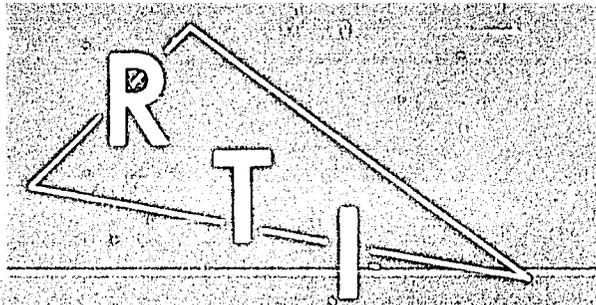


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RESEARCH TRIANGLE INSTITUTE

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July 1979

Final Report

NUTRITION SYSTEMS STUDY UNIT

(Contract AID/NE-C-1296)
(AID Project No. 608-0135)

Prepared by

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Senior Economist
Center for Population and Urban-Rural Studies

Reviewed and Approved by

A. S. David, Ph.D., M.P.H.
Head, Office for International Programs

Submitted to

Ms. P. S. Gibson, Project Manager
Division of Population and Health
U.S. AID to Morocco
Rabat, Morocco

Office of Technical Support (NE/TECH)
Bureau for Near East
U.S. Agency for International
Development
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NUTRITION SYSTEMS STUDY UNIT

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Glossary of Acronyms and Agencies

GOM	Government of Morocco	Gouvernement du Maroc
CIAN	Interministerial Commission on Food and Nutrition	Commission Interministérielle pour l'Alimentation et la Nutrition
IAV, Hassan II	Agronomic and Veterinary Institute, Hassan II	Institut Agronomique et Vétérinaire, Hassan II
INSEA	National Institute of Statistics and Applied Economics	Institut National de Statistique et Economie Appliquée
MSP	Ministry of Public Health	Ministère de la Santé Publique
SEPDR	Ministry of Planning and Regional Development	Secrétariat d'Etat au Plan et au Développement Régional
DP	Direction of Planning	Direction de la Planification
CEPEN	Nutrition Planning Cell	Cellule de la Planification et d'Etudes Nutritionnelles
DS	Direction of Statistics	Direction de la Statistique
AID	Agency for International Development	Agence pour le Développement International
CIDA	Canadian International Development Agency	
RTI	Research Triangle Institute	Institut Recherche Triangle

NUTRITION SYSTEMS STUDY UNIT

1.0 SUMMARY

Under the sponsorship of the U.S. Agency for International Development Mission in Rabat, Morocco, the Research Triangle Institute contracted to supply technical assistance services and certain commodities to a nutrition planning unit located in the Ministry of Planning and Regional Development of the Government of Morocco.

The project was based on a project agreement between the Government of Morocco and the AID Mission in Rabat. This agreement was concluded in March of 1976 following which a Request for Proposal was issued in the summer of 1976. The contract between AID and RTI became effective December 1, 1976 with a potential 36-month duration.

Under this contract RTI supplied the technical services of two staff members who took up residence in Rabat in February and July, 1977, respectively. In addition, RTI supplied the services of temporary duty consultants including staff from the Institute, an academic institution, and Moroccan nationals.

The objective of the project was to assist the Government of Morocco to improve the nutrition status of its people as a result of a coherent national nutrition strategy that would be developed during the course of this project as a result of the work of the Moroccan staff of the Nutrition Planning Cell with the technical assistance services to be provided by RTI.

During the course of this project a chapter on nutrition was prepared and placed in the National Plan. A National Nutrition Conference

was held that was well attended and well publicized and was useful in placing nutrition on the national agenda as an important objective. A variety of other project activities were identified in Chapter 3.

Although all projects include obstacles and constraints, this project encountered a considerable number of these relating to liaison, coordination, and collaboration. Ultimately, these resulted in the decision to reduce the contract duration. The project was authorized for \$640,000, funded for \$570,000, and had final costs of approximately \$476,000. The RTI field staff returned home in December, 1978 and March, 1979. The contract was ended in May, 1979.

2.0 INTRODUCTION

This is the final report by the Research Triangle Institute (RTI) on a project known within the Agency for International Development (AID) as the Nutrition Systems Study Unit. In this project AID financed RTI to provide technical and material assistance to the Ministry of Planning and Regional Development (SEPDR) within the Government of Morocco (GOM). The purpose of this project was assist GOM to design and implement a flexible nutrition strategy that was to have become a part of the Five-Year Plan for the period 1973-1982.

In the context of this project, nutrition was considered to span issues and their determinants ranging from agricultural output and aggregate food supply to individual food intake and nutrient absorption to the consequent nutrition and health status of individuals and groups.

This project was one of the latest in a series of nutrition-related activities that have occurred in Morocco since 1958, two years after Moroccan independence. Those activities, financed both internally and internationally, have ranged from nutrition status assessment and nutrition problem definition to the provision of university-level faculty and considerable amounts of food commodity assistance, among others.

2.1 Final Report Scope

The remainder of this Introduction will provide background on the context on which the present project was based. Succeeding sections will deal respectively with project accomplishments, obstacles, significance, and administration and finance. The final sections will deal with conclusions and recommendations.

2.2 Project Description

This project had its foundation in the Project Agreement between the Government of Morocco and the AID Mission in Rabat in which GOM would establish a nutrition planning unit (CEPEN) and release a number of Moroccans for training in the field of nutrition planning. At the same time the U.S. government would contract to provide both (1) long- and short-term technical assistance, materials and supplies useful for the nutrition planning unit, and (2) financial support for both long- and short-term nutrition training and for certain other activities to be undertaken in Morocco. Each of these activities was, in fact, undertaken, although not necessarily to the degree proposed in the original Project Agreement of March, 1976.

The outputs of the project were expected to be:

- several Moroccans trained to serve as nutrition planners and economists in the Nutrition Planning Unit,
- an operating nutrition documentation center,
- initiation of a variety of nutrition research studies,
- publication of reports and studies bearing on a strategy for improving the nutritional well-being of Moroccans, particularly the socially and economically disadvantaged, and,
- development of methodologies for analyzing the Moroccan nutrition system.

All of these activities were intended to aid in creating a coherent strategy for improving nutrition. This strategy was to become part of the forthcoming Five-Year Plan and to be legitimized by publication in

that Plan. The payoff in improved nutritional well-being was to be achieved through the implementation of that strategy during the ensuing five years from 1978 to 1982.

2.3 Project Environment

2.3.1 Nutritional Status

Morocco in the 1970's is considered to rank among the middle group of developing countries. Thus, some of the population eats well or even consumes sizeable quantities of a few foods. But the majority appear to have an approximately adequate diet on the average. There are certain vulnerable groups, however, in which the nutritional status is poor and in which morbidity and mortality are undesirably high. Most generally, these groups include infants, pre-school children and pregnant and lactating women, and particularly those from lower income groups both urban and rural. The GOM estimated that in 1971 some 4% of children 0-4 years of age exhibited symptoms of severe malnutrition while another 40% were classified as having moderate malnutrition.

Cereals are the foundation of the Moroccan diet. But in 1975 the country imported one-third of its estimated cereals consumption. And the long-term rate of increase of cereals production is less than that of the population. The Moroccan agricultural situation is characterized by moderately low yields in the dry-land areas and generally low rates of increase in productivity, which together with rapid rates of population growth lead to increasing demands upon scarce foreign exchange supplies to import wheat, the dietary staple.

Another aspect of the nutritional status of the population concerns health and health services. In common with other developing countries, Morocco is having difficulty in providing basic health care to its population, especially in remote rural areas. Deficiencies in water supply and sewage disposal systems exacerbate both chronic and acute morbidity, especially among the young.

2.3.2 National Government

The Government of Morocco is relatively highly centralized and may be characterized as a parliamentary republic under the overall framework of a strong monarchy. The Government has operated under a series of five-year planning cycles and the AID-GOM nutrition project was developed during the 1973-1977 Plan. The project was intended to make inputs into the 1978-82 Plan and, in spite of starting somewhat later than intended in December 1976, was preparing to meet planning deadlines in the Fall of 1977. As that time approached, however, the Government twice moved the planning deadlines into the spring of 1978. Finally, just as the Five-Year Plan was receiving initial distribution, His Majesty, King Hassan II, announced the imperative need for the nation to adopt a three-year austerity plan in order to remedy acute problems concerning the economy, foreign exchange and foreign debt. In the Fall of 1978, this substitute plan was completed and submitted to Parliament for debate. Thus, throughout the entire period of project operation, AID, RTI, and GOM cadres were attempting to plan and provide technical assistance within a continually changing planning context.

In addition to being centralized, GOM tends to be relatively formalized in its channels of communication. Although an Interministerial Commission for Food and Nutrition (CIAN) had existed for some time, the degree of interministerial collaboration on agricultural, health, and nutrition policies had been relatively small. This was one of the reasons for starting the current project. But the formalized hierarchy of the government continued throughout the project to be a significant constraint.

2.3.3 Agency for International Development

AID also has its hierarchy, a division of authority, and some apparent differences in operational objectives between its staff in Washington and in the various missions. Because of Morocco's position among the middle group of developing countries, AID has, for several years, been reassessing its policy with respect to this country. On the one hand, Moroccan levels of personal income are considerably above those of the poorest developing countries and AID commitments there should be minimized. On the other hand, it is reasonably clear that significant segments of the Moroccan population live in poverty and all its consequent disadvantages, which implies continuation or increase of AID commitments to the country. During the course of this project, the AID position moved from that of stable or declining commitment to one of increased commitment.

