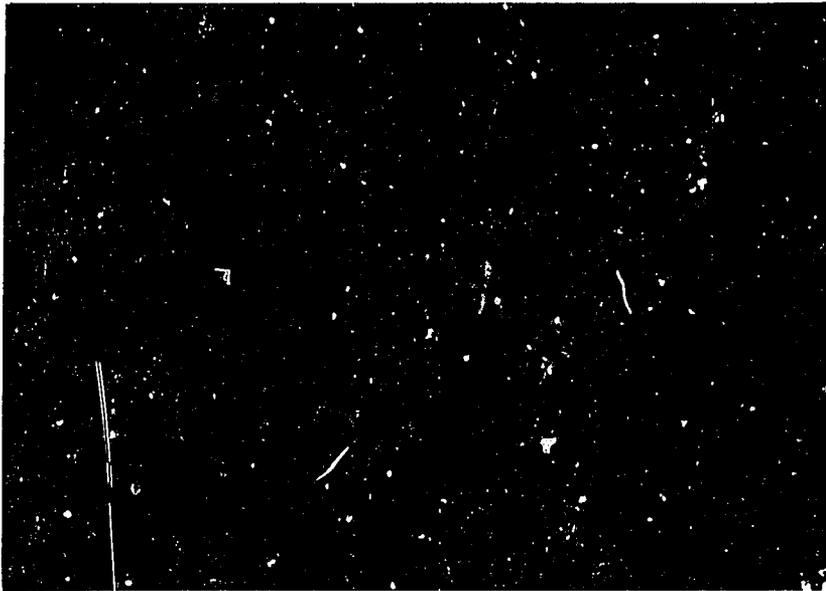


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PN AAM-604
ISN = 27927



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A REPORT
ON
A NUTRITION CONSULTATION
WITH
USAID/MALI

Contract No. AID/SOD/PDC-C-0083
Work Order No. 3

Submitted by:

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18 April, 1979

A BRIEF INTRODUCTION

Services were extended under this contract to the USAID mission in Mali between March 2, 1979 and March 18, 1979. Activities were initiated with an afternoon orientation and discussion dealing with the basics of nutrition planning and the comparative merits of different approaches and interventions given various sets of circumstances. The orientation was followed by detailed discussions with various responsible officers of the Mission, both Malian and American, concerning specific projects and programs. A brief resume of the points covered during the initial presentation and descriptions of the various present or potential future projects and programs discussed are included in this paper. All consultation was undertaken with USAID personnel. After discussion with appropriate USAID officers, it was decided that the consultation would remain "in-house" and not involve GRM officials until such time as the Mission had determined how it wished to approach nutrition planning within the context of its operations. Contacts with GRM were felt to be premature at this stage and potentially misleading as to USAID's future programmatic intentions in the absence of an established USAID policy as to the role of nutrition in its activities.

Mr. Thomas Park, USAID Health Officer, served as control officer for this consultation. His knowledgeable and thoughtful assistance

was readily extended and gratefully accepted. Appreciation is also expressed to all the many officers of and contractors to USAID who participated in discussions related to an increased emphasis on nutrition planning.

I. Outline of Comments Presented during Orientation

The following outline briefly presents those questions and points raised for consideration and discussion during the initial orientation session. It is not meant to be exhaustive and cover every point raised, but rather to "highlight" the major concerns expressed. Questions and other points raised for discussions were chosen on the basis of material made available prior to the consultation and discussions held shortly after arrival.

A. Increased Food Production

-Do such activities involve the introduction of new crops? If so, what is the nutritional value of these new crops and what is the value for those crops being replaced, if any? How does the introduction of higher-yielding, but less nutritionally beneficial, foods impact on total availability of nutrients?

-In line with the above, does emphasis on the increased production of one crop lead to the unintentional replacement of other crops even though this was not included in the design of the project?

- Does the project involve increasing the area under cultivation of increasing yields? If the former, will this take land that might be used for more nutritionally necessary food-stuffs?

-Are the crops being emphasized grown for local consumption or for export (internal or international)? If for export, what does this do to local food availability?

-Are the foods being emphasized high-cost or low cost?

-Will increased production by project-affected farmers so affect prices locally that other farmers will face impoverishment and possible nutritional problems?

B. Cash Crops and Income Generation

-How equally is the income generated by cash crops divided between various farmers and their families?

