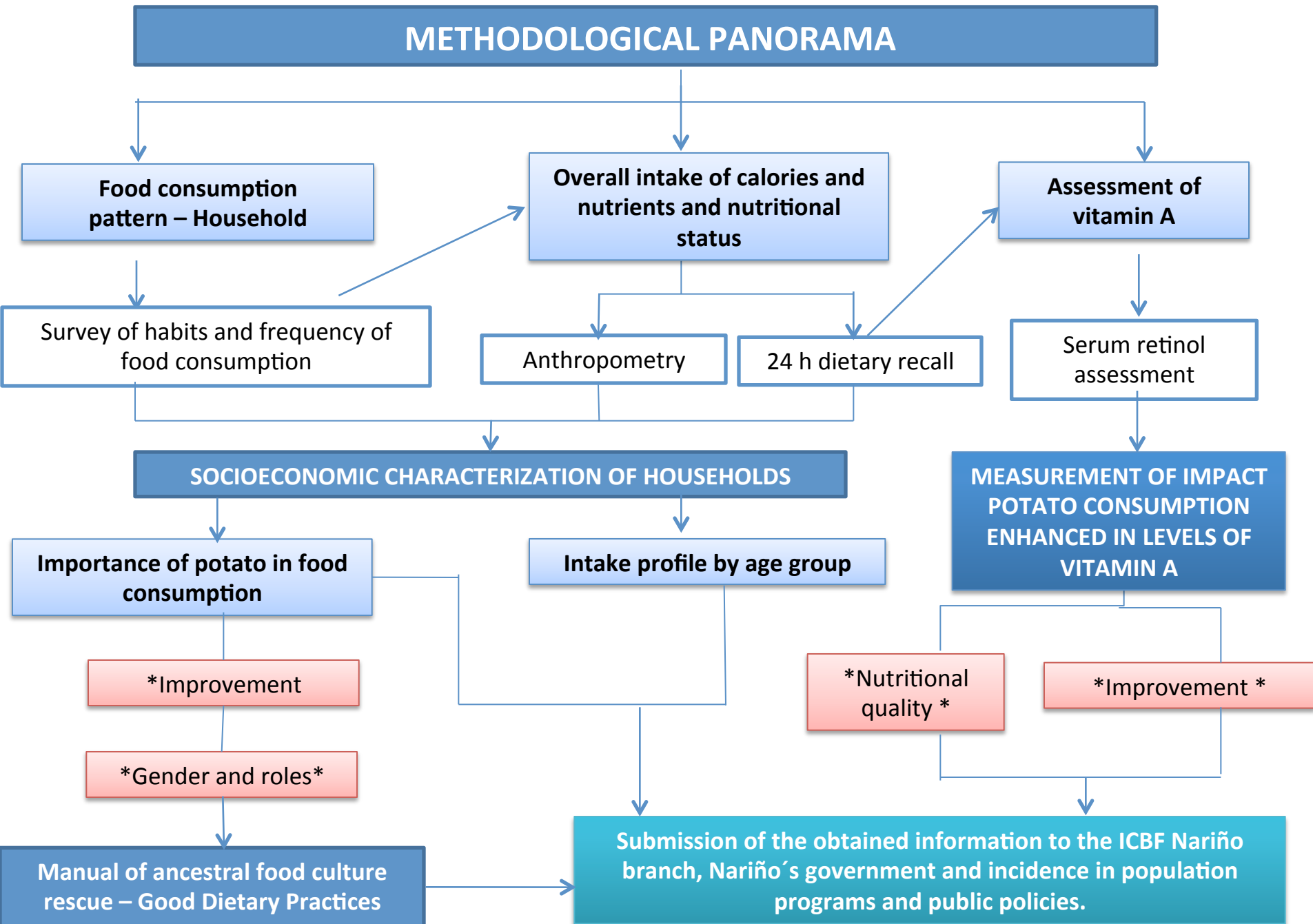
25.4% Overweight; 4.6% obesity

36.6% Overweight; 16.4% obesity

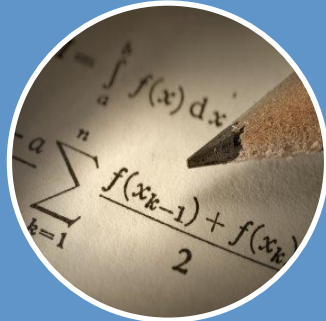
3. Deficiency of Vitamin A

- Nationally 5.9 % of children between 1 and 4 years old show a deficiency of vitamin A, Rural areas show higher deficiency .
- This result was of 18.4% for the Nariño's and Cauca regions, littoral not included

METHODOLOGICAL PANORAMA



OBJECTIVES 1-4 METHODOLOGIES



Determination of the households the sample in the 5 municipalities



Application of
1. Questionnaire of families' characteristics, socio-economical aspects, consumption habits of household (householder)