2.3.4 Research Triangle Institute

RTI proposed to furnish 60 person-months of technical assistance in Rabat, Morocco, by a team of three individuals with overlapping

tours of duty. Contract negotiations revised this to 54 person-months by two persons. The project ended with 40 person-months from these two professionals. One RTI staff person arrived in February, 1977 and returned in March, 1979, while the other arrived in July, 1977 and returned in December, 1978. RTI also provided the services in Morocco of two other RTI staff on temporary duty, one U.S.-based consultant who dealt with nutrition training and two Moroccan consultants who carried out an investigation of knowledge, attitudes, and practices relating to infant nutrition and weaning as a precursor to possible, full-scale study. These five consultants ultimately provided approximately eight person-months of effort, considerably below the proposed level of thirteen person-months. In addition two RTI staff made a total of six visits to Rabat for administrative purposes.

2.4 Resources: Budget

The initial contract budget was for a thirty-six-month project costing \$640,000. In two authorizations, AID committed \$570,000 to the project. In January, 1979, AID decided to conclude this project ahead of schedule and subsequent budget negotiations set the final cost level at \$510,830.

The decision was based on an AID evaluation made by two professionals: one from AID/W and one from Westinghouse Health Systems. They both visited Morocco in November 1978 for a total of three person-weeks. A report was produced and shared with RTI in April 1979. The weaknesses of the project implementation, highlighted by the AID evaluators, were touched upon by RTI's semi-annual reports. Although the Institute

accepted AID's decision, it nevertheless posited reservations about the validity of the major conclusions of the evaluation. These reservations are to be addressed by the RTI Project Leader in a separate submission that will be prepared as soon as GOM's official response is obtained to RTI's request of February 1979 for its evaluation of RTI performance.

3.0 PROJECT ACCOMPLISHMENTS

3.1 National Nutrition Strategy

Development of a national nutrition strategy for Morocco was a very important objective of the project. The accomplishment of this objective came to be defined, in practice, as the writing of a chapter on nutrition to be placed in the national Plan. As noted above, the planning horizon changed during the period of project activity, thus several draft chapters were prepared and ultimately two final chapters were prepared. One of these appeared in the Five-Year Plan that was aborted in June of 1978; the other constituted a part of the three-year austerity plan issued in the Fall of 1978. In general, these chapters stress description of nutrition problems in Morocco and define the framework of a nutrition system within which these problems would need to be solved. The chapters did not, however, include quantitative targets of performance for any program or agency nor did they represent a consensus among ministries on objectives and programs for achieving them. But these chapters did represent the first formal enunciation within the government of the need to include nutrition as a legitimate national objective for the well-being of the Moroccan people. The second chapter (for the austerity plan of the Fall of 1978) was discussed and revised extensively by other ministries through its submission by the nutrition planning cell (CEPEN) to the interministerial commission on food and nutrition (CIAN). Although it lacked concrete details on programs and implementation, it undoubtedly represented the degree of consensus that could be achieved within GOM at that time.

3.2 Research on and Analysis of the Moroccan Nutrition System

This section identifies the more important research activities during the life of this project.

3.2.1 Weaning Pre-Study (KAP)

The major research activity of this project, in terms of time and effort, has been the pre-study of the knowledge, attitudes, and practices of mothers with respect to nursing and weaning their infants, carried out by two Moroccan sociologists with the objective of establishing possible bases for a full-scale sample survey of mothers with young children.

The study represented a subset of the larger project proposed in the first Work Plan in June of 1977, which would have concerned knowledge, attitudes, and practices (KAP) with respect to all family food and nutrition behavior. The narrower focus was chosen in order to devote limited resources to the especially vulnerable segments of the population: infants and lactating women.

Two Moroccan sociologists were proposed by CEPEN as staff for this study and subsequently accepted by RTI and AID to execute it. They were engaged as RTI consultants. The scope of work included: a review of relevant literature; developing of hypotheses and a questionnaire; and the pre-testing of that questionnaire in the field in order to assure its usefulness. The two consultants carried out the review of the literature jointly and then, changing the work plan, started field work to interview women in some 200 communities throughout the nation in

order to identify the basic problems they perceived in nourishing and weaning their infants and to arrive at suitable terminology for use in the final questionnaire. The consultants felt themselves under considerable pressure to carry out this field work immediately following the literature review in order to finish the field work before the start of Ramadan, the Moslem month of fasting, during which such field work would have been extremely difficult.

During the period of field work, it became apparent that the philosophical assumptions and working styles of the two consultants were not harmonious. Thus, they ended the field work separately and each prepared his own report. One report was inadequately short, provided only the most cursory review of the literature, and reached the conclusion that no full-scale study was needed and then, inconsistently, suggested that a sample survey would be necessary if more data were needed. The other report, which was finally submitted in early January (instead of in September as planned), contained some nine hundred pages of text and because of its details and size, was difficult to use although it contained much useful information. After review by CEPEN, the author of this report was asked to condense it for final use by CEPEN; this process was underway at the time the last representative of RTI finished his tour of duty in Morocco in March 1979.

In general, the conclusions one can draw from this study are that there is very little literature dealing specifically with the behavior of Moroccan women with respect to nursing and weaning, although there

are a number of studies bearing on this prepared by Moroccan students of medicine and nursing. The field work did demonstrate that certain groups of Moroccan mothers do hold some views and have some gaps in their knowledge that are inimical to the well-being of their infants. Thus, it is clear that a necessary component of an overall national nutrition strategy should be an educational program aimed at changing those beliefs and practices that are contrary to the good nutritional status of infants.

3.2.2 Patterns of Food Availability

In May-June of 1977, two RTI staff devoted about two person-months of effort to preparing a report on patterns of food availability and nutrition status within Morocco. This report developed methods for disaggregating national statistics to the regional and provincial level with the objective of facilitating identification of target groups and locales on which nutrition programs should be focused. It was developed as a first, approximate analysis of these problems with the intention that with further refinements and restructuring it could be used for both policy planning as well as institutional manpower development. The report provided three types of analyses:

1. Relation of calorie and protein consumption to household expenditures.
2. Prevalence of malnutrition; and
3. Projection to 1982 of population potentially vulnerable to malnutrition and nutrition-related diseases by province.

The initial English version of this report had an impact on the nutrition chapter prepared by CEPEN and also motivated further review of the fundamental, 1971 study of early childhood nutritional status made by the Ministry of Public Health (MSP). Review of the English text indicated, however, that a number of revisions would be needed before it was translated into French. Accomplishing these changes required several months. Translation was completed in June, 1978, but review of the report within CEPEN and by the Director of Plan was delayed for months by the changing deadlines imposed in the preparation of the Three-Year Plan. Agreement to reproduce the report was finally received in January, 1979, after which typing of stencils was commenced. This report was being reproduced in the mimeograph section at the time of the departure of the last RTI representative from Morocco in March, 1979.

3.2.3 Supplementary Analyses of Consumption Study

At the time of its 1971 Census, Morocco conducted a major study of household consumption, including food consumption. The results of the food consumption component were published in considerable detail showing consumption of foods in kilograms and of nutrients in their respective units by residence (urban/rural), level of household expenditures, occupation, and region (seven).

These data clearly showed a number of expected relationships between level of household expenditure (substitute for household income) and food consumption. The reported results did not, however, contain any objective basis for identifying significant differences among the means presented nor was there any modeling to show the relative strength of

relationships between food consumption and the possible explanatory variables nor the nature of relations among the explanatory variables. Accordingly, a supplementary analyses of the original sample survey data was proposed and a Moroccan graduate student in computer science carried out the project describing the steps needed to reformat the data set in a form suitable for efficient analysis of the type proposed. This activity was supervised and aided significantly by the efforts of Dr. Simon Curry, a professor of computer science at the national institute of statistics and economics (INSEA) under funding provided by the Canadian International Development Agency (CIDA).

The student completed his design work but CEPEN has never obtained backing within the Direction of Planning (DP) to have the actual computer work carried out by the Direction of Statistics. Such supplementary analysis remains a valid and important activity, especially in view of the proposal to carry out a second national food consumption and behavior study some time during the next several years.

3.2.4 Food Fortification

In May 1977, shortly after the arrival of the first RTI field team member in Rabat, a three-person team from the USDA Western Regional Research Center specializing in food fortification visited Morocco as part of an assessment of the potentialities there (and in five other countries) for improving nutrition through fortification of foods based on wheat. Morocco was one of three countries proposed in this AID-sponsored project for funding of an initial demonstration program. The report of the team recommended (1) trial enrichment of

wheat flour at large commercial mills with soybean meal, B vitamins, and calcium; (2) an improved version of the Moroccan-produced baby food, "Actamine V," but having higher protein content and calorie density.*

This report was reviewed and critiqued by CEPEN with RTI team assistance with the result being preparation by CEPEN staff of a paper on general policies regarding food fortification in Morocco. The proposal to demonstrate enrichment of commercially milled flour was rejected on the grounds that although it was technically feasible, the resulting product would be consumed primarily by the urban middle class and would not reach urban and rural poor who obtained their flour through other distribution channels.

3.2.5 Food Prices

In the Fall of 1977, CEPEN staff, advised by RTI, prepared a short paper aggregating the food price index for selected commodity groups for the eight urban areas of Morocco for which it was available. This report showed clearly the differences among the food groups in relative rise in prices between 1975 and 1977. The paper was prepared and circulated within CEPEN but was long delayed in its presentation to the Director of Plan. When finally approved in January of 1979 by the Director of Plan, the paper was revised once more by CEPEN staff but had not yet been published for external distribution at the time of RTI departure from Morocco.

* Betschart, A. A., R. V. Enochian, and R. M. Saunders, July 1978, Possibilities d'Enrichissement des Aliments in Base de Blé au Maroc. Albany, California: U.S. Department of Agriculture, Agricultural Research Service, Western Regional Research Center.

