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## The Program and the Field: Social Science in the Nutrition CRSP

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Over the last decade, social scientists have actively promoted perspectives that are both theoretically and practically complementary to other fields investigating human nutrition (e.g., Cattle and Schwerin 1985; Fitzgerald 1976; Fleuret and Fleuret 1980; Greene 1977; Greene and Johnston 1980). Nutrition as a discipline spans conceptual-theoretical, methodological, and empirical aspects of a broad range of interests, concerns, and academic fields. It can be approached from a variety of perspectives focusing on questions of production and consumption. Nutrition research increasingly involves collaboration among many disciplines, posing the familiar problems of achieving communication and common understandings. Experts from different disciplines have very different points of view, as well as differing scientific techniques and tools to apply to nutrition problems.

There cannot be a single optimum approach to explaining malnutrition; the ability to detect and respond to effects of inequities or inefficiencies in food acquisition, production, and consumption is imperative. A systems approach or a holistic perspective has often been offered to counter the narrow perspectives commonly applied to nutrition problems. However, these holistic approaches have not been consistently effective in organizing our knowledge or in manipulating our data on both the sociocultural and biomedical aspects of nutritional phenomena. Individual scientists and, more recently, multidisciplinary teams have attempted to combine the meaning and importance of both aspects. The Nutrition CRSP represents one such effort.

The results of such a complex research endeavor emerge from an interaction among scientific, sociocultural, and project contexts and not merely from a research design *per se*. Even when social scientists are less involved than are biological scientists in research design, they may nevertheless substantially influence adaptation of the design to the sociocultural and project contexts of a field study (e.g., Uquillas and Garrett this volume). These design adaptations are not a simple compromise, but an ongoing process in field situations. An important part of the field situation is

the project itself, a newly created context that CRSP anthropologists addressed through design and operational recommendations. Although in the late 1980s, analysis of Nutrition CRSP field data is just beginning, prior program phases illustrate the types of scientific integration that can be achieved and the range of social science contributions to those efforts.

Because the Nutrition CRSP is structured differently than the agricultural commodity CRSPs, I first describe the planning and program organization process. During the planning phase of the Nutrition CRSP, social scientists from a variety of disciplines (anthropology, sociology, political science, psychology, and economics) participated in a series of workshops to identify specific research issues; coauthored research proposals and the final planning report; reviewed proposals for individual projects under the Nutrition CRSP; and served in administrative roles. These programmatic and scientific activities were essential to the integration of biological and sociocultural aspects within the Nutrition CRSP and to the formulation of the initial program structure. A discussion of these activities follows the two descriptive sections on the Nutrition CRSP's development.

Next, a sampling of initial in-field social science contributions from one of the three Nutrition CRSP projects, the Kenya project, is presented. Field implementation of the Nutrition CRSP in Kenya involved a range of contributions from social scientists. However, here I limit discussion to social scientists' participation in site selection and their collaboration on most phases of in-field design and operations. These contributions brought the field situation into closer correspondence with the scientific context.

The conclusion discusses broader applications of the Nutrition CRSP social science experience to other situations and opportunities, including: research integration of multiple disciplines; organizational integration of a project within already extant structures; community preparation and participation; types and uses of results; and the constraints and responsibilities of baring a large, complex research study within a rural area. Additional social science contributions will become evident only through post-field data and policy analysis.

## **THE PROGRAM:**

### **DEVELOPING AND DEFINING THE NUTRITION CRSP**

The Nutrition CRSP grew out of a 1974 presidential request to the National Academy of Sciences (NAS) for recommendations "on how [U.S.] research and development capabilities can best be applied" to major worldwide hunger and malnutrition issues (Gerald Ford, cited in NAS 1977a:iii). NAS Study Team Nine was impanelled to define research priorities for human nutrition; it recommended determination of both energy needs and the effects of

substandard energy intakes as a priority (NAS 1977b). The team pointed out that the most widespread type of malnutrition appears to be inadequate food intake resulting in inadequate energy intake. The NAS ranked the relationship between food intake and human functioning first among the 22 priority areas documented by all 12 study teams. The Academy's steering committee review emphasized:

Nutrition is fundamental to human life, performance, and well-being. Levels of nutritional well-being both influence and reflect social and economic development in every country. . . . Presently, nutritional deprivation is doing immense damage to human lives and societies throughout the world. For a nation, widespread malnutrition can mean impaired physical and mental growth and development of its children, reduced working capacity and income of its adults, increased costs from disease and health care, and high death rates. The intangible costs of reduced human vitality may be even greater (NAS 1977a:59, 64).