Application of the 24h dietary recall to the selected house members



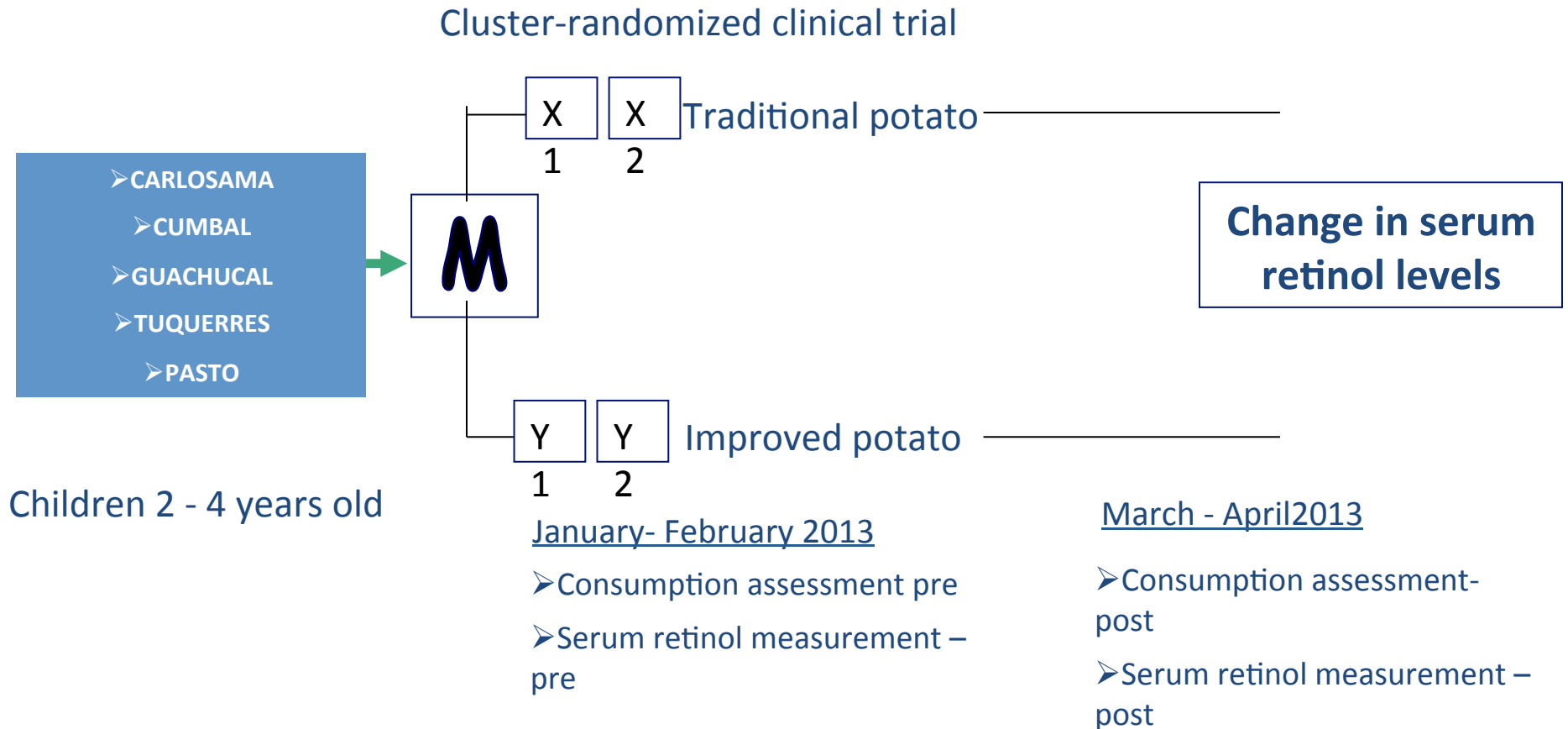
Anthropometric measurements



Standardization of foods and portions

OPERATIONAL FIELD

OBJECTIVE 5: METHODOLOGIES



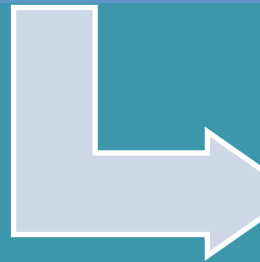
Correlation association analysis of consumption of native potato improved with higher serum retinol levels of retinol.

OBJECTIVE 6: METHODOLOGY

Food memory recovery (focus groups, social work articulation)



Household's survey: characterization of food consumption pattern



Manual of Good Dietary Practices

OBJETIVE 7: METHODOLOGY

TRANSVERSAL TO ALL PROJECT'S MATTERS

Participation of local, institutional or community organizations

- Development of relating strategies in order to achieve actions' synergy for research – Action
- Create spaces of dialogue, agreement, and information with local stakeholders

Articulation of the executive institutions of public policies

- Submission of the obtained information to the ICBF, Nariño's regional, municipal city halls
- Incidence in local public policies: Incorporation of research's results in the regional and local institutional offer.

EXPECTED RESULTS

Pattern of consumption of the potato-growing families of the 4 municipalities..

Caloric and nutrient Intake profile by age group

Proportion of calories and micronutrients of different varieties of potato on the population's diet by age.

Nutritional Status of the members of the potato-growing families by age group, included in the ECAs.



EXPECTED RESULTS Cont.

Effects of improved native potato consumption in the intake of vitamin A in children from 1 to 4 years old , in reference to the serum retinol levels..

Manual of good dietary practices of the potato-growing families linked to the ECAs.

Presentation and Submission of the research's results to entities such as the ICBF, and other entities that run food programs to promote the use of enhanced native potato in the diets..

Improved native potato varieties with diffusion in marketing and promoting scenarios of their consumption in the average diet of Colombian families

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TECHNOLOGY TRANSFER

- Adoption and adaptation of food figures*, support of the dietary assessment by 24 hours dietary recall for rural areas of Nariño
 - Evaluation techniques of serum retinol and vitamin A intake, of to point.
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- Modules of good nutritional practices provided to native potato-growing families linked to the ECAs.
 - Assessment protocol for the contribution of the target food (native potato), to the diet.