3.2.6 Least-Cost Diet

Estimation of the least-cost diet under Moroccan conditions was proposed as a research technique for understanding the degree to which various segments of the Moroccan population were optimizing their food consumption behavior given the food price and household income constraints they faced. Least-cost diet information could also be useful for the managers of Moroccan institutions, such as hospitals and prisons, attempting to provide a balanced diet at minimum cost.

In collaboration with Dr. Curry, a computer scientist, (see Section 3.2.3, above), work was started to develop user-oriented computer programs for solving the necessary linear programming. The basic computer programming for this model had been completed in mid-1978 when his project was closed and he returned to Canada. He has continued to work on the programming system and has developed a computer program that will be made available to CEPEN later in 1979.

3.2.7 Design of Consumer Subsidy Impact Study

Four basic food commodities are subsidized in Morocco: sugar, oil, butter, and flour and bread. These subsidies are considered to be an important national program aimed at increasing the well-being of low-income Moroccans. For this reason, CEPEN expressed interest, and RTI initiated, work on a study to estimate the nutritional and economic impact of the food subsidies on various classes of Moroccans. The basic design of the impact analysis was completed in the form of draft tables (without numbers) in the Fall of 1977. An RTI request for consultant was not

approved within CEPEN/P.a.n. Attempts to obtain data on the subsidy system foundered in the administrative process. This activity never went effectively beyond the design stage.

3.2.8 Anthropometry

Careful scrutiny of the 1971 study of infant and early childhood nutritional status by RTI staff strongly suggested the desirability of a review of nutritional status standards currently in use in Morocco, particularly those related to weight at birth. A variety of meetings and conferences were held with representatives of CEPEN and the Ministry of Public Health. The services of U.S.-based expert consultants were proposed for short-term field consultation. But this proposal never gained administrative acceptance and thus is still in abeyance. The question of suitable standards is, of course, crucial to estimating the size of the problem of malnutrition in the country: compared to current standards, higher standards for birth weight and growth curve would define a larger population of malnourished; lower standards would define a smaller population. Further action in this area may be taken if efforts to develop a national nutrition surveillance and evaluation system proceed in the future.

3.2.9 Food Composition

In the Spring of 1977 a food composition table for Morocco was published, based upon secondary sources. Review of this publication within CEPEN (by a Peace Corps Volunteer Nutritionist) identified a number of deficiencies in the table. A report was completed in English in September, 1978, and was translated into French during the Winter of

that year. It had not, however, had additional circulation outside of CEPEN prior to the departure of the last RTI staff in March, 1979.

3.2.10 Trends in Cereal Production

Four cereals form the basis of the Moroccan diet. These are: soft wheat, hard wheat, barley, and corn. Time trends from 1938 through 1974 in the plantings, yields, and production of these cereals were analyzed using a linear regression model. It is clear from the results that cereal production is rising less rapidly than population with both yields and plantings showing low rates of annual increase. It is hoped that distribution of the results of this analysis will be helpful in inducing an agricultural policy stressing increasing yields, since these are considered to be below those potentially available in the area. But the document was still held within CEPEN at the end of RTI duty in Morocco.

3.3 Training Nutrition Planners and Economists

The project agreement signed between AID and GOM called for thirty-six person-months of long-term training in nutrition planning and systems analysis in the U.S. for Moroccans. In response to this provision, two men and one woman were sent to the International Nutrition Planning Program at the Massachusetts Institute of Technology for one academic year. This was supplemented by a period of field work prior to their return to Morocco in the case of two persons.

While this program has been useful in introducing participants to the basics of nutrition, planning, and the issues of nutrition planning

in developing countries, it has not provided participants with the background that would enable them to lead research and planning efforts with confidence.

As a result of a training plan that CEPEN has developed for itself, one member of CEPEN is currently scheduled to return to the U.S. for one year with AID funding in the Fall of 1979 to seek an M.S. degree in community health planning. The others may follow in turn in future years.

The project agreement also called for six person-months of short-term training/observation in national nutrition program management for senior level GOM officials. Although propositions were discussed for study tours for a variety of senior officials, no such tours ever developed during the period RTI staff were in Morocco.

Plans were started for sending a food technologist to a short course in extrusion technology for producing textured vegetable proteins, but this study tour could not be completed at the time originally planned and despite subsequent efforts by AID/Rabat, was never rescheduled.

One member of the RTI field team and one member of CEPEN attended the Eleventh International Nutrition Congress in Rio De Janeiro in late summer, 1978. This trip provided an opportunity for the Moroccan to make personal acquaintance with a variety of well-known figures in the world of nutrition, to hear current research reports, and to participate in a special session devoted to nutrition surveillance systems.

An assessment of programs and institutions providing nutrition training in Morocco was carried out in the Fall of 1977 by Dr. Joseph Edozien, a U.S.-based professor of nutrition serving as an RTI consultant,

in collaboration with a Moroccan professor of nutrition, Dr. ESSATARA M'Barek. Although it was possible to evaluate the existing nutrition education system, it was premature for them to complete estimates of nutrition training needs because only the bare outlines of a nutrition strategy had been developed at the time this consultancy occurred. It was hoped that the period of collaboration between two nutrition professionals might lead to future linkages between their respective institutions, but this has not yet developed, although it might still occur in the future.

3.4 Introduction of New Methodologies

Introduction of new methodologies for planning and analysis related to nutrition was called for in the contract Scope of Work, but was never given a formal definition. RTI interprets this objective to be satisfied by the introduction of members of CEPEN to any techniques with which they had not previously been acquainted. Thus, during this residence in Morocco, the RTI project team exposed or introduced members of CEPEN to the concepts of rank correlation, linear regression, and the use of a variety of charts and matrices for arraying information in ways that made it easy to use.

In all probability, however, the most important "methodology" introduced was that of the pragmatic or empirical approach of the RTI staff to the various issues associated with developing a national nutrition strategy.

3.5 Awareness and Legitimacy of Nutrition as a National Goal

Among the functions of a planner is that of gaining support for the adoption of his plan. Two important facets of that process are the creation of the awareness of the issues and the development of the understanding of the legitimacy of the needs to which the plan is addressed. It was within this context that two National Nutrition Conferences were foreseen.

3.5.1 National Nutrition Conference

Two national nutrition conferences were called for in the contract Scope of Work. One of these was held in February, 1978; the other was proposed for the Spring of 1979, but in late 1978 GOM preferences were for postponement of the conference until 1980, after the AID-RTI project would have ended.

Independently of the contract Scope of Work, the concept for a national nutrition conference or seminar was developed in the Spring of 1977 at the Institut Agronomique et Vétérinaire, Hassan II. (IAV Hassan II) Collaboration began as soon as RTI staff learned of these efforts. The conference was rescheduled from Fall of 1977 to the Spring of 1978. RTI staff assisted in developing the themes and program for the conference. The conference was held on 13-15 February 1978 at IAV Hassan II with joint leadership from the Ministry of Plan and the Institut Agronomique. Several well-known nutrition experts from different countries participated along with staff from the AID mission in Morocco and that of other international development agencies. Publicity was good. News coverage was wide-spread and plenary sessions were over-flowing. Six

working groups provided sets of recommendations that were finally approved in plenary session. Funding from AID made possible travel by foreign experts, some of the publicity, and recording and refreshment services during the conference. The Institut Agronomique undertook to transcribe, edit, and publish proceedings from the conference, but publication had not occurred as of March, 1979, due to work load and administrative difficulties. It is fair to say, however, that this conference was instrumental in placing nutrition on the national agenda as an important objective. And it may have long-term pay-offs for institutional and manpower development by stimulating some students to pursue studies related to human nutrition.

3.5.2 Other Awareness Activities

The planning and publication of a nutrition planning and information newsletter was proposed early in the project, but this idea never received significant support by the staff of CEPEN and Plan. Attempts were made at one time to obtain the services of journalism students to be the translation from English to French (or Arabic) and to provide examples of a pleasing layout for the newsletter. While the concept of a newsletter may be novel within Moroccan government administration, it is clear that within the U.S. context such newsletters are important mechanisms for engendering inter-agency cooperation and maintaining the flow of information.

3.6 Nutrition Reference Service

The original design of this project called for acquisition of materials to form a nutrition documentation center (see Section 3.7).

As the project progressed this objective evolved into that of a nutrition reference service that would:

1. Maintain the nutrition documents collection.
2. Disseminate information about that collection.
3. Assist CEPEN staff and cadres from other ministries to answer factual questions about nutrition.

Activity to catalog the growing collection of documents in CEPEN was requested in the summer of 1978 and got underway in the Fall. By February 1979 cataloguing had been virtually completed through the efforts of a documentalist recruited to aid CEPEN from the main library of the Direction of Planning. The documentalist was hoping to move more into the second and third types of activities noted above, but her status and tenure in CEPEN were uncertain.

3.7 Acquisition of Supplies and Equipment

Under the terms of the contract between AID and RTI, \$29,000 were available for the purchase of equipment and supplies. Ultimately, one electric typewriter, five hand-held calculators, a file cabinet and a storage cabinet were purchased from these funds. In addition, subscriptions to ten journals were obtained and some 55 books were ordered or purchased and about 100 reports on nutrition, health, and development were obtained from AID on microfiche.

Part of these funds was anticipated to be used for research or demonstration projects but such activities never developed during the course of this project. As a result, only a minor portion of the total funds for this function were expended.

3.8 Summary

Overall, the great bulk of RTI staff time was devoted to participation and assistance in the activities of CEPEN, including especially daily discussions with CEPEN staff of their current activities and participation with them in formal meetings and other contacts with other agencies having nutrition responsibilities.