With USAID support, in 1977 the Committee on International Nutrition Programs of the Food and Nutrition Board of the National Research Council held a workshop on potential research leading to a functional definition of nutritional status. Five major functional areas were identified: disease response, reproductive competence, work output, cognitive function, and social and behavioral function (Food and Nutrition Board, National Research Council 1978). To further define such areas and establish a research program, the University of California-Berkeley was awarded a planning grant by USAID in 1978.

### *Planning the Program and Guidelines for Research*

To determine what was known about the ways varied levels of marginal food-energy intake affect an individual's functioning in society, a multidisciplinary workshop on each of the five functional areas was held. Another purpose of these meetings was to develop an international and interdisciplinary multiproject research program. The workshops included about 80 scientific investigators from developing and developed countries, representing a range of disciplines. Two background papers were commissioned for each workshop, one from a social science viewpoint and one from a biological perspective. Both were to present state-of-the-art knowledge and to suggest research approaches.

The participant structure of these workshops encouraged consideration of social science research strategies and results. The various workshop recommendations attempted to clarify the nutritional research design and some of its sociocultural contexts. The research approach that emerged

differed from most previous human nutrition field studies in three ways: (1) nutritional status was replaced by food-energy intake as the independent variable; (2) the functional consequences of marginal (mild-to-moderate) malnutrition, contributing to the perpetuation of deficient intake, were incorporated into the research design; and (3) behavioral as well as environmental aspects and interrelationships within household units were considered integral parts of the study, as dependent rather than confounding variables.

Recommendations from the five functional workshops were reviewed with regard to feasibility, acceptability, importance, and relevance of such studies to developing countries (DCs) at a sixth workshop attended by experienced foreign investigators and staff from the World Health Organization (WHO) and the Food and Agriculture Organization (FAO) of the United Nations. Their report, "Précis: Collaborative Research Support Program on Intake and Function," emphasized DC perspectives (Calloway et al. 1980:5-6) and enumerated eleven important points: (1) the unit of study is the household; (2) the mother-child dyad is the logical focal point; (3) food intake is represented by energy (calorie) intake consisting of a range of habitual mildly to moderately restricted energy intakes; (4) resulting data are generalizable to nutrition problems in developing countries, and are not country-specific; (5) certain core research determinants are necessarily common to all Nutrition CRSP country projects; (6) food intake is the major independent variable; (7) nutritional status measurement is an explanatory intermediate variable; (8) selected study communities are to be politically and socially stable with low migration rates; (9) specific research topics are expected to have potential policy and program applications; (10) U.S. standards for human research are to be followed, including obtaining the informed consent of participants; and (11) beneficial services provided during the studies are to be maintained upon conclusion of the projects. Additionally, for scientific and ethical reasons, the précis strongly stated that the preferred CRSP research approach should be naturalistic rather than interventionist. In nutrition studies, the latter is an experimental, case control, or supplementation design.

The précis served as the guideline for all research proposals submitted to the Nutrition CRSP for review. In 1979, grant applications were sent to four peer reviewers representing epidemiology or statistics, nutrition with a medical orientation, nutrition with a biological sciences orientation, and social science or psychology. Next, the proposed projects were prioritized by a scientific advisory group. The resulting integrated collaborative research program plan gained USAID approval in mid-1980. Funding and administrative start-up occurred in September 1981. Central management responsibility rested with the Institute of International Studies at the University of California-Berkeley. The Nutrition CRSP hired its own senior

administrative staff independently of the institute, with daily central management handled mainly by various social scientists. This association with an international-oriented institute likely provided the Nutrition CRSP with an appropriately broader context than it would have had if situated within a medical or biological entity.