-How are the benefits derived from increased income distributed within a family?

-How much of the income is spent on food, and is this an improvement on former practices? To what extent is cash replacing food as family income?

-Has increased income led to increased prices, thus negating the effect of increased income?

C. Small Business/Infrastructure Projects

-What impact does the creation of a small, food-related

business have on a local food consumption? (An example given was that of a Sahelian nation where an international agency helped set up small bakeries in towns across the country. It was observed that small French rolls were popular with school children as snacks. It was assumed that this provided these children with nutritional benefits - increased calorie intake. It was only later that careful study found that the rolls were not supplementing diets, but were supplanting the original and traditional student snack food, groundnuts.)

-Does a new road which opens distant markets to local food production have a negative impact on local food availability and food consumption? Does it remove food from the local market and lead to a rise in local food prices? How can this be avoided or ameliorated?

Discussion of Possible Interventions during Orientation

A. Fortification

-Fortification can be very successful, but requires at least three basics for implementation: 1) a food which is widely and regularly consumed by the "target population"; 2) a food which is centrally produced or produced in only a few places for the simple and cost-effective use of fortification technology; and 3) the fortification must satisfy a real (verified) nutritional

need and at an affordable price to the people requiring the greatest attention or to the government (if subsidized and distributed cheaply or at no cost). There are a variety of questions that would need answers prior to implementation of a fortification project, but these three basic points should always be given first consideration. An example of a further concern might be: Do some people eat so much of the food that they might receive an "over dose" if levels needed to be high in order to satisfy the needs of those people eating less of the product?

B. Introduction of New Crops/Higher Yields

-As mentioned before, this can be very valuable, but there is a need to consider certain questions, some of which have been discussed here, prior to planning and implementation.

C. Government Subsidies

- General disapproval of such subsidies was expressed as they make for artificial prices and normally cannot be afforded indefinitely by developing nation governments who then must let prices rise (by removal of subsidies) to the detriment of the original purpose.

D. Gardens

-School or home, these can be helpful, but primarily as an educational tool at the school level. It should be kept in mind that studies have suggested that, in areas of West Africa where cultivating gardens is difficult and returns limited, more calories

may be expended in developing the garden than are received from garden produce which can lead to a net loss of calories instead of a gain.

E.PL 480 Distribution

-Of value during short-term relief operations, but experience suggests that such distribution can foster a dependency in development activities and sometimes contradict the goals of other projects, such as food production, or work to artificially lower prices to the detriment of farmers. Control of such programs is expensive in terms of time and effort as well as money, but control of distribution and use is essential for success.

F. Weaning Foods

- Improved weaning foods can be of great value in areas where traditional weaning foods are nutritionally deficient. Major problems with the development of such foods include their high expense to the poor, their misuse by food preparers (i.e., too little used), and the difficulties in their distribution if centrally produced. Preparation of homemade weaning foods should be stressed if at all possible, although this involves the complexities of education. In any case, improved weaning foods are completely valueless unless they are used, and used properly, by families in need.

G. Nutrition Education/Extension

- This approach has not been particularly successful in West

Africa when divorced from other activities and treated as a separate endeavor. However, it can and should be included in integrated health programs or other appropriate educational activities such as functional literacy classes.

H. Functional Literacy

- Endorsed as an appropriate "vehicle" for nutrition education as mentioned elsewhere in this paper in regards to proposed literacy activities.

I. Integrated Health/Primary Health Care Projects

- Due to the synergistic relationship often found between nutritional status and infection, it is essential that such projects contain a nutrition component or deal directly through other components with nutritional concerns.

J. Integrated Rural Development Projects

- Rural development is unlikely to meet its full potential among sick, malnourished people. Health and nutrition should thus be taken into consideration as one more necessary input in a rural development project. Experience elsewhere suggests that health and nutrition fit "naturally" into such projects if designed thoughtfully and thus it does not become a matter of "forcing" an issue or approach.

K. Peace Corps Volunteers and Private, Voluntary Organizations

- Both Peace Corps and PVOs offer potential for programs that have wide impact at the village level. The support of their efforts

by USAID and/or the integration of some of their efforts into USAID projects can be very beneficial to all parties concerned. Peace Corps Volunteers often provide significant knowledge of local conditions and possess above average communication skills in local languages. Utilization of Volunteers who have already worked in-country for a year or two increases their value to projects. PVOs also often provide a "thread of continuity" to many programs that may assist AID in bridging gaps created by local government upheavels, AID turnover, or gaps between related projects in AID programming.

The above points were discussed in detail and with enthusiasm by orientation participants. I would like to add that I was most favorably impressed by the serious attention given these discussions and the willingness volunteered by participants to find ways to integrate nutritional concerns into their programming activities.

II. Post-Orientation Discussions

A. General Comments on Agricultural Programs

Discussions were held with Mr. Jepson, USAID Agriculture Development Officer, and also as mentioned elsewhere in this report, with Messrs. Diallo, Samake, and Delgado of USAID. Many of the concerns raised by these gentlemen are dealt with in other sections of this report under Functional Literacy, Fortification, and

Commercial Weaning Foods. In general, agriculturalists at the Mission seem quite interested in incorporating nutritional concerns into their programs. As just one example, following my orientation seminar presented to Mission staff, it was the agriculturalists who remained behind to actively discuss various aspects of the presentation. This is quite unusual in my experience and indicative of a most positive spirit.

Beyond the cordiality evidenced, it is clear that the Agriculture Development Officer and many of his staff see agricultural production activities as only one part, albeit a very crucial part, of a basic need for integrated rural development efforts in Mali. Those with whom I spoke were especially concerned that their production efforts did not unconsciously lead to negative nutritional effects. Discussion of these efforts in the time available did not demonstrate any gross errors in this regard. Further, detailed investigation might have uncovered some difficulties, but efforts were undertaken to sensitize the agriculturalists to the types of problems that might be encountered.

As USAID becomes further involved in already planned and potential future integrated rural development projects under various "Operations" and "Actions" sponsored by Mali government, there will be more opportunities for the consideration of nutritional benefits and impact. I would recommend that future nutrition specialists sent to Mali be allowed sufficient time, at the discretion of the Mission, to evaluate ongoing programs and to make recommendations regarding

future activities. Also, it is recommended that teams sent to Mali for Agriculture/Rural Development PP preparation include a nutritionist or nutrition policy planner to help in integrating nutrition at the earliest stages of project development. All indications are that such assistance, particularly from specialists with Sahelian experience, would be welcome. As a final note, two areas that are of interest to a nutrition policy planner and ought to be included in future studies are 1) the distribution and consumption of the foods produced as a result of USAID project activities and 2) the effect of government pricing policies on nutritional status and food consumption. Both areas were mentioned in discussion with the Agricultural Development Officer as being of present concern to his office.

B. Rural Health Project

Conversations were held with Mr. Park, Drs. Nilson and De Sole, Mr. M. LaPointe, and PVCs H. Gaines and Kreutzer. This integrated health project attempts to bring primary health care to populations in two separate sections of Mali, one in the east and the other in the west. The project has only been in operation since July of 1978 and is not yet under full implementation particularly in regard to the establishment of a logistical system for the provision of medical supplies and medicines. The project appears to have suffered, not unlike other projects in Mali, from the conspicuous lack of transportation and communication infrastructure. This is aggravated by the considerable distance separating the two sub-

project areas. A total of 15 of a future total of 240 village health workers have only recently completed their training and will soon begin their regular course of activities.

Nutrition is of concern to all individuals with whom I had a chance to speak. The project lacks a trained nutritionist which, understandably, leads to less emphasis placed on this concern than might be the case otherwise. Nonetheless, there seems to be no lack of interest in incorporating nutritional concerns and, in some cases there is apparent enthusiasm. Various surveys including anthropometric measurements, diet histories, laboratory analyses, and educational efforts are at one stage or another of development and are areas to be considered for future technical assistance efforts depending on the result of project activities. To the extent possible, I attempted to be of some assistance to the team in response to their requests for information and I can only hope that my comments were of practical value.

For future consideration, I would recommend that any nutrition specialist sent to assist the Mission be allocated sufficient time to visit project activities and directly consult with team members as to their work and the ways in which nutrition might be more fully and successfully integrated into project activities. While discussion with team members in Bamako may be of some value, both further time and site visits are necessary for assistance to be fully effective.

C. Solar/Renewable Energy Resources

Conversations with Mr. Anderson, under contract to USAID for this project, were most interesting. Mr. Anderson is working closely with the GRM to develop alternative, renewable energy sources for a variety of uses: pumping water, heating water, cooking water, drying food and in conjunction with the use of appropriately designed improvements of traditional stoves. All these uses impact on environmental sanitation and/or nutrition and public health. The combination of institutional support for GRM's Solar Energy Lab and village level surveys to determine locally available energy resources and needs represents an excellent approach. I was particularly interested in two items: 1) solar drying for foods to be used during periods of low food availability and 2) labor-saving devices that will particularly lessen the burden placed on women and thus act as a calorie-saving devices, among other things. This is an example of the type of project which often is overlooked by or unknown to people concerned with health and nutrition. In a very real sense, this is a food technology project as well as an energy resource project. I strongly recommend that this project's progress be checked from time to time by the Mission's Health Officer and that progress reports normally prepared by the project be shared with the appropriate offices in AID/Washington so as to enable health and nutrition specialists to identify potentially important technological interventions to be used in other parts

of the developing world where appropriate.

D. Mali Rural Works Project

In discussions with Mr. J. Salzburg, Project Manager, the project was described as a means to assist the decentralization of government activities in the rural development process. Briefly, the project is designed to strengthen already existing village institutions whose purpose will be to identify the needs of the village as perceived by its inhabitants. Once a need is identified, the project will encourage the villagers to determine what steps are necessary to improve the situation and what resources, within and outside the village, are available for a given development effort. The project, in coordination with GRM, will try to provide any necessary technical assistance or resources not readily available at the local level for sub-project implementation. In this way, the project will support local initiative while taking into account the shortage of local resources.

As the project is at a very initial stage, it is as yet unclear as to precisely what needs will be expressed by the villagers and to what extent they will relate directly or indirectly, to nutrition. It is assumed however, that many villages desire an assured, year-round supply of potable water. This in itself is of concern nutritionally and the project appears quite capable of providing assistance in this area. However, should a need be expressed, (for example: "Our small children are always sick and many die,

what can be done about this?) of direct nutritional significance, it is unclear as to whether the project can respond appropriately. USAID technical assistance does not include at this time a health/nutrition specialist. It is generally agreed, as mentioned elsewhere in this paper, that the GRM has very limited capabilities in this area, particularly nutrition. Although the project manager is very amenable to a future project amendment providing such assistance, this can be very time-consuming and prevent assistance from being available when it is requested, an important point in maintaining village enthusiasm and the project's credibility in future activities. As is true of other USAID projects, there is potential for nutritional impact which is recognized within the Mission, but there is insufficient full-time expertise to deal effectively with a large number and variety of felt needs. I strongly recommend that other visiting nutrition specialists keep close eye on this project for potential future needs. The project should also move quickly to request outside assistance if such seems likely to be required.

E. Fortification and Prepared Weaning Foods (commercial): Conversations with Mr. D. Delgado of USAID raised several possibilities of cooperation with a local businessman, Mr. Gerard Ashkar. An active and well-established entrepreneur, Mr. Ashkar owns and operates a candy/gum factory, a macaroni factory, and will operate (as a condition precedent to AID support of Action Ble) a flour mill in the not too distant future. Mr. Delgado has held frequent and detailed discussions with Mr. Ashkar and the results of these discussions were shared with me in Mr. Ashkar's absence.

The candy factory mentioned presently produces some 12 tons per day of small, very inexpensive candies which are distributed throughout West Africa. Machinery for producing bubble gum will soon be in place and operational. Mr. Ashkar has expressed a willingness, at his own expense, to fortify these products if it can be done relatively cheaply and if he can be introduced to the appropriate technology for such fortification. I am not personally sufficiently familiar with the details of fortification technology and its costs to respond to these questions adequately. Although the fortification of candies and bubble gum is admittedly a bit unusual in my experience, it can be argued that their consumption is wide-spread through all socio-economic classes within the cash economy. Indeed, it is one of the few items universally eaten and centrally produced in this region which might serve as a feasible "carrier" for fortification. Such an initiative could be very controversial in nutrition circles as it would involve the nutritional

fortification of an item which is implicated in other health problems, such as dental caries. Nonetheless, I hesitate to refuse consideration to any potential intervention whose benefits might conceivably out-weigh its negative impact. I would recommend that we not reject this possibility out of hand, but raise it for discussion with those more familiar with past experiences in fortification. It is possible that this intervention has already been attempted with candy