4.0 OBSTACLES

4.1 General Statement

No project is obstacle free. What is always hoped for is that those involved in the project--whether host country nationals, U.S. AID personnel, or U.S. contract personnel--can work together to identify the program obstacles that can be overcome by deliberate program actions and those that must be taken as fixed constraints to the total system. In what follows, RTI identifies the obstacles encountered and presents ways in which they were dealt with in order to provide constructive insights into project implementation.

4.2 Liaison and Coordination among Organizations

The project organization system comprised three pairs of organizations for communications purposes:

RTI-AID

RTI-GOM

GOM-AID

Moreover, RTI consisted of the field party and the project leader and his staff in North Carolina and AID consisted of the mission staff in Rabat and the Technical Assistance Bureau staff in Washington.

The particular personalities of the various individuals involved played an important role in the course of the project. One RTI staff member found it almost impossible to conduct project business with the AID/Rabat manager for this project; while the other had no problems with this manager but did have some difficulty with the Moroccan counterparts and their operating bureaucracies. One representative of GOM and the AID project manager also experienced periods of extremely

strained relations. Both these situations impeded communications and made resolution of issues relating to project activities extremely difficult. The RTI field team communicated largely with CEPEN, its Director, and rather occasionally with the Director of the Direction of Planning. On only three or four occasions during the life of the project were meetings held with the Secretary General of the Ministry of Planning and only once was there a meeting for members of CEPEN and the RTI staff with the Minister of Plan. While GOM policy makers undoubtedly had many pressing commitments, one tends to believe that had there been a more active communication in both directions with those policy makers, the legitimacy of nutrition as a national goal in Morocco would have advanced substantially faster than it appeared to have.

4.3 RTI Internal Liaison and Coordination

RTI internal coordination proved to be a major problem because the two members of the field party had not worked together previously and proved to have widely divergent philosophies about professional conduct and program priorities. One member of the team was hired specifically for this project and therefore had minimal prior knowledge of RTI procedures and organizational life, although he did have prior experience in Morocco and other developing countries as well as significant competence in speaking and reading French. The other project team member had long-term RTI work experience and had been leader of numerous projects in his own right. But this person was essentially inexperienced in the use of spoken French and in living and providing technical assistance in an overseas milieu. Accordingly, since each of these team members

lacked important background for the post of project leader, this position was retained by an RTI staff member who continued to reside in North Carolina but who both spoke and read French and had extensive previous overseas experience in providing technical assistance. This placed the project leadership in the hands of a person who was obviously best qualified by experience but who, unfortunately, was located very distant from the scene of the action and who, because of other commitments, found it very difficult to travel to Rabat on any fixed or frequent schedule.

Liaison with the RTI project leader, based in North Carolina, proved to be slow and protracted, due both to his other responsibilities and to international and State Department mail services that averaged more than 15 days one way and occasionally ran to as much as four or five weeks for one-way transmission of messages. Under these circumstances, it proved to be extremely difficult to keep the project leader well informed of the situation in the field and to receive timely response and guidance from him.

4.4 Consultants from Moroccan Academic Institutions

As might be expected, the professional staff of Moroccan academic institutions is one of the largest pools of expert talent in the country. In the Moroccan nutrition planning project attempts were made on several occasions to involve academic staff in CEPEN and CIAN activities as consultants. Although it was possible to do this to the extent of one or two meetings, attempts to develop more intensive working relationships usually foundered on the issue of payment for consulting services.

Although the project had funds to pay Moroccan nationals for such consulting, the core issue involved relations between the Direction of Planning and various GOM academic institutions. The policy of the Direction of Planning was that since academic staff were government employees they should not be paid for consulting to the government. The Direction of Planning feared that although consulting funds might be paid out of AID funds for this project, such payments would establish a precedent that would be difficult to follow on future occasions when the Direction of Planning had no access to external funds. While agreeing that such a precedent might cause difficulty in the future, one must recognize the cost of foregoing the services of knowledgeable consultants. One notes that the same situation exists in the United States: government agencies need academic consultants who work in government-funded universities. Although difficulties sometimes occur, ways have been found to make use of such persons and pay for their services in most cases. And the result has been a very beneficial cross-fertilization of government and academic work.

4.5 Assumptions and Constraints

The assumptions developed by U.S. AID as a foundation for this project are listed in Exhibit 1, which is based upon the logical framework prepared in 1975. In the category of assumptions for achieving goal targets, it appears that assumption A.2 was an overstatement: At the ministerial level, strong support for programs to counteract malnutrition was not universally forthcoming. Hence the need for tasks within this project and in future activities to develop awareness of

Exhibit 1

IMPORTANT ASSUMPTIONS--NUTRITION SYSTEMS STUDY UNIT, 608-0123

A. For achieving goal targets

1. GOM has committed itself to improve level and quality of life of the population
2. Recognition by GOM that malnutrition is a national problem
3. Solution of the problem of malnutrition is rooted in economic, social, educational and health policies
4. GOM is prepared to make staff and financing available for the achievement of the goal

B. For achieving project purpose

1. C.I.A.N. is the effective instrument to develop this strategy
2. All appropriate Ministries will actively participate in C.I.A.N.
3. Ministry of Plan is able to establish an effective study unit within its organizational structure

C. For achieving project outputs

1. CEPEN will serve as a technical secretariat for C.I.A.N.
2. GOM commits itself to provide CEPEN with the manpower and budgetary support necessary to its proper operation
3. Implementation and planning should be done in a timely way

D. For providing project inputs

1. That U.S. can identify contractor with French-speaking qualified staff
 2. That GOM/U.S. inputs are available when needed and as scheduled
 3. That PLAN will be authorized to proceed with formation of CEPEN and that properly qualified staff can be identified
 4. That appropriate participants for U.S. training can be identified
-

Source: U.S. AID, Project Design Summary, Logical Framework, 21 November 1975.

nutrition problems and establish the legitimacy of such programs on the part of the government. This awareness and sense of legitimacy must be developed at all levels within the government hierarchy.

Under the assumptions for achieving project purpose, it was held that CIAN would be an effective instrument for developing a national nutrition strategy and that all appropriate ministries would actively participate in CIAN. In practice, these assumptions proved to be quite dubious, partly because of the lack of experienced cadres, common in developing countries, partly because ministry representatives sent to these meetings often lacked authority to commit their agencies, and partly because of significant inter-ministerial rivalry, particularly between the Ministry of Plan and the Ministry of Public Health.

Concerning the three assumptions for achieving output, although CEPEN began to provide technical services toward the end of the project, the relationship of CEPEN with the Secretariat of CIAN located in the Ministry of Public Health was still somewhat uncertain. Although the GOM committed itself to provide manpower and budgetary support for CEPEN, in fact, CEPEN never had the services of a full-time director and never received actual control of funding at the levels indicated in the project agreement. Thus, for example, automobiles for official transportation of CEPEN were never purchased. In addition to not having a full-time director, CEPEN had relatively sporadic and informal contact with the director of the Direction of Planning during much of the life of the project (partly due to the director's major commitment to supervising overall preparation of the national plan). Implementation and planning

often lagged for lack of timely decision making within the GOM but sometimes also within AID and RTI.

Assumptions for providing inputs were also only partially fulfilled. RTI supplied one person with adequate French capability and one with only mediocre capability. Identifying candidates for short-term training in the U.S. was only moderately difficult, but obtaining administrative approvals from the GOM for their participation in training programs proved to be a relatively significant roadblock. Identification of suitable U.S.-based consultants was also a problem, first because many technically qualified consultants lacked adequate French capability, and second because the Government of Morocco was very reluctant to accept consultant services for a period as short as one or two weeks ostensibly because such periods were too brief for the consultant to get a good perspective on the specific situation in Morocco. The GOM much preferred to have a consultant who would stay at least a month. Thus, the efforts of the RTI field team to secure technical backup in areas where its own competences were low were considerably frustrated by the preferences of the GOM and at times by the contractual and administrative requirements of AID. As a result, the field team did what it could, relying on its own resources even though it strongly desired consultant support.

4.6 Logistics and Support

4.6.1 GOM

The GOM provided an initial allotment of office space that was excellent. As the project progressed, and additional staff members joined CEPEN, the space became inadequate; at one time, five persons

were occupying office space in one large but undivided room that also served as a meeting room for whatever visitors CEPEN had. Towards the end of the project this situation was improved when two staff members were moved to an adjacent office. Acquisition of sufficient office supplies continued to be an issue and problem throughout the life of the project. For a substantial portion of the project, photocopies required approval on a one-by-one basis. At other times, photocopy paper was not available at all within Plan and RTI bought needed supplies of it under the contract. Secretarial service for French text was often difficult to obtain and of limited quality. Secretaries consider themselves underpaid and thus work more or less as a favor to an individual. RTI (and AID) significantly underestimated the quantity of English text to be typed, both to provide documents to AID and to maintain communication with RTI in North Carolina. Accordingly, the services of English language typists in Rabat were not provided in the initial contract. Although provisions were later made for such services, the negotiations to accomplish this were just one of numerous administrative obstacles.

4.6.2 AID/Embassy

At the time AID issued the RFP for this project, it proposed to supply housing, major appliances, and furniture to contractor staff in Morocco. At the time the contract was negotiated, this provision was reversed and monies were placed in the contract to pay housing allowances and charges for storage and transportation of the household effects of contractor staff. As a result, contractor staff were forced to invest their own capital in major appliances, to subject their household effects

to the rigors of international shipment, and to be deprived of the use of their household furniture both in Rabat and in the United States for periods of from two to four months. AID personnel simply do not appear to understand the difficulties, not to say costs, of attempting to use living quarters without furniture. The contract proved to be totally inadequate in these respects. On the other hand, the contract provided access to the Embassy for a number of services including the Embassy buying cooperative and Embassy nurse, both of which were useful and much appreciated.

