

## CALALOU

### Can Local Agriculture help improve the nutritional quality of food and reduce the environmental impact in GuadeLOUpe?

#### ABSTRACT

Understanding how local agricultural production can meet the food and nutritional needs of a territory and participate in the sustainability of the food system is becoming a primordial issue in our societies. In addition to the interest for local economic development, the hypothesis is that a local food supply can contribute to a more positive environmental balance under certain conditions (e.g. logistics optimisation, or more environmentally friendly farming practices).

In Guadeloupe, the agricultural sector is highly specialized in export crops and the local supply of products for the domestic market does not cover the demand (ODEADOM, 2018, Marzin et al., 2021). In parallel, Guadeloupe is facing urgent public health issues with increasing rates of obesity and nutrition-related chronic diseases (NCDs) accompanied by a profound change in the diet structure (Méjean et al, 2020).

The CALALOU project is based on the idea that the food supply is one of the major determinants of dietary behaviors. From there, the objective of the project is to test scenarios and propose solutions to maximize the contribution of local agriculture in Guadeloupean diet and nutrition in a sustainable way. To do so, we will use a fork-to-farm approach developed by Verger et al. (2018) based on usual food consumption and examine how the improvement of this consumption affects the food system. We will (i) identify the necessary and possible changes to improve the nutritional quality of diet in the general population and food supply in school canteens, from local products; ii) study consumer preferences for these local products and the capacity of stakeholders to coordinate themselves to meet the demand of school canteens; iii) define scenarios of increased demand for local agricultural production and simulate these scenarios to assess the impact of these changes on the organization of production system; iv) quantify the environmental impacts that would result from this increase in local food production, v) organize a meeting with local stakeholders of the food system to build a strategy plan for public policies. The overall concept of the CALALOU proposal rests on multiscale analysis of the food systems allowing a deep integration of disciplines (economics, nutrition, agronomy, environmental sciences, geography) that will bring valuable knowledge on various components of the Guadeloupe's local food system. The outputs from this project will help stakeholders identify the most appropriate strategies to develop local agriculture providing healthy nutrition for the Guadeloupe's population.

**Keywords :** Food, Nutrition, Local agriculture, Environmental impact, Health, Guadeloupe

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**Project number :** 2101-002

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**Project type :** AAP

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**Flagship project :** no

**Project leader :** Sophie Drogué

**Project leader's institution :** INRAE

**Project leader's RU :** MOISA

**Budget allocated :** 190000 €

**Total budget allocated ( including co-financing ) :** 190000 €

**Funding :** Labex

#### GOAL

The aim of the CALALOU project is to develop an interdisciplinary innovative "fork-to-farm" approach (Verger et al., 2018) in order to analyse the capacity of local agricultural production to respond to an objective of improving the nutritional quality of food in Guadeloupe, while limiting the impacts on the environment. This approach aims to: (i) identify the dietary changes needed to improve the nutritional quality of diet, (ii) study the capacity of agricultural production to provide food products to satisfy these changes without increasing its environmental impact, and (iii) assess the acceptability and feasibility of these changes by the actors of the food system. CALALOU would be the first consortium to study the food nutrition-agriculture-environment nexus using nutrition as a lever for the relocalisation of food in Guadeloupe. CALALOU will offer a broader knowledge to Guadeloupe's local stakeholders about the way to reconnect the various elements of the local food system.

## **ACTION**

- WP0: Project management, communication and dissemination
- WP1: Improving the nutritional quality of Guadeloupean diet with local food supply
- WP2: Increasing local product in school catering
- WP3: Individual preference for local products
- WP4: Assessing impacts of optimised local supply scenarios to meet demand
- WP5: Elaboration of a repertoire of actions and final seminar