

31. The use of rapid rural appraisal methodologies in development research: The experience of the centre regional pour le développement et la Santé Republic of Benin

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This paper again demonstrates the frequent overlap in methodological descriptions of RRA and RAP. Specific findings relate to a study on obstacles to household food security in West Africa. After presentation of several papers at the RAP Conference by African researchers who had previously attended an IDRC sponsored workshop on Rapid Rural Appraisal, the distinctions between RAP and RRA as defined in that earlier workshop became obscure. The RRA principle of "optimal ignorance" in this paper is gauged in terms of curtailing information based on a desire to "cut costs while delivering timely information." However, there appears to be little difference in this concept as described from that of any reasonable researcher in gathering a sufficient amount of information to make the judgements which are the focus of a study. - Eds.

THE CENTRE REGIONAL pour le Développement et la Santé (CREDESA) has acquired considerable experience in primary health care and community financing since its inception in 1983. During this period, the Centre has been carrying out health and development activities in three of ten communes of the Ouidah District of the Republic of Benin with plans to extend its activities to the remaining seven communes. Rapid rural appraisal of the community nutrition problems in the area are ongoing. The main aims of this study were to identify obstacles that could jeopardize food security and to develop opportunities for improving food supplies.

The results of the study, which was funded by the International Development and Research Centre (IDRC) were used to develop an action-oriented research project proposal to achieve nutritional improvement through an intersectoral approach.

Objectives of the study

The objectives were to:

1. Identify factors that limit food production;
2. Identify the main problems in post-harvest systems;
3. Study local marketing systems and find opportunities for income generation;
4. Assess the nutritional status of children 0-3 years of age;
5. Identify community structures and organizations through which community participation and initiative could be enhanced.

Methodology

Design of the study

This rapid rural appraisal of community nutrition problems was conducted in two phases in 23 of 40 villages in the Ouidah District: from June to the end of July (main rainy season) when shortages occur, and from September to the end of October 1990 (short rainy season) when food is abundant. The study period, including planning, field work, analysis, and report writing, covered ten months. The research team began by constructing a conceptual framework that provided a clear outline of the complex relationships among food production and distribution, income, health care, sociocultural factors and nutritional status in the study area.

Study area

The District of Ouidah comprises three different ecological zones: littoral, marshlands and plateau. The villages included in the study were spread over each zone to avoid "road-side tourism" [1].

Composition of team

While experience from other studies [2] recommended small teams, efforts were made to ensure multi-disciplinarity within each team. The composition of teams per zone type was as follows:

LITTORAL One agro-economist, one physician/nutritionist, one social worker

MARSHLANDS One agronomist, one economist/environmentalist, one physician, one specialist in fish farming

PLATEAU One agronomist, one economist, one physician, one nutritionist, one sociologist, one social-worker

Techniques of data collection

Each team used the same information gathering techniques: semistructured interviewing, direct observations, focus group discussion, mapping and diagramming, and ranking techniques.

Mode of data collection

Team members spent one week in each village during each phase of the study. Results of the first phase were reported back to the community and decisions were made during village assembly meetings as to which priority actions were to be taken as follow-up of the RRA study.

Results

Main activities

In the littoral zone, people are mainly fishermen. Food production is limited because of the sandy and salty soils. However, people produce some vegetables, such as tomatoes, and raise small animals, mainly pigs. Coconut plantations are common and coconut oil extraction is potentially an important income source for women. In the marshlands, people are also fishermen, using the lagoons and lakes. Salt extraction is an important income generating activity for both men and women. Vegetable production (tomatoes) is greater than in the littoral zone. Coconut and oil palm plantations are common, and women spend a fair amount of time extracting coconut and palm oil. In the plateau zone, small holder agricultural activities predominate. The main crops are maize, beans, cassava, groundnuts, and a variety of local vegetables. Pigs, goats and chickens are also raised on a small scale by almost every family.

Main problems identified

The RRA teams identified problems in the areas of food crop production, animal husbandry, fishing, post-harvest systems, food and nutrition, and income-generating activities, such as salt extraction.