Access to the FPO system was allowed initially for contract materials, but not for personal mail. Later when this system was abandoned by the Embassy in favor of the State Department pouch, the access of contractor staff to the pouch for personal first class mail but not packages was allowed. Such changes and refusals of privileges equivalent to those allowed U.S. government personnel caused unnecessary difficulty and friction, considering the minor cost that would have been involved for full access.

While AID and Embassy staff in Rabat was generally most cordial and helpful on a personal basis, on an official basis they also frequently appeared quite uncertain of what status to accord contractors, who were neither U.S. government employees nor just passing tourists. The result of this ambivalence was creation of a general ambiance of uncertainty and insecurity that did not promote harmonious working relations between contractor personnel and U.S. government employees.

5.0 PROJECT SIGNIFICANCE

5.1 GOM

This section represents the author's perception of project significance and benefits to the Government of Morocco in the absence of any official response by GOM to the RTI request for a statement of project evaluation, which was made in a letter to the Director of Planning dated 13 February 1979.

For the Government of Morocco this project represented the first extensive involvement of the Ministry of Plan with the subject of nutrition. This involvement began during an extended period of operational pressure to prepare and publish the total National Plan and thus placed additional demands upon the resources of the Direction of Planning during its critical period. At the same time, project timing enabled the nutrition planning cell to make contributions to the content of that national plan, as had been foreseen in the project paper and project agreement.

For the Government as a whole, it is fair to say that the project, through the activities of both Americans and Moroccans, heightened the awareness of a substantial number of GOM cadres of the issues relating to nutrition in Morocco. The National Nutrition Conference of February, 1978, was very instrumental in this regard. To this extent, the project has been successful.

On the other hand, although the 1978-80 National Plan contains a chapter on nutrition, one cannot reasonably say that a consensus has

been established on an appropriate national nutrition strategy and although the Plan and Government ministries speak often of improving levels of income and social equity, fundamental, but politically difficult, steps needed to promote these objectives had not been taken as of March of 1979.

5.2 AID

Again, this section is based upon the author's perception of the situation and impressions derived from extensive communication with the AID/Rabat project manager and other AID/Rabat officials. The only formal evaluation of the project was referred to earlier, in Section 2.4.

For AID in Washington this project was perceived at its inception as both "experimental and high-risk." In this respect it was similar to a number of other nutrition intervention project operated by the agency. For the staff of AID in Morocco, this project was their first major involvement with the Ministry of Plan and with comprehensive planning applied to nutrition, however, it was only the latest in a series of projects that had important nutritional objectives. But most of these other projects had dealt only with delivery of food commodities and associated health and educational services.

Had the project progressed to the point of defining specific, new action programs affecting nutrition, it might have provided the basis for justifying additional AID nutrition-related expenditures in Morocco.

5.3 RTI

For RTI this project represented an opportunity to refocus its resources on the field of nutrition with which it had dealt previously in the analysis of infant mortality, fertility, and nutrition relations on the Indian subcontinent in a previous project for AID. The project also represented an opportunity for RTI to continue in its role as a provider of staff to furnish technical assistance to developing countries. And it represented an opportunity for RTI to continue its commitments to assist Francophone and Arabophone countries develop their capabilities to deal with their culturally-specific development objectives.

5.4 Nutrition Planning and Programming

For all parties this project represented a chance to participate in and develop further the methods of international nutrition planning that have become a focus of development activities during, say, the last few years. Accordingly, it may be fair to say that all parties hoped that this focus would be strong enough to induce real change in the existing Moroccan food and nutrition system for the benefit of its most disadvantaged population segments.

6.0 ADMINISTRATION AND FINANCE

6.1 Administration

6.1.1 Work Plans

The development of suitable work plans for the RTI project team became an administrative issue within the first five months of project activity and continued to be one until late 1978. From the very beginning issues arose over the level of detail and specificity with which the plans were to be prepared. The nature of the linkages among work elements and between work elements and various objectives specified in the contract Scope of Work were also issues.

The first Work Plan (as required in the AID/RTI contract) was necessarily prepared before the arrival of the second RTI field team member and the two Moroccans who had been undergoing training at MIT. Following their arrival, the legitimacy of this work plan to represent CEPEN goals and objectives was criticized even though the plan itself had been prepared in both French and English and had received review and signature by representatives of Plan, AID, and RTI. This debate then drew into question the nature of the RTI role in this project: Since RTI had been assigned to provide technical assistance to the Government of Morocco in achieving its objectives, to what extent could RTI have a work plan separate from the work plan of CEPEN? And to what extent was CEPEN obliged to endeavor to accomplish the objectives set forth in the Scope of Work in the contract between RTI and AID? In spite of extensive two-party debates upon these issues, and some inconclusive three-way meetings,

the ultimate position taken was to by-pass the issue and accept each succeeding specific work plan as a pro forma meeting of the requirement, even though no one may have believed that the plan would be followed or represented a realistic statement of what the parties could do or wished to have done. Considerable amounts of RTI and CEPEN staff time went into developing these work plans and their revisions; this may have a long-term payoff in terms of staff training, even though the plans prepared and presented were never followed in detail.

6.1.2 Project Evaluation

At the time of the third semi-annual review of this project in June, 1978, AID requested that RTI prepare a special progress report to be submitted as a supplement to the normal RTI semi-annual reports. The purpose of this special report was to enable AID to decide how long to continue funding for this project. Following receipt of this special report in August, the AID mission in Rabat postponed a decision on project continuation in favor of having a formal evaluation by an external team. This decision created a period of uncertainty for both GOM and RTI; the time frame of the pending work plan became highly conjectural and existing project momentum was lost. The evaluation team made its visit to Rabat in late November, 1978. Its formal recommendations about the project became known approximately a month later: That the project should be terminated as rapidly as possible. By early November the absence of an official indication of the position that AID/Rabat would take regarding the funding and termination date for the contract with RTI had created significant uncertainty with respect to the duration of

the position of the RTI staff member hired for this project. He therefore arranged to terminate his residency in Morocco in mid-December, 1978. The remaining RTI staff member continued on duty in Morocco until 22 March 1978.

6.2 Finance

The original business proposal for this project included a budget for \$511,452. During contract negotiations and because of changes requested by AID/Washington, this amount was changed to \$640,000. Ultimately, AID funded this project for \$570,000, which was reduced to \$510,830 during negotiations for the termination of this project in advance of the 3-year duration originally agreed to. Exhibit 2 summarizes the major budget categories and final levels of expenditure.

Exhibit 2

SUMMARY OF EXPENDITURES, AID CONTRACT AID/NE-C-1296
1 December 1976-30 May 1979

	Proposal	Contract		Actual ^a	Expenditures
		Initial	Final		Percent Difference from Final Contract
1.0 Salaries and Wages					
1.1 In the U.S.	53,363	74,713	69,387	65,624	-5
1.2 In Morocco	139,803	129,802	110,784	110,764	*
1.3 Consultants/Short-term Employees	39,000	33,285	22,941	17,435	-24
1.4 Subtotal	232,166	237,800	203,112	193,823	-5
2.0 Indirect Technical Expense					
2.1 On salaries in U.S.	44,825	62,759	58,630	55,431	-5
2.2 On salaries in Morocco	26,562	30,749	21,049	21,045	*
2.3 Subtotal	71,387	93,508	79,679	76,476	-4
3.0 Direct Costs					
3.1 Allowances for Housing and Education	2,700	60,890	34,154	33,878	-1
3.2 Travel and Per Diem	75,416	87,935	84,551	62,486	-26
3.3 Equipment, Materials and Supplies for GOM	29,000	29,000	4,371	4,600	5
3.4 All Other Direct Costs	28,400	40,843	26,699	27,672	-4
3.5 Subtotal	135,516	218,668	149,775	128,636	-14
Total Technical Expense	439,069	549,976	437,148	410,165	-6
Commitments ^b	--	--	4,582	11,230	145
General and Administrative Expense	39,515	49,498	40,682	37,915	-7
Total Estimated Cost	478,585	599,474	477,830	448,080	-6
Fixed Fee	32,867	40,526	33,000	26,078	-21
Estimated Contract Price	511,452	640,000	510,830	474,158	-7

^a30 June RTI Cost Report; not a final figure.

^bCommitments include balance of fee and various rate adjustments.

* Less than 0.5 percent.

7.0 CONCLUSIONS

7.1 Technical Assistance

The RFP called for and RTI responded with an offer to provide technical assistance to GOM in selected areas. In retrospect, AID (and the RFP) assumed that GOM was indeed committed to action in these areas; while RTI assumed that it was committed to assisting GOM in whatever nutritionally-related areas GOM chose from time to time, although it believed GOM to be committed to the areas designated by AID in its RFP. Unfortunately, the persons in the Direction of Planning responsible for the work had no role in identifying the tasks specified in the RFP and thus were not necessarily strongly committed to them. As a result, the stage was set for difficulties when RTI attempted to assist GOM to do what it wanted to do and at the same time to work on the items specified in the AID contract and in the work plan for a particular period of project operations. RTI was placed in the position of attempting to serve two masters and this proved to be unsatisfactory for all parties. The underlying question remains: Who knows best what needs doing? The host government personnel: best acquainted with their government, society, and culture but relatively junior professionally? The contractor personnel: best prepared in technical matters but inadequately familiar with the national mores and AID procedures? AID staff: often having the best intercultural perspective on development processes but operating at arm's length from day-to-day activities of the host country government? This issue remained unresolved to the end of the contract, causing tension and disharmony.

