

2 ZERO HUNGER



## END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

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The CNRS supporting the 2030 Agenda – a few examples:

**Food has always been an elementary concern for human societies. Hunting, fishing, gathering and then agriculture have developed over time and helped improve people's living conditions. Over the last 20 years, they have helped to halve the number of undernourished people in the world. In the face of climate change and the rise in environmental (droughts, floods) and health crises, along with geopolitical conflicts, globalization and growing urbanization, ensuring food security for the most vulnerable is a real challenge. If we are to sustainably reduce malnutrition and undernourishment, we need to consider population growth, resource management, behavioural change and agricultural practices when designing development policies and actions to be implemented at territorial level.**

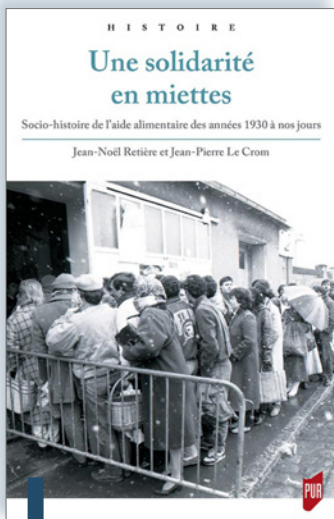


SUSTAINABLE DEVELOPMENT GOALS

### SOCIAL HISTORY OF FOOD AID FROM THE 1930S TO THE PRESENT DAY

Tackling food emergencies has long been a task for the international humanitarian organisations and, here and now, there is a cry for help. Over recent decades, growing poverty levels have triggered wide-scale mobilizations leading to a reconfiguration of the long-standing organisations and the creation of new initiatives.

Combining historical and sociological approaches and going back to the 1930s, research has been questioning the forms of commitment, sourcing methods, the uses and the messages that accompany the donation of food taken off the market in the name of solidarity.



*Une solidarité en miettes* ('Solidarity in Tatters'), by Jean-Noël Retière and Jean-Pierre Le Crom with support from the Law and Social Change (DCS) Laboratory and the Nantes Centre for Sociology, 2018.

### FOOD: AN INTERDISCIPLINARY RESEARCH TOPIC

Feeding ourselves is a vital, social, cultural and symbolic act. The CNRS has set up a 'Food' research network to lead the work required to decode food systems, practices and behaviour and the underlying beliefs and norms. This network endeavours to decrypt the dynamics at play and the changes occurring today. This also means providing a historical perspective and conducting research into areas such as the interactions between people and their environment, globalization and population ageing. In their reflections and research, the network members look at life paths as a whole and more particularly at insecurity and socialization processes.

**Find out more:** [lejournal.cnrs.fr/articles/comprendre-les-ressorts-du-changement-alimentaire](http://lejournal.cnrs.fr/articles/comprendre-les-ressorts-du-changement-alimentaire)

## FOOD AND HEALTH

Specializing in health ecology, a research team from the Hubert Curien Pluridisciplinary Institute (IPHC) in Strasbourg studies the role of environmental factors in the genesis of human obesity, which is characterized by an inability to use dietary lipids as an energy-giving substrate. Anomalies in the use of fatty acids in people with obesity are identified after weight loss, indicating that they could be the source of and contribute to the establishment of excess weight. Understanding the factors underlying these anomalies, studied in populations from different parts of the world and in extreme environments, is necessary before we can develop prevention or treatment strategies.

Find out more: [www.iphc.cnrs.fr](http://www.iphc.cnrs.fr)

## FOOD, WATER AND AGRICULTURE: GLOBAL CHALLENGES

The Groundwater project provides an analysis of the vulnerability and adaptability of new forms of groundwater-irrigated agriculture in Maghreb.

Funded by the Agence nationale de la recherche, this project was put forward by researchers from the Laboratory of Social Dynamics and Spatial Reconstruction (LADYSS) and analysed the vulnerability of farming methods using groundwater when faced with environmental, economic and social changes. It led to the development of methods to improve individual and governance practices in the regions in question.

Find out more: [www.ladyss.com](http://www.ladyss.com)

## OVALIE: A PLATFORM TO STUDY EATING BEHAVIOURS IN CONTEXT

OVALIE was created to help understand how physical and social contexts influence eating behaviours. It is a modular platform (where researchers can recreate a family dining room, restaurant, plane cabin, etc.) equipped to collect data with cameras, microphones and automated processing software. The situations, interactions and behaviour related to food and eating thus recorded can then be analysed and the effects of contexts and social interactions evaluated. The platform helps further research into the acceptance of food innovations and into food-related socialization phenomena.

Find out more: [certop.cnrs.fr/plateforme-experimentale-ovalie-shs/](http://certop.cnrs.fr/plateforme-experimentale-ovalie-shs/)

The CNRS makes an active contribution to national and international expert evaluations of agricultural systems and pollinators such as those produced by the French Evaluation of Ecosystem Services (EFESE) [www.fondationbiodiversite.fr](http://www.fondationbiodiversite.fr) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) [www.ipbes.net](http://www.ipbes.net)

## AGRICULTURAL SYSTEMS AND POLLINATORS

Biodiversity and ecosystem services are the pillars of world food production. Soil and water quality, efficient pollination and the sanitary quality of food are the most visible pointers to how sensitive the agricultural ecosystems underpinning our food, our health and our economies are. These systems are threatened by the intensification of agricultural practices, the use of certain farm inputs and the effects of climate change. Their vulnerability weakens our societies. A large number of researchers in biology, chemistry and the environmental, human and social sciences have been mobilized to try and understand the complex processes behind the collapse in bee colonies, for example.



## NEW FOOD SECTORS

The project known as Plaisir (an acronym that means pleasure in French but stands for local production of immersed, healthy, innovative and renewable foods) aims to encourage the emergence and structuring of a new food sector based on micro-algae. The project is run by the start-up Alg & You which explores the possibilities of applying their fresh micro-algae production system at an industrial level. Its partners include the Biological Systems and Biological Engineering (LISBP) laboratory from Toulouse, which leads ecophysiological studies of the conditions required to produce micro-algae for food.

Alg & You, the project leader, designs local spirulina and fresh micro-algae production systems. The start-up is hosted by the INSA engineering school in Toulouse.

Find out more: [alg-and-you.com](http://alg-and-you.com)

CNRS  
3, rue Michel-Ange 75016 Paris - France  
+33 1 44 96 40 00  
[www.cnrs.fr](http://www.cnrs.fr)

Contact : [agenda2030@cnrs.fr](mailto:agenda2030@cnrs.fr)