The program design incorporated three geographically defined research projects—Egypt, Kenya, and Mexico. Each addressed the same critical questions regarding relationships between levels of food intake and human physiological, behavioral, and societal functions. All shared common design elements or an initial core information base. Screening and community selection required that baseline surveys combine nutritional and socioeconomic indicators to estimate ranges of the major variables, plus anticipated rates of biological occurrences (such as births) and social occurrences (such as attrition). Other aspects of the core involved scheduling and coordinating observations, measurements, and other protocols for data collection. Some of these routines needed to be matched to biological and sociocultural events at the community, as well as the individual, level. Additional information such as the nature of family dynamics in relation to the major nutrition variables, was also required. This eventually called for the operational integration of clinical, biomedical, nutritional, and social science data routines.

Early consideration also was given to specifying collaborative formats to be utilized across projects prior to, during, and after fieldwork to ensure continued interaction of ideas, hypotheses, analyses, and other research outcomes. The promotion of collaboration was an important part of prefield deliberations. Although research findings from the Nutrition CRSP were expected to have scientific value, an equally important goal was to utilize overall program and specific project findings to develop policies and potential programs to lessen deprivation in the three host countries and elsewhere in the world.

During almost a decade of prefield development of the Nutrition CRSP, interest in the research priority regarding relationships between mild to moderate malnutrition and human functioning increased, partly through the awareness generated by involving a broad range of professionals in the CRSP. The narrowness and limitations of previous approaches, such as conventional anthropometric measures of human nutritional needs, were recognized. Elements of the research design were also linked to broader DC concerns, as well as to those of other policymakers and planners.

### *Social Science Participation in Program Planning*

Throughout the development of the Nutrition CRSP, anthropologists, sociologists, political scientists, psychologists, and economists made

significant planning and scientific contributions. Additionally, a number of socially relevant issues were introduced by CRSP biological and medical scientists.

*Programmatic and administrative contributions.* The planning process continually involved many social science disciplines in areas such as initial scientific recommendations to the NAS; CRSP development workshops, meetings, and consultations; and in review, advisory, and administrative positions. Social scientists were coinvestigators on many of the proposed projects, and the research proposals submitted reflected their influence. The three projects selected all had social scientists as principal investigators (PIs) or senior researchers.

Even prior to fieldwork, CRSP social scientists learned about the strengths, weaknesses, interests, and orientations of their fellow investigators and made use of such information in numerous meetings and discussions. As the CRSP was implemented, project investigators became adept at handling scientific and programmatic negotiations across disciplines. Indeed, all CRSP scientists learned valuable cross-disciplinary communication skills. But social scientists perhaps absorbed relatively more new information, having come from a social perspective into the center of a biomedical and nutritional program where, from the outset, biological scientists were more focused and knowledgeable on central nutritional issues. As social scientists gain more skill in these situations, they in turn can better educate their collaborating colleagues about social factors having nutritional consequences. This interplay not only sharpens social science contributions to biological research, but also points such research in socially meaningful directions.

During program development, several different viewpoints—epidemiological, anthropological, and analytical—were introduced. CRSP participants with an epidemiological perspective viewed thematic data collection as a primary research operation, whereas anthropologists expected a more flexible, field-informed design. Investigators with an analytical viewpoint emphasized early and close linking of data collection with analytical models and procedures. Negotiating these broad differences was an important process in CRSP development, especially since a PI from each project serves as a rotating member of a scientific coordination board. Additionally, successful coordination across the Nutrition CRSP's three projects required reaching consensus and a common understanding about the research program.

CRSP social scientists made a concerted effort to integrate social and biological perspectives during the planning phase. This was largely accomplished through substantial investments of time, early and continual interaction with biomedical scientists, social scientists' uniform and evident presence in research decisionmaking, and other responsibilities, such as peer review.

*The DC perspective.* Investigators from developing countries and international agencies also established the place of social science in the program. They stressed the social context by specifying the types of communities to be involved and the household as the relevant unit of analysis. Their firm recommendation for a naturalistic study also strengthened the position of field-experienced social scientists in the research program. By adopting U.S. human research guidelines, especially informed consent, their review raised another issue for social scientists. Anthropologists, for example, are experts on problems of informed consent in field studies and how to gain such consent in varied and complex cultural, educational, and other circumstances.