7.2 Training for Nutrition Planning

In this project three Moroccans were each posted to MIT for one academic year of training in the non-degree international nutrition planning program. This program had given them exposure to many important aspects of planning and nutrition that were useful in their work in CEPEN. The program had, however, for these participants at least, the following deficiencies:

1. It did not provide a degree and thus did not satisfy one of the personal objectives of the participants and did not provide them with the increased status of a degree among their peer group and in the government hierarchy.
2. It did not provide enough exposure to and experience in research processes (use of statistical methods, field and laboratory observational and experimental techniques, project proposal development and project evaluation procedures). Thus it appeared that the participants did not feel adequately qualified to undertake research activities upon their return to Morocco, nor did they have a research orientation to nutrition issues in Morocco. Being relatively unfamiliar with quantitative methods they were not strongly interested in, or understanding of, activities that would have made use of existing stores of data.

7.3 Location of the Nutrition Planning Unit

The nutrition planning unit was located in the Ministry of Plan with the intention that the unit would provide nutrition planning and

analysis skills to CIAN. Although this location has much logic to commend it, since it placed the unit amidst other staff participating in national planning and gave it access to many operating ministries, it ignored the politics of CIAN: Although officially presided over by the Prime Minister, CIAN had become, in fact, the domain of the Minister of Public Health and it was this ministry that provided the staff for the secretariat that had effectively controlled CIAN activities for several years. Thus, placing CEPEN in the Ministry of Plan may have placed Public Health on the defensive and created the basis for interministerial wrangling that impeded attempts to coordinate and cooperate.

On the other hand, such competition may have been a necessary price for moving nutrition policy ahead in Morocco at this time. Public Health, which claimed responsibility for nutrition policy and programs devoted these programs almost entirely to remedying severe and moderate malnutrition in infants and young children. While such programs are undeniably useful, there is an important role for programs of prevention as well as for those that would raise levels of food output and income.

During the second year of project activity, after the 1978 National Nutrition Conference, new life was breathed into CIAN and it formed working groups that held regular meetings. In addition, Public Health increased its efforts in prevention, starting the planning of educational programs to be carried out in the mass media, an activity for which RTI had attempted to bring in an expert consultant six months earlier.

7.4 Balance of CEPEN Effort

Much CEPEN staff effort was devoted to preparing drafts of the nutrition chapter for the Five-Year (and then Three-Year) Plan. These were written and rewritten extensively to satisfy nuances of interagency roles, but without becoming any more detailed or providing any more fundamental analysis of the nutrition system in Morocco. In retrospect, it might have been more profitable if more effort had been devoted to analysis and to detailing objectives and policies.

7.5 Program Evaluation

Program evaluation was called for both in the RFP and AID/RTI contract as well as by the director of CEPEN. Criteria for program evaluation were developed early in the life of the project, but were never tested and revised. Although the benefit of evaluation, or even the criteria for it, in terms of program planning was recognized by CEPEN staff, the effort to carry out evaluation for the nutrition-related programs, even on a preliminary basis, was never completed by CEPEN staff. One or two starts were made, including the use of the criteria forms, but these attempts were never carried through to internal review within CEPEN and did not involve representatives of the agencies responsible for the programs being evaluated. The demands of other activities forced such specific, formalized efforts into the background. On the other hand, the CIAN working groups that began meeting in the summer of 1978 may have become the forum in which technical staff could meet and debate program issues in ways that would lead to evaluations--at least informally.

7.6 Consultants

In formulating and initiating this project, both AID and RTI essentially underestimated the significant resistance within GOM to external technical assistance and the strong nationalistic feelings that only Moroccan specialists could make useful recommendations with respect to the issues and problems being considered. In addition, there was intense sensitivity to evaluation of programs and projects by anyone (domestic or foreign) other than their managers. Moreover, staff in Direction of Planning had had several experiences with consultants in which the products and services were not useful or satisfactory. Thus there was great wariness of consultants. Whenever the use of a consultant was proposed by the RTI team, the proposal was reviewed in depth and generally revised to require a longer tour of duty in Morocco; GOM held that no consultant could be useful in less than 3-4 weeks because the consultant could not understand the situation in less time than that. In making such demands, the GOM may have failed to recognize the difference between a consultant for technical matters, for whom a very small body of factual data may be sufficient to permit a good technical evaluation in a short time and a consultant for policy issues, for whom factual data must be supplemented with impressionistic data on the personalities and political forces involved in the issues. An adequate foundation of the latter kind does require a longer period of residence than the former does. The capacity of the resident RTI field team to provide such policy recommendations when coupled with the technical recommendations of short-term consultants appears to have been overlooked.

7.7 GOM Organization

The GOM follows a formal system of official communication channels among different ministries. This means that requests for relatively simple and apparently non-sensitive information had to be transmitted up two or more administrative levels in the Direction of Planning in order to be sent to the corresponding level in another ministry, then down, back up, and returned and sent down to CEPEN. There was an implicit assumption by AID and RTI that CEPEN and RTI staff would be able to communicate freely with the cadres of other ministries, but this proved to be quite difficult most of the time, although there were exceptions.

Although the GOM communicates quite officially internally, it actually appears to operate in a highly personal, rather than official manner. Therefore, virtually everything depends upon personal status and contacts. CEPEN staff may have seemed to be too junior to carry much weight in this system and may not have received adequate support (due to administrative pressure or other reasons) from the CEPEN director and the director of the Direction of Planning in their attempts to make contacts with other ministries.

7.8 Project Timing

The GOM and AID/Rabat both pressed for the earliest possible arrival of RTI staff in Rabat in order to assist with the preparation of the Five-Year Plan. In retrospect this may not have launched the project well, because it meant arrival of the first RTI staff about five months in advance of the second RTI staff person and the two Moroccans who were completing their training at MIT. As a result the group of RTI and

CEPEN workers did not begin work jointly or share the same perspective of the system from the beginning. Such sharing might have been highly desirable. And although participation in preparation of a Five-Year (or Three-Year) Plan seemed desirable and did result in a Nutrition Chapter in the Plan, it did not produce significant change in the plans being proposed by various ministries insofar as they related to nutrition. Each of these ministry plans was prepared within its respective ministry with relatively little input from the Direction of Planning. It is possible, however, that with the Nutrition Chapter now published, the next cycle of planning in the ministries will reflect some of the priorities identified therein.

8.0 RECOMMENDATIONS

8.1 AID Project Administration

8.1.1 Technical Assistance

It would be most helpful for a contractor if AID would clarify its position regarding contractor efforts to provide technical assistance: when are contractors expected to respond to AID mission work priorities that differ from those of the host government?

8.1.2 Participant Training

In future projects it might be beneficial for AID to spend more time and money on the training of host-country counterparts before introducing contractor personnel on the scene to assist them. Attempts to speed the process and save on costs may not be very productive in the end. An alternative model might be to start a nutrition planning project with contractor personnel being responsible for (rather than merely assisting others in) developing a nutrition strategy. In this model contractor personnel would identify participants for long-term training and remain on duty until after their return in two to three years and indoctrination on the job. A disadvantage of this model is, however, the likelihood of a change in contractor personnel during the three-four year project duration and the consequent destabilization of working relations. Another disadvantage would be magnification of the felt difference for those returning from training between the nutrition plan that is developed as a "fait-accompli" and a more collaborative approach to technical assistance.

8.1.3 AID-Host Country Liaison

Continuing, strong, and frequent communication at middle and upper levels of AID and the host-country government is needed in projects of this type in order to resolve issues relating to the focus of contractor efforts. Until AID and host government views on such issues are reconciled, the contractor cannot serve effectively.

Moreover, AID must face squarely the issue of how to assure host-country compliance with its obligations under a project agreement: at what point will AID end or alter contractor services because of the failure or inability of the host government to meet project agreement conditions-which may or may not have been reasonable?

8.1.4 Contractors in Residence

Although it is current practice to place contractor personnel in long-term residence in many countries and although this may be necessary for certain types of projects and stages of project implementation, particularly those requiring teaching, it is clear that the costs of long-term residence are high, both in money and personally. The alternative of multiple visits to the host country by one or more contractor staff should be given careful consideration, especially if continuity can be provided by either a contractor's retournee or a U.S. AID staff professional. For example, air fare to a post may be roughly equivalent to the monthly cost of housing overseas, making up to 4-6 trips a year cost effective on this basis alone (and education, moving, and other expenses must be considered, too). Also, during short visits, the focus on specific problems, tends to be more intense and access to both data and decision makers easier and more effective.

8.2 Improving the Nutrition of Moroccans

Ultimately, this project and other U.S. AID nutrition-related activities are intended to assist the Moroccans who are least well fed to improve their level of nutrition. This object may be approached in at least two ways: first, through research, planning, and administration; second through implementation of policies and programs that have observable impacts on the nutritional well-being of individual citizens.