FOOD CROP PRODUCTION Important limiting factors affecting agricultural production were:

1. The presence of marshland that considerably reduces the potentially cultivatable land area;
2. The confiscation by the government of vast areas of arable village land on the plateau to develop industrial coconut and oil palm plantations;
3. Low soil fertility related to sand, salt, and over-cultivation;
4. Colonization of important arable land areas by weeds, especially *imperata cylindrica*;
5. Destruction of crops and seeds by rodents.

ANIMAL HUSBANDRY The two main problems consistently cited by villagers were: high animal morbidity and lack of technical assistance from animal husbandry specialists.

FISHING Three main problems related to fishing were:

1. Use of fishing techniques that do not spare small fish, leading to fish scarcity in lakes;
2. Demographic pressure, as more and more people engage in fishing, reducing fish availability in both lakes and lagoons;

3. Increased silting in lakes and lagoons.

POST-HARVEST Post-harvest losses of maize, the staple crop, were estimated at 30% to 50%. Problems included:

1. Attack by insects and micro-organisms;
2. A lack of efficient technology for processing and preserving tomatoes;
3. The inability to store coconut oil for more than a month, after which quality deteriorates.

FOOD AND NUTRITION Strong beliefs prevent mothers from giving appropriate diets to their children; insufficient availability of food; low purchasing power.

SALT EXTRACTION Salt extraction is an important activity in littoral and marshland zones. The traditional wood burning technology of salt extraction was hampered by lack of firewood and deforestation.

Recommendations

Based on discussions of these findings in the regular post-survey community assembly, the following preliminary recommendations were made:

Immediate strategies for nutritional improvement

1. Contact the Ministry of Agriculture to obtain technical assistance for farmers to get rid of rats and other rodents;
2. Undertake home-based nutritional rehabilitation for malnourished children.

Short-term strategies: Improve agricultural practices

1. Introduce Velvet beans (*mucuna pruriens*) and other legumes to improve fertility conditions of agricultural soils;
2. Improve post-harvest practices (oil extraction);
3. Find a way to improve salt-extraction technology to avoid deforestation;
4. Introduce nutrition and health education.

Long-term strategies

Introduce income generating activities; avoid practices harmful for the environment.

The use of RRA in development research: Potentials and limitations of the approach

Advantages of RRA:

1. The approach is participatory in nature. It enables a team, within a very short time, to gather useful information on community nutrition problems and to design community based interventions to alleviate malnutrition and poverty.
2. The approach is holistic. RRA aims at coping with complexity, diversity and interdependency. It recognizes the problems and the context in which they occur. Understanding the context is crucial, as one of the participants in the Senegal Training Workshop³ put it:

"I am learning not only the methodology, but a whole new way of looking at a research problem. In the past when I went to villages I only asked questions about soybean processing. I did not worry much about anything else. Now when I go to the villages, of course I'll still ask about soybeans, (but) I am seeing that many other things are just as important to understanding the problem."
3. The RRA approach is flexible. It is not a standardized method but a systematic approach to problems and identification of opportunities for improvement.
4. Its iterative nature provides opportunity for researchers to ask relevant questions as the interview progresses.
5. One of its core principles is triangulation. This principle allows researchers to use a variety of tools and techniques, to integrate different disciplines within the same team and to draw information from a range of people representing different segments of a population.

Use of specific techniques

1. During the RRA exercise, the teams tried a wealth-ranking technique. Overall, once the purpose was clearly explained, informants did not refuse to classify all households according to their own perceptions of wealth. This technique was useful in identifying the different socio-economical groups in a village without having to determine people's actual incomes. This technique can serve as a basis for targeting interventions to the most needy people.
2. Drawing village maps on the ground proved to be an interesting exercise done with full participation by some of the villagers.
- 3 The use of semi-structured interviewing not only allows respondents to elaborate their ideas, but it also invites researchers to pay more attention to the context.

Problems faced by team members during the RRA exercise

Contrary to the experience from the RRA training in Senegal¹, some of the tools and techniques posed difficulties. Abstract concepts also caused problems. Defining the level of "optimal ignorance" and "appropriate imprecision," which was necessary to be reasonably confident in the information collected, proved difficult in the field.

There were several serious concerns raised by team members during our RRA field work. These were:

Scope of inquiry

How far should we go in the breadth and depth of the information to be collected? The information gathered on identical issues by the three different teams working on the same topic differed considerably in depth and breadth. Similar issues on the scope of RRA studies arose during the Senegal Training Workshop¹.

Optimal ignorance

How do we deal with the principle of "optimal ignorance?" One important concern in doing RRA is to cut costs while delivering timely information. This requires researchers to accept the concept of "optimal ignorance." Optimal ignorance, according to McCracken², implies that both the amount and details of information required to produce useful results in a limited period of time should be kept to a minimum. The aim of a multidisciplinary team is to arrive at an agreed sufficiency of knowledge relevant to the objectives of the RRA and not to exceed this by investigating irrelevant aspects or being concerned with unnecessary detail.

In order to achieve this researchers require considerable experience and good analytical skills to gauge the information and really stay with what is relevant. This is often difficult as interviews can become interesting and respondents often collaborate so well that team members become distracted and find themselves pushed beyond the bounds of relevance.

Appropriate imprecision

What level of precision is needed? "Appropriate imprecision" may be considered a subcategory of optimal ignorance¹. In using the RRA approach, researchers should accept a certain level of inaccuracy. This caused heated debates among team members. Many were not at ease with only qualitative information without quantification or the possibility to perform statistical analysis. This mainly reflected the backgrounds of team members, who mostly had backgrounds in biological, medical, and economic fields.

Finality of results

Are the results of RRA final answers? The issue of comprehensiveness and the information gained to give a "final answer," were concerns during the RRA exercise. Many team members tended to think that they had come up with absolute answers. The team supervisor had to make it clear that RRA does not aim to provide "absolute answers" but rather "best bets." Some researchers question the use of RRA results for policy prescription [3]. We believe that the use of RRA information for generating policy recommendations particularly in the fields of agriculture and nutrition, should be done carefully and even more so a study period does not allow for observation of seasonal factors.

Sample size

What about sample size and representatives? Many colleagues at CREDESA question the sample size of interviewed households. This criticism may relate to a condition when people are not yet fully familiar with the principles and rationale of RRA. In fact, RRA does not attempt statistical replication, but through triangulation one can approach "truth" by using several sources and means of gathering information.

Other difficulties were found in "wealth ranking" and the language of training material. In villages with more than forty households it was often difficult for key informants to remember each household head while performing wealth ranking. The team tended to do wealth ranking in each hamlet. Among researchers who conducted the study in Benin only one was bilingual. The lack of literature on RRA in French was a serious handicap despite efforts to translate some concepts.

Conclusion

Rapid rural appraisal conducted in 23 villages of the Ouidah District in Benin not only helped the Centre Regional pour le Développement et la Santé to gain a better understanding of community nutritional problems and opportunities, but it also helped the team develop a framework for future interventions. As pointed by Kashyap and Young [4], the RRA approach can be very useful to those actively involved in development activities within the community. However, the challenge is in bridging the gap between collecting data, analyzing the results, and undertaking action to improve people's lives, and most importantly, those of poor rural people. They should not have to wait too long after an RRA exercise is over before some action is taken for their benefit.

Endnotes

1. Schoonmaker-Freudenberger K. Rapid rural appraisal and post-production systems research. A training experience. Report of a Training workshop held in Senegal, July 30-August 8, 1989.
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2. Beebe J. Rapid appraisal: the evolution of the concept and the definition of issues. In: Proceedings of the 1985 International Conference on Rapid Rural Appraisal. Rural Systems Research Projects. Khon Kaen, Thailand: Khon Kaen University, 1985.
3. Holtzman SJ. Rapid reconnaissance guidelines for agriculture marketing and food system research in developing countries. Michigan State University International Development Papers Working Paper #30. East Lansing, MI: Michigan State University, 1986.
4. Kashyap P. Young R. Rapid assessment of community nutrition problems: A case study of Parbhani India. Ottawa, Canada: IDRC, 1989.