DC professionals also raised scientific and ethical considerations regarding the use of research results and the maintenance of community services that might be initiated during research. The use of nutritional research for application and policy purposes requires interpreting results for politicians, economists, a variety of social scientists, and biotechnical and medical personnel. Often these same professionals must be approached to continue community services established by projects. Therefore, biomedical and social scientists need to be able to interrelate their information and to foresee the implications of ongoing project operations. This can be effected only if social scientists are involved at a level commensurate with their other scientific colleagues.

*Contributions to research design.* The CRSP emphasizes nutritional research from a biomedical perspective, including traditional measures of nutritional status. This emphasis affected the role of social sciences within the program's scientific framework. Selection of the household as the major study unit exemplifies the evolution of the common design. Originally, the nutrition research was thought of as household-based, that is, as embedded in the dynamics of that social unit. The choice of which household members to study then arose since there was a biomedical requirement to focus on the food intake of specific individuals in relation to particular functional outcomes—e.g., mothers and their infants in relation to reproductive success and growth and development. Additionally, the choice of households evolved from efficiency considerations at a research and a field level. Finally, the household became important for the types of individuals it contained and for operational and logistical concerns. Thus, a biomedical focus and questions of research efficiency, rather than a social dynamics emphasis, shaped the Nutrition CRSP's use of the household.

Although both anthropology and medicine (including some fields of nutrition) are person-oriented, they examine people within very different contexts. Anthropologically, the person is viewed as a social entity with

attendant roles, statuses, and responsibilities, who inhabits an environmental, organizational, and institutional milieu. Medically, the person is viewed much more individualistically, often both as patient and problem (Cattle 1981). Units commonly are framed biologically, e.g., as a reproductively active adult pair or as a nursing female. Another aspect of viewing the person medically is that each individual accumulates a corpus of data, an empirical history of attributes. The milieu is absent, as are sociocultural processes.

Social scientists thus have a difficult task. There are usually few opportunities to insert social theory into a scientific framework already considered adequate to accommodate nutritional research. In the Nutrition CRSP, however, the biomedical research came to be seen as so daunting that sociocultural complexities were added to the scientific discourse in certain, somewhat expectable, ways. For example, social scientists provided necessary predictions about the phasing, sequencing, and rate of the research that affected study design. Not surprisingly, part of their work was to furnish background data, too. However, CRSP social scientists also were able to build ongoing social data collection into the research design in conjunction with the biomedical procedures. Because most of the original CRSP social scientists had training or research experience in nutrition, they were more influential in integrating methods and issues in social research with the variety of nutritional techniques required by the design. Another familiar role for social scientists is facilitating implementation of the R&D design. In the Nutrition CRSP, this contribution was made more challenging and anthropologically interesting because social scientists had been brought in at the program's inception.

The research design derived mainly from scientific and policy concerns for specific areas of nutrition. Although many scientists involved during the planning and design phases acknowledged the importance of the complexity of human society, that complexity was not the basic theoretical framework for the nutritional investigations. However, even with its strong emphasis on a nonsocial framework, in its long evolution the Nutrition CRSP involved social scientists early on, in several capacities, operationally integrating them into the research process across the life of the program.

## THE FIELD: THE KENYA PROJECT

In February 1982, the Kenya project began host country operations. This section describes some of the substantive social science contributions to field implementation of the Nutrition CRSP in Kenya.



### *Site Selection*

Kenyan and U.S. colleagues together defined site selection in terms of both a study population and a spatial area, thus incorporating a range of social and practical concerns into the criteria specified by the research design. This definition in part derived from the field experiences of host country scientists and the U.S. anthropologist. Besides design requirements, site selection had to take into account governmental recommendations, present and potential logistic problems, overall convenience, and the likelihood of scientific and operational success. Also, selection had to be conducted relatively quickly and efficiently. This meant it had to use basic information and be done right the first time. For a project as large and complicated as the Nutrition CRSP, early field mistakes could be very costly in time, money, and data. There were also broader social ramifications if the project were later re-sited: disruption of local commitments; relocation of employees; and the creation of uncertainty among officials, staff, and potential participants.