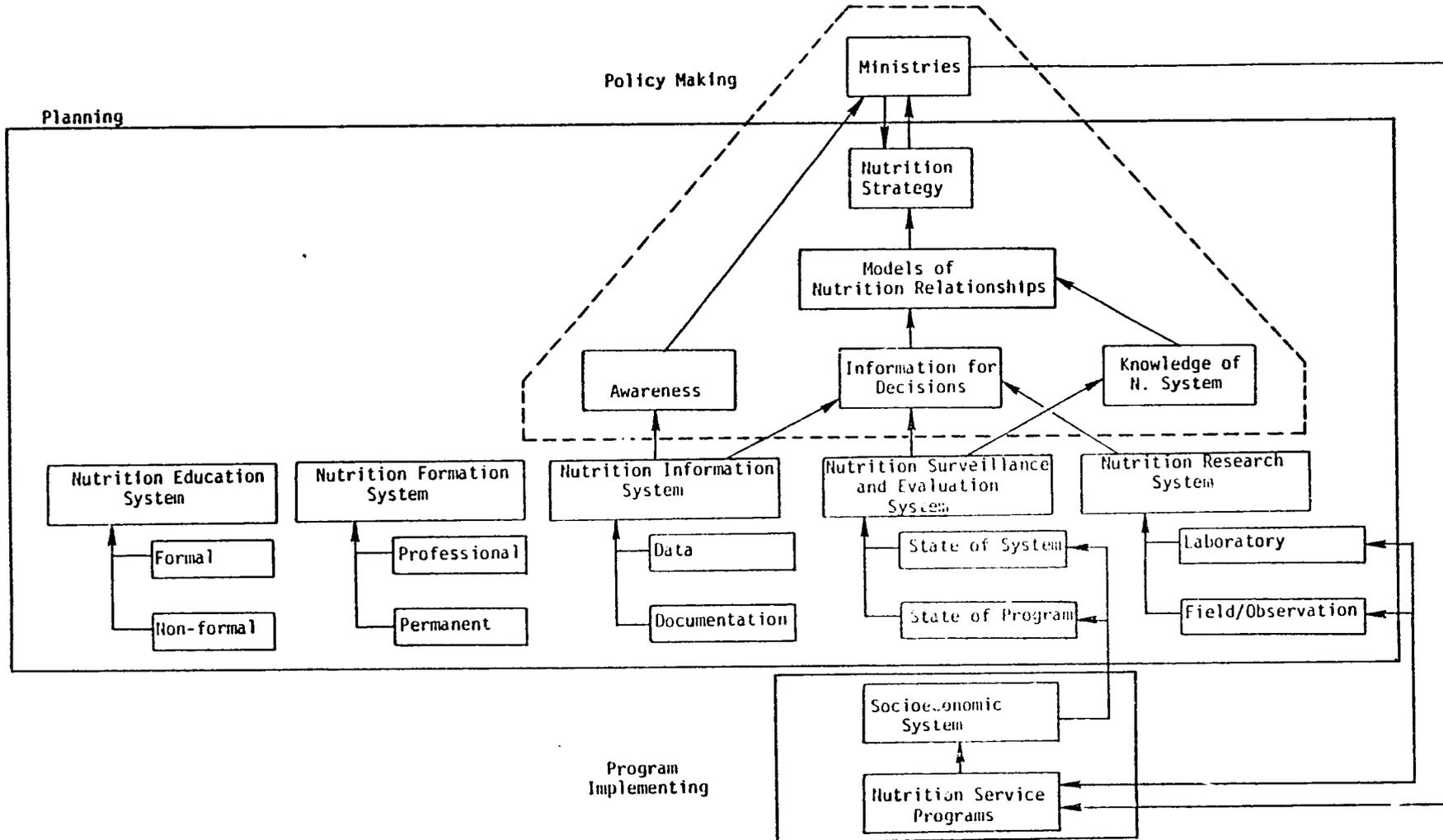
These are discussed in the two sections that follow.

8.2.1 Research, Planning, and Administration

A selection of recommended activities relating to nutrition planning and the research and administration that would support such nutrition planning was prepared by the author and submitted to the AID project monitor late in the contract period. It focuses on planning and the roles that CEPEN could undertake. That memorandum is based upon a functional model of nutrition planning functions developed for CEPEN. Because the style of that memo differs from the body of this text it is incorporated in this report as an appendix. To complete this group of recommendations the functional model for nutrition planning activities is included here as Exhibit 3, about which the following comments may be made:

This exhibit contains three major functional blocks, with the greatest amount of detail shown for the central block relating to planning functions and support program implementation. The bottom block, however, concerning implementation of service delivery programs, would receive by far the largest share of resources, even though its level of detail here is minimal. The top block, relating to policy making,

Exhibit 3. Components of a Nutrition Planning System



emphasizes the aspects of planning functions that contribute to decision making and coordination and indicates that all relevant ministries should be involved in this policy making function.

Returning now to the central block, which represents the planning function and implementation of programs that support service delivery, one notes that the foundation of the system is the row of five boxes in the center of the diagram. These boxes denote, respectively:

Nutrition Education System

Nutrition Formation (Training) System

Nutrition Surveillance and Evaluation System

Nutrition Research System.

The Nutrition Education System is concerned with planning for a specific type of service delivery that appears to be particularly in need of coordination in Morocco at this time. This education system should have the responsibility of imparting nutrition knowledge to and influencing the attitudes about nutrition of specific groups in the total population.

The Nutrition Formation, or Training, System has the role of training the cadres that will carry out nutrition education programs as well as of training the cadres who will be responsible for various aspects of nutrition throughout all the remaining branches of government. This training will occur in two levels: the permanent level concerns on-the-job training and re-training, while the professional level is devoted to the initial training that occurs beyond the level of high school and before taking a first professional job.

The Nutrition Information System comprises a service function that might be operated to ensure that data (numbers) and documentation (text) are collected, made useable, stored, and retrieved for the benefit of all persons doing nutrition-related work. Awareness is a possible additional function concerned with disseminating nutrition information so that it can be used to greatest benefit.

The Nutrition Surveillance Evaluation System is devoted to coordination of activities of all ministries insofar as those activities relate to collection, processing, interpretation, and dissemination of information related to the state of the nutrition system (ranging from crop forecasts, to crops in storage, to morbidity and mortality, to child growth status) and the state of programs (measures of inputs, throughputs, outputs, and impacts).

The Nutrition Research System focusses specifically on uncovering relations among nutrition variables. It uses information from the Surveillance and Evaluation System and supplies that system with relationships that justify the collection of certain types of information. The Research System, through a research plan, provides a method for elucidating nutrition relations in an orderly and prioritized manner.

It is suggested that each of these systems is one for which CEPEN has a major concern; especially in the form of ensuring that a plan for each system is formulated, implemented, evaluated, and updated periodically. But each of these systems is also one for which CIAN and its component ministries have responsibilities. Moreover, each system must be implemented by or through selected ministries. The ministries must, in addition, implement all the programs that provide nutrition-related

services, as shown in the box at the bottom of the exhibit, ranging from promotion of practices to increase agricultural yields to infant health care.

As shown in Exhibit 3, the top and central blocks share many components in common. The responsibility of the planning function is to develop the inputs, or assist in that development, for models and strategy. The box for models of the nutrition system is intended to contain both relatively formal models represented by equations, quantification and possibly implemented on computers, as well as informal models about relations between components of the nutrition system. The role of CIAN and the ministries is to use those inputs developed through the planning function in the creation of a coordinated strategy that represents a consensus on the best way to operate service delivery programs to aid the citizens of Morocco to increase the level of their nutritional well-being.

For further discussion of planning and the role of CEPEN, the reader is referred again to the Appendix.

8.2.2 Nutrition Policies and Programs

Turning now to the second way of improving nutrition, we offer recommendations on some policies and programs that might receive priority attention, given the current nutrition situation in Morocco.

8.2.2.1 Context

Nutrition is obviously highly individualized and requires action by each person. Ultimately nutrition programs and policies must affect each person exposed to the risk of poor nutrition; aggregate programs will only work when individuals are affected.

Whether by casual observation of life in Morocco or by review of the published statistics of the 1971 Consumption Study, one may conclude that poor Moroccans have a mediocre to poor diet and that well-to-do Moroccans eat well. Income (or productivity) is closely related to nutritional status. Clearly many families will eat better if they have the economic means to do so.

Equally clearly, based on the KAP Pre-Study of Weaning, certain groups of mothers hold to some food and infant care practices that are not beneficial for their infants, based on current medical and nutritional knowledge.

Finally, all governments are short of resources for programs to improve the lives of their citizens. In many developing countries this shortage is critical. The citizen must accordingly rely upon his own resources as much as possible.

In this context the following priority areas are recommended for prompt action:

8.2.2.2 Cereal Productivity

Cereals, especially barley and wheat, form the basis of the Moroccan diet. Cereal yields in Morocco have long term trends that rise more slowly than population. Morocco imports a large proportion of its cereal needs, at a significant cost in foreign exchange. A concerted program to improve cereal yields through use of appropriate varieties and cultural practices and dissemination of these demonstrated improvements to the little farmers is vital to improving their productivity. At the same time, institutional safeguards must be

established to insure that such farmers retain a major portion of such productivity gains.

8.2.2.3 Maternal and Child Health Services

Moroccan health policy has focused upon curative services dispensed from a system of modern-style health facilities. Preventive services and the potential contributions of traditional health care providers (such as midwives) have received much less emphasis, or even been ignored. Given the shortage of resources for remedying infant and child malnutrition, it may be cost-effective to increase the emphasis on prevention and traditional midwives and to give the latter a clear stake in maintaining the health of the children they help deliver.

8.2.2.4 Education

At its best formal education is an expensive process. And it is provided mostly to pre-adults. In order not to write off the current generation of adults, the mothers and fathers who feed children and buy food, planners must develop and test non-formal methods of education (mass media, health and nutrition family visitors, demonstrations, etc. at weekly markets (souks), as well as the existing supplemental food commodity distribution coupled with nutrition lecture/demonstrations being carried out by the Ministry of Social Affairs. These non-formal methods must be tested for efficiency in changing behavior in ways that reduce morbidity and mortality in early life and enable infants and children to maintain a standard growth curve.

