Relax

Promoting resilience in the African rural households : Food ABSYSs at a crossroads

ABSTRACT

In the cotton-cereals producing areas in West Africa, the improvements in cereal production achieved during the last decades are widely acknowledged. Yet, progress in yields and agricultural incomes has not been matched by better nutrition outcomes. While the levels of caloric intakes have improved, malnutrition in family farms remains pervasive.

Keywords : Diet Diversity, Burkina Faso, Resilience, Farm Households

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Project leader : Sandrine Dury
Project leader's institution : CIRAD
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GOAL

The project aims to assess the linkages between production diversity, natural resources, market and dietary diversity, incorporating a time perspective (including seasonality over the year but also a more long-term perspective to address resilience aspects of the households' trajectories), and accommodating for individual as well as collective (at the household and the farm level) perspectives. It aims to develop different conceptual tools to model what we coin a "local food system", and to collect original in-depth fieldwork data to give empirical content to these conceptual tools. Based on fieldwork conducted in the Tuy region of Burkina Faso, the project aims to identify opportunities and bottlenecks, at the individual, household, and farm level, to maintain an adequate level of dietary diversity, both year round and over the long term. Finally, the project aims to contribute to the design of "nutrition-sensitive"agricultural interventions as well as "agricultural sensitive" nutrition interventions, to better harness those opportunities and address the bottlenecks.

ACTION

Overall, the project methodology relied on two features: interdisciplinarity and mixed methods. We believe that this helped us formulate better research questions and hypotheses, design better fieldwork tools, and produce better and more relevant knowledge for the scientific and development communities. Interdisciplinarity was embedded in the project from the beginning, since the team gathered scientists from nutrition, agronomy and farming systems, household economics, geography, socio-anthropology, political sciences, modelling, and "resilience thinking". It was particularly mobilized at two moments of the methodological cycle (several cycles could run parallel or sequentially, as will be detailed below) : 1.

When designing and discussing the fieldwork tools ; 2. When discussing and interpreting the results. We provide two examples to illustrate this.
The first example deals with the analysis unit.
Mixed methods included quantitative and qualitative data collection and analysis, action-research activities, as well as more abstract modelling. The mixed method strategy was justified on two grounds. First, by the pluridisciplinarity of the project and the pool of competence that the project could rely upon (with some disciplines more akin to quantitative approaches, e.g. economics and nutrition; some more akin to qualitative, e.g. socio-anthropology; some already used to mixing the two, e.g. farming systems and resilience thinking). Second, by the ambition to produce relevant and high-quality empirical data, articulating different time frames (to account for seasonality and longer term' trends), opening black boxes (as referred above), and providing convincing explanations of the processes and rationales underlying the identified statistical trends.
The project was conducted over a non-random sample of 42 farms in 3 villages of the Tuy region (not included in the abovementioned survey sample). The farms were selected based on a set of criteria to cover a range of ethnicities, farm sizes, and family structures. This strategy aimed to capture the diversity of agricultural production and food organization (regarding decision-making, control of assets, and flows of inputs and outputs), and therefore implied to start with a qualitative assessment of the households' organization.

RESULTS

Dietary diversity is very low, which raises strong public health stakes. Nutritionally important food groups (eggs, dairy, pulses) are absent from diets. However, dietary diversification is not identified as a problem either at the policy or at the household level, where the focus on cereal availability prevails.
There are several ways to reach the dietary diversity threshold set by public health nutritionists as a minimum level of diversity for a population to cover the micronutrients requirements. The main channel is through markets (and thus to monetary income, often associated with farm specialization), but there are many combinations with self-consumption (linked to some degree of farm diversification, and access to « nature », i.e. natural animal or vegetal resources from the forest, bushes, trees, rivers, resources that are not privately owned. The seasonality of production and sales impacts the availability span of perishable fruits and vegetables, and generates purchasing power fluctuations over the year for a given household.
Gender matters. Because women are responsible for the sauces that come with the main cereal dish (maize « Tô »), women are de facto in charge of the household dietary diversity. Women's access to economic resources was found to be associated with higher dietary diversity.

PERSPECTIVES

We feel there is a need to go deeper into (1) disentangling the structures behind the different units of analysis (the farm, the household), and (2) documenting the decisional processes and the flows of inputs and outputs that occur within those units through different timeframes. The work done by the agronomists of the project (see deliverable D9 and Bruelle et al 2021) is very innovative and could pave the way for similar endeavour by other disciplines as well.While the project demonstrated the relevance of a gender lens, the results are still exploratory, calling for a more in-depth, intersectional gender approach, in order to document (1) differentiated and potentially conflicting goals, conditions of access to resources and decisiomaking, (2) the nature of the relationships (bargaining, cooperation, conflict etc.) between women and men, and between women themselves. This calls for an approach that considers jointly men and women within the household, in order to identify where trade-offs and friction might lie. This will also require to acknowledge the heterogeneity of empowerment status, context and rationales among women, as well as intersectionality (e.g. generations). Some analysis of the data collected within the project are still ongoing, which open short-term perspectives. The 300 households database indeed allows to go deeper in the gender analysis, incorporating variables about status within the household (e.g. polygamy) and the farm (e.g. generational status), as well as variables intended to elicit the rationales underlying food decisions and practices. Together with data from another project in Senegal,

the Relax project data will be used to feed a new Cirad-funded project aiming to improve the measurement of participation and autonomy of women in decision making within households in Sub-Saharan Africa (Bourdier, 2022).
There is also a need to keep working on diversity metrics. While nutritionists have a standardized metrics for dietary diversity, this is not the case for production diversity, agrobiodiversity, market diversity, and so on. This situation makes generalization and comparisons difficult, although they are much needed in a context where diversity is a keystone of other research domains, such as agroecology and the transformation of food systems. Devising indicators as standardized as those of the nutritionists' might not always be necessary, but we should at least be able to go beyond myopic and project-specific metrics that do not acknowledge the advances made in other research fields More dialogue across disciplines would certainly be helpful to devise such metrics.

Finally, the connexion of the agriculture-nutrition nexus with resilience thinking could be taken a step further. Three paths could be worth exploring: (1) expanding the timeframe and/or the geographical scale of the project, (2) expanding the multi-agent model and assess the sensitivity of the cooperation and the bargaining models to market, production and/or natural hazards, and (3) linking the results of the project with other projects dealing with environmental stakes associated with agriculture (e.g. agroecology).