CRSP investigators involved in site selection usually represented three viewpoints - anthropology, community health, and nutrition. Site selection was mainly based on a three-way evaluation of social interaction and interpretation, Kenyan field experience, and nutritional assessment in relation to design needs. Under these circumstances, selection was first of all a social process, among the participating colleagues as well as between them and the people visited in potential field sites. Precise nutritional and other criteria were important but not dominant because the data necessary to ensure the scientific suitability of the selected sites would not be available until well into the main study phase of the project. Judgment therefore relied more on what was seen, heard, and discussed, and less on what was measured. The selection teams understood this process, thus reflecting their appreciation of a broad scientific perspective and their willingness to base decisions more on social information. The team anthropologist presented and evaluated this information and linked Kenyan field expertise and social information to the nutritional data.

Embu District in Eastern Province was the favored administrative unit for the Kenya project. Several one- or two-day surveys were made in various parts of the district. These visits emphasized different activities and a range of individuals occupying different socioeconomic roles. Although provincial and district officials sometimes accompanied the selection team, at other times the team met with local officials and residents without attracting undue attention. Therefore, at least some visits were "naturalistic," as opposed to "formal," for both the CRSP investigators and the local population. This allowed the anthropologist to evaluate potential sites based on factors more closely resembling an actual field situation.

A key information area was people's perception of the project and their willingness to participate. The site selection team had to develop an

explanation of the project that was understandable both to potential participants and local officials. With a grasp of the intended project, chiefs and other leaders were better able to evaluate it from the standpoint of their levels of responsibility, potential sociopolitical risks, and possible benefits. They could also assess how the project would or would not fit in their area, e.g., with regard to the availability of the required household types and the potentials for local household support and participation. The anthropologist refined the "CRSP explanation" in accord with officials' reactions and questions plus Kenyan investigators' interpretations. Through repeated explanations of the proposed project, the selection team also became aware of the local inhabitants' concerns and expectations. In the process of creating a useful explanation responsive to these expectations, an important anthropological contribution was to build in local understandings of the CRSP. This was crucial to initiating and sustaining participation by a range of individuals, as stipulated in the research framework.

The selection process itself consisted of a two-way evaluation, including local leaders' views of the selection team as representatives of the project, and the team's assessment of local leadership and other criteria in relation to research and project requirements. The anthropological part of this evaluation went beyond specific quantitative criteria to consider feasibility from the viewpoint of both local populations and individual CRSP researchers. Additionally, anthropological knowledge of local infrastructure and interpersonal relationships established during site visits influenced the eventual operational design of study area censuses.

### *In-field Design and Operation*

Although the Nutrition CRSP research design was developed for use across Egypt, Kenya, and Mexico, the Kenya project design had to be created *de novo* socially, spatially, and structurally, for it to be appropriate to its context. Congruence among these dimensions, the program design, and the different CRSP disciplines had to be achieved. This was not a linear or immediate process. Other field actions concerned bringing CRSP research expectations into the reality of a population more familiar with applied activities. A clear distinction between research versus applied projects had to be drawn without raising inappropriate expectations or creating unnecessarily negative reactions.

Social scientists contributed to in-field design and operations in a variety of ways. Anthropological responsibility was especially broad during early field phases. It spanned personnel matters; operational design, scheduling, and mapping; initial field interviewing; designating and designing a pilot area for field-testing; pretesting research protocols; and selecting the study households. Thus, the anthropologist created and supervised a variety of

CRSP activities requiring the attention and understanding of local officials. Here, three specific examples of anthropological contributions to in-field design and operations are presented, drawing upon the realms of communications, spatial units, and disciplinary structures.

*Communications.* One outgrowth of site selection was a sensitivity to local patterns of communication. These patterns were assessed from a social science perspective and then incorporated into all field operations. For example, village chiefs customarily call and officiate at community meetings. The project therefore adopted this forum to disseminate information about its activities, providing the chief and his counselors with a description of the entire scope of the CRSP. Continual anthropological involvement ensured that these individuals received complete social and nutritional explanations and information.

Along with local residents and staff, the most senior project personnel attended these community meetings. As noted, a major initial purpose of the meetings was to introduce and explain the project and request the support and permission of the local population to start field operations. At these meetings, local officials spoke of the relationships between their specific responsibilities and CRSP activities, noting political, social, and economic concerns. Other local groups also contributed to these initial meetings. For example, a theater troupe presented an original play about malnutrition. A women's organization or church group might also add to the meeting. Project staff usually were unaware of these events ahead of time and had no control over their content. In addition to comments and speeches by residents, there was always a question-and-answer period. Senior field staff answered for functional areas, while the anthropologist covered community infrastructure and environmental information, household and individual levels for child development and social functions, and specific activities related to other functions and project operations (e.g., training field personnel, setting policies on confidentiality, piloting questionnaires and other research methods, and selecting households for inclusion in the study sample).

When either the residents or the project personnel perceived that a meeting was needed, the chief and his elders would ascertain its purpose and arrange a time. Later meetings included public explanation of new procedures that were not well understood or accepted by participants (skinfold measurements and drawing blood are two examples), introduction of additional local staff, and expression of project commitment to the local area. Meetings were thus held for explanatory, expressive, and problem-solving purposes at different points (introduction, transition, etc.) throughout the project. These meetings served the population and the project well. In part, they derived from the early experiences of the anthropologist on the site selection team.

Another major communication effort was creation of a liaison role for a Kenyan field staff member experienced in government surveys. This liaison and ombudsman position evolved out of this individual's work with the anthropologist during early field operations. His tasks included monitoring local fieldworkers' relationships within the project and the local area, identifying communication problems between senior staff and local staff, reporting community dissatisfactions with any aspect of the project, and generally helping to resolve any relationship problems. The project succeeded in large part thanks to the skills and knowledge of this liaison agent and to the continual heavy investment of project time and attention in local communication in all its forms. The project's relationship to the local area was a continuing issue for CRSP social scientists, who emphasized its importance throughout the design of field operations. There was always a way for any individual on the project or in the community to get the attention of those in charge. Thus, the project was never distanced from the community.

*Spatial units.* The spatial design of the project gave it a manageable identity for both residents and staff. Study households were dispersed over 60 km<sup>2</sup> of rural landscape. The anthropologist suggested that this expanse be divided into four operational clusters, with each cluster containing approximately the same number of households (about 70), a field office, and the required complement of field teams. Whether participating in the CRSP or not, residents in each cluster could thus become familiar with local staff and project facilities. Since most staff lived in their assigned clusters, they developed social, as well as work-related, persona. They thus became visible in familiar community contexts as well as in their research roles. By breaking the spatial design into clusters, field teams were able to establish closer working relationships among themselves and to view the project "as a whole" on a small scale. Based on the anthropologist's initial in-field design suggestions, this large research project was operationally and spatially scaled down with no loss of scientific intent.

*Disciplinary structures.* The project devised a team approach to data collection. Kenyan fieldworkers were divided into teams related to the major areas of data collection on the Nutrition CRSP—namely, food intake, and the functional areas of reproduction, growth (anthropometry), development (cognition), activity (social development and child care), morbidity, and household social and economic characteristics. Senior staff worked almost daily with one or more teams in their areas of expertise. This structure gave senior staff in all disciplines (from pediatrics and nutrition to psychology and anthropology) a field awareness of each functional area. At the same time, fieldworkers were better able to relate to their fellows assigned to very

different tasks who nonetheless shared similar experiences in coping with tight schedules and research-related events. The result was close integration of the diverse disciplines involved in the Nutrition CRSP. It was not perfect, but when it did not work, it was fairly easy to identify the problem spot and the reason for its existence.

In developing these in-field design and operation strategies, social scientists were structurally and scientifically in contact with other disciplines. Project success depended on anthropological experience and expertise as related to other specialties and the research framework, not for any singular social science contributions. The more pervasively anthropology was integrated throughout research operations, the more it contributed to project success. Within the Kenya project's team framework, social scientists developed procedures, designs, and information that were then used or refined by other scientists, and vice versa. For example, the anthropologist provided field orientation and training in interviewing techniques to the original staff; and subsequent specialized training incorporated part of this program; also, periodic retraining developed from this early anthropological experience. Biomedical concerns about data quality control then were fit into a well-established orientation to staff performance. The essence of teamwork includes such embedding of contributions in the research endeavor. The internal and external social structure of the Kenya project worked to the advantage of both participants and researchers.

## APPLICATIONS OF THE NUTRITION CRSP EXPERIENCE

Social scientists have had varied roles and responsibilities during the long emergence of the Nutrition CRSP program and the fielding of the Egypt, Kenya, and Mexico projects. From a disciplinary viewpoint, there were both opportunities and constraints to this involvement. Several are discussed below and are then related to possible applications of the CRSP experience to future international agricultural R&D projects. However, these and other aspects of social scientists' involvement in the Nutrition CRSP deserve fuller evaluation by scientists from all three projects. Indeed, such an extensive evaluation would be a useful social science contribution to our CRSP.

### *Opportunities and Constraints*

As noted in previous sections, several senior social scientists joined the Nutrition CRSP at its inception. Social scientists were also situated at various other places in the program structure. This early and wide-ranging involvement provided not only a disciplinary voice, but also a disciplinary contact point for other social scientists more distant from the program and its

development. Through the prominent use of social information and anthropological field expertise by the original senior staff, the Kenya project followed the social science concept of a "naturalistic" and community-based field study in almost all respects. This initial social perspective was successfully maintained by all subsequent disciplines, and it guided them into the field and made their entry smoother.

The Kenya project maximized and emphasized its localness, despite the fact that it formed part of a highly visible international program. Again, this was partially due to fitting project operations consciously into a field context and to recognizing explicitly the complexity of the research. The project was integrated at the local field level, with most important activities and both junior and senior staff involvement occurring mainly at that level. Host country and U.S. universities were connected directly to field operations and the project's administrative structure. The cluster structure made the project compatible with local infrastructure (road systems, health facilities, schools, etc.) and other conditions.

As a biomedical endeavor, the Kenya project could have been based in the local medical infrastructure, but this would have been unnecessarily limiting. Contextualizing the project within communities won more active support from local government, village leaders, and residents. Although this placed more responsibility for project success upon local actors, it also meant greater recognition for them. The project was incorporated into and visible across the social landscape, in full view and under broad obligations; an important part of individuals' participation in the project was the satisfaction of contributing to something larger than one's usual situation. This seemed to be true for both local residents and project staff.

Despite the successful integration of social perspectives into the project, anthropologists on the Nutrition CRSP felt some constraints. The program emphasized postulated relationships between and among biomedical, nutritional, and behavioral variables. People were viewed as biological, not social, entities, and data collection was timed to a biomedical rather than a social framework. This made it more difficult for CRSP social scientists to collect and interpret their information in a manner that would effectively inform project research procedures. For example, although Kenyan and U.S. social scientists conducted case studies on household dynamics to be used in refining research protocols, the studies were scheduled too late in the preliminary project phase to be completed and analyzed for this purpose. Similarly, the collection of quantitative data on climate, agriculture, and activity patterns was delayed, scaled down, or scheduled so as not to impinge on biomedical protocols and project resources. Anthropologists also felt somewhat constrained by having to work within a fixed research framework that had not been developed out of the social and field contexts of the particular culture. By concentrating on biomedical and nutrition issues, this

framework placed secondary emphasis on social relationships and typical anthropological approaches and information.

In addition, the research framework stressed abstract biomedical research concepts and needs rather than readily comprehensible, local needs. There was therefore some tension between this "blueprint" approach and the more field-oriented "learning" or "processual" design model (e.g., Berg et al. 1973; Cernea 1985; Korten 1980; Thomas 1985; Winikoff 1978) with which social scientists are more comfortable. The "blueprint," or preset design, also limited the collection of social information. Because of the nature of the primary information to be gathered, data collection schedules had to be rigidly adhered to, with biological needs and goals taking precedence. Such constraints are not unexpected by social scientists on bionutritional projects. However, a closer examination of these limitations may prove fruitful for later phases of the Nutrition CRSP's analytical work, for application of CRSP data to policy questions, and for future planning of multidisciplinary projects.

### *Applications*

The Nutrition CRSP experience as described here applies to several different areas; one is participation. In a field situation, it is obviously necessary to bring together several sets of participants who may have very different roles and perspectives. For example, one individual may be serving as a local subject of the inquiry, another as a local inquirer, and a third as an expatriate scientist. What is the significance to the local community of such varied participation? A project's impact is channeled partly through the ways people participate in and thus experience the project. That is, there is both a personal and social impact on participants that affects the community. Although biomedical research projects usually characterize participation by numbers of subjects or rates of attrition, much less attention is given to other, sociocultural aspects of participation. The latter differ from one field situation to another and can provide important information about project sustainability and success.

Nutrition CRSP findings are important to research issues in several disciplines, but the program's outcomes can have applications beyond scientific interests—for training, community development, project design, institutional coordination, and policymaking. The latter has always been an explicit goal of the Nutrition CRSP. Other, tentative steps toward broadening the importance of this CRSP's results will be taken, but attention and financial support for making them widely available for a variety of purposes is limited.

In general, programs have begun to make their information more accessible to colleagues in developing countries. The collaborative format of

the CRSPs ensures this practice. However, such efforts must go beyond just leaving a data set behind. Results have to be available in-country to others with different purposes and areas of expertise. For example, clear documentation is important, especially when computer data bases are very complex. Similarly, scientists should describe all their protocols in a manner that makes them potentially replicable. Another consideration is the reporting of results. Programs such as the CRSP typically produce government-style reports and academic papers, which may not be enough to make project information more broadly accessible and applicable. The dissemination and impact of project information is an area that could benefit from closer social science scrutiny.

The experience of the Nutrition CRSP in integrating multiple disciplines across different phases of program development may serve as a model for future R&D, to be examined for its processes and structures and reworked for other circumstances. Disciplinary integration in the initial phases of fieldwork was accomplished in several ways. For one, because local explanations of the CRSP were needed, field staff found it necessary to conceptualize and enunciate all project activities and aspects as a coherent, understandable whole. For another, the organization of field teams by functional areas and the daily contact among them meant that disciplines could not become isolated from each other. Frequent interaction between and among senior personnel and fieldworkers also increased disciplinary integration. Moreover, since research in some functional areas required input from two or more disciplines or specialists, this prompted recognition of the need to solve problems by appealing to a variety of expertise. Early recognition that social information could have major effects on project functioning—e.g., through guiding operational design or enhancing the project's community reputation—increased respect for and integration of the social sciences involved in the field research. The employment of a full-time liaison person with the prerogative to move across research areas with inquiries and solutions to operational problems also kept the project operationally integrated across disciplines.

Organizational integration within the physical and social dimensions of the rural study area also contributed to smoother operations. Organizationally, the Kenya project was reminded of its community base. The project seemed to be regarded as a large, somewhat unusual local entity, but a part of the study area nevertheless. The many households not directly involved in the daily research activities recognized the project's presence by raising community concerns regarding it and its staff. The project promptly responded to all such inquiries and perceptions. This kind of community interaction was an ongoing project responsibility, and staff time was always available to handle it.

Partly because of its size, but also because of its base within the broader



community, the project was not relegated to an obscure, impersonal corner of rural activity. This was important for a research effort that had to overcome the area's unfamiliarity with nonapplied activities and earn public acceptance. It may also be a measure of the Kenya project's success in translating abstract research goals into something organizationally and operationally meaningful to the community.

Nutrition CRSP social scientists, along with their colleagues in other disciplines, contributed to these efforts through an understanding of the local area and of the research program on food intake and human functioning. Over the decade of the Nutrition CRSP's development, anthropologists helped clarify a new model of community nutrition and a different set of questions about the nutritional vulnerability of populations (Paolisso and Baksh this volume). Early involvement of anthropologists shaped the scientific guidelines for fieldwork. Functioning as senior team members, anthropologists brought the scientific and the operational, the biomedical and the sociocultural needs of the CRSP into closer correspondence.

## NOTES

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