APPENDIX

Opportunities for Further Nutrition Activities in Morocco

RESEARCH TRIANGLE INSTITUTE

CENTER FOR POPULATION AND URBAN-RURAL STUDIES



May 10, 1979

TO: P. S. Gibson, Health and Nutrition Officer
U.S. AID to Morocco
Rabat, Morocco

FROM: Michael v.E. Rulison
Senior Economist

SUBJECT: Opportunities for Further Nutrition Activities in Morocco

1.0 INTRODUCTION

In response to your request, this memorandum outlines a number of opportunities that I believe exist for further activities related to improvement of nutrition in Morocco. Since I believe you are familiar with many of the ideas expressed in this, the bulk of the memo will be in outline form, with supplementary comments as needed.

2.0 ACTIVITY OPPORTUNITIES

2.1 Nutrition Information System

At the time of my departure in March, the CEPEN Documentalist was nearing completion of the cataloguing of existing CEPEN holdings. She was eager to improve her capacity to serve CEPEN and the Moroccan nutrition community and wished to do the following two things, which I endorse:

2.11 Improve Capability of Documentalist in English Language

This activity is needed in order to allow the Documentalist to make full use of the considerable number of documents in the CEPEN library that are in English.

2.12 Disseminate Information About Existing and Newly-Acquired Publications

This activity is needed for two reasons: First, to make possible users aware of information that is available, and second, to make it apparent to users that the CEPEN library wishes to serve them and can be of use to them and thus to increase the legitimacy of this activity. Dissemination might be carried out by means of a newsletter, but telephone calls and personal visits by the Documentalist to potential users and user organizations are other possible modes of action.

2.13 Develop Data Base

In connection with developing a nutrition surveillance system (see below) numerous items of data could be acquired and placed in a standard format for ready reference, starting, for example, with annual estimates of total population (see memo attached) and moving on to other demographic, health, and economic variables.

2.2 Nutrition Formation System

Although many aspects of a nutrition formation system, both permanent and professional, are worthy of development, I shall restrict myself to suggesting that CEPEN should commit itself to a continuing series of seminars for itself and a few selected other persons from Plan, Social Affairs, Health, and wherever else a friendly listener may be found at the moment. These seminars should be given by members of CEPEN and selected outside resource persons with the aim of improving knowledge of nutrition and of statistical methodology, to name two important areas.

2.21 Liaison with Academic Institutions (e.g. INSEA)

As you know, I discussed with Jack Sleeper and you the possibility of his substituting for my supervision of the two current stagaires. I hope this has been possible. I strongly recommend, however, that attempts be made in succeeding academic years to develop researchable topics that can be pursued by stagaires from INSEA or from other academic institutions. I believe the long-term payoff in terms of research and awareness of nutrition as a policy issue will justify the modest expenditure of time by either AID or CEPEN personnel.

2.22 Collaborative Research with Academic Faculty

I believe CEPEN should work hard to develop linkages with faculty of academic institutions in terms of collaborating on researchable issues. The AID project to provide local research grants appears to me to provide a mechanism for modest funding needs that would facilitate such faculty research.

2.23 Special Seminars at Academic Institutions

If CEPEN staff could become co-leaders of seminars on various aspects of nutrition at INSEA and HASSAN II, or at other academic institutions, they would be developing another opportunity to promote awareness of an understanding of nutrition and nutrition policy issues in Morocco. I believe time would be well spent.

2.3 Nutrition Surveillance and Evaluation Systems

2.31 Nutrition Surveillance Paper

This paper by myself had been largely translated by Khadija Belfakir before my departure. This translation should be finished and a stenciled copy reproduced if that has not already been accomplished.

2.32 Dissemination and Discussion

The paper should be distributed to friendly interested parties and arrangements made for discussion of its contents and proposals either individually with readers or perhaps eventually in the form of a seminar or journée d'études. After such discussions, the proposals made in the paper could be revised and specific time schedules and activity sequences could be proposed for formal acceptance within the framework of CIAN.

2.33 First Nutrition Surveillance Report

If the outcome of the two preceding tasks is positive, plans could be made to develop a first nutrition surveillance report based on existing statistics.

2.34 Collection of Primary Nutrition Data

As you and I have discussed, primary nutrition data can be collected in two ways: first, in major, one-time surveys and second, in continuing, minor surveys, such as those that might be linked to an on-going area sample for other purposes such as those of the agricultural crop estimating system (supplemented by an urban sampling frame) and incorporating rotating and one-time modules of socio-economic questions. There are many arguments in favor of each approach, but I will not discuss them further here. The point is that the merits of the two approaches should be evaluated and policy makers should decide the mix of the two methods to be used.

2.35 Fiches d'Evaluation

Criteria for project evaluation were developed in mid-1977, but in spite of having been distributed on an ad hoc basis, they have never received thoughtful review and comment by persons outside of CEPEN. I believe these criteria for evaluation might be turned into something useful if CEPEN staff would sit down with representatives of other ministries and apply the criteria to selected individual projects, completing the forms in full as best they can. Once that is done for half a dozen projects, the defects and advantages of the forms as they now exist will become apparent. Then modifications can be made to have criteria that will suit the needs of CEPEN and the ministries for learning about their projects and about the data they will need to

evaluate and monitor them. If these forms are to be used in the evaluation of projects for the 1981-85 Plan, the forms must be revised and placed in agency hands this year. Without appropriate discussion with agency staff and a follow-up revision, I do not believe the forms and the idea of evaluation using them can ever be legitimized.

2.4 Nutrition Research System

The search for new knowledge and methods is the function of the Nutrition Research System. It overlaps the other systems and involves action ministries, Plan, and academic institutions. It includes both laboratory research and field research in the socio-economic milieu. I believe CEPEN could perform a useful function if it could develop a draft nutritional research plan (NRP) in which priorities for short, medium, and long-term research studies by sector, subject, and method were described. This draft could be developed in collaboration with representatives of action ministries and academic institutions and then circulated within the framework of CIAN for review, critique, and revision. Upon final approval and distribution, this plan could provide the basis for funding priority activities within ministries and by AID to the Government of Morocco. The plan should be updated annually; this would probably be a low-level effort after the first NRP was developed.

2.5 Nutrition Education System

Several ministries are currently operating programs that include nutrition education components.

2.51 Evaluation of Nutrition Education Activities

A priority activity within the nutrition education systems should probably be the evaluation of nutrition education activities currently being undertaken by the several agencies. This is necessary to ascertain the degree of underlap and overlap and, if possible, the effectiveness of various educational strategies with different components of the population.

2.52 Education Laboratories

As a means of improving the delivery of educational services, one or more ministries might be encouraged to establish "educational laboratories" in which various educational methodologies would be implemented under rigorous experimental control and design in order to identify the methodologies that are most effective in specific conditions.

2.53 Education System Objective

As you know, the current collection of nutritional education activities is far from being a complete system and does not provide anything like reasonably sure coverage of all the families at risk. As

you know from my discussions with Mr. Cherkaoui, I believe the nutrition education system of Morocco should have the objective of achieving several personal contacts each year with each family by a primary nutrition/health worker. I believe such a system could be feasible if such workers are drawn from the pool of wives and mothers in each community and if a suitable hierarchy for passing nutrition education messages downward (and feedback upward) can be developed.

Such a system would ultimately require cooperation and coordination among the several ministries but it could probably be started on a small scale within Social Affairs. (E.g. in one province, such as Kenitra.)

2.6 Management of CEPEN

2.61 CEPEN Director

A plan and timetable for designating a full-time director for CEPEN should be established.

2.62 CEPEN Focus

The focus of CEPEN should be shifted from administrative reports to research reports.

2.63 Nutrition Information

CEPEN should develop its nutrition information system as a component to support planning and research both in Plan and in other ministries. (See 2.1, above.)

2.64 Language Capability

CEPEN should develop and maintain staff competence in English because of the importance of the nutrition literature available in the language.

2.65 Quantitative Methods

CEPEN staff does not currently have competence in quantitative methods. In particular, they need an understanding of what can be learned through multi-variate analyses but they also need to be capable of performing simple analysis of variance and tests of the differences between two means. It is because of this need in CEPEN that I have long advocated establishment of a close liaison and appointment of what might be called a "liaison statistician" from within Direction de la Statistique to work with CEPEN. I believe this appointment is still needed but the seminars for CEPEN referred to above could also be a means for educating CEPEN staff.

2.66 CEPEN Coordination

As one means of improving the integration of CEPEN into Plan, I would suggest the holding of an activity evaluation meeting at least each two weeks with the Director of Plan. This should result in his being more fully aware of the activities and progress of his staff.

2.7 Supplementary Analyses of Consumption Study

This topic could be placed under the nutrition research system but I will just tag it in here for the moment.

2.71 Reformulation of Data Base

The reformulation of the data base has been described by Mr. Boulabiar in his memoire prepared last June. The results of this reformulation would be a data tape that could be used efficiently in GOM computers for further analysis of the 1971 consumption study.

2.72 Estimation of the General Linear Model

2.721 Estimation of Regression Coefficients

The various regression coefficients and associated statistics should be calculated on a computer.

2.722 Analysis

With suitable regression coefficients, path analyses could be defined and evaluated in terms of their value for explaining the nutritional behavior of the Moroccan population, or other forms of models could be estimated.

2.723 Report

Finally, a summary report of this supplementary analysis of this consumption study could be prepared to point out the variables that were most useful for explaining or predicting nutritional behavior or status.

2.73 Recommendations

In the light of the effort required to create a major consumption study, such as that prepared in 1971, serious consideration must be given to the utility of doing another major study of that type in the early 1980's. An alternative in terms of small, on-going surveys was noted above. Without serious analysis and evaluation of the 1971 study, and that means computation of sampling variances so that one can establish the findings that are significant and differentiate them from those which merely represent sampling error, it is, in my opinion, inappropriate to invest the large resources needed for a replication of a 1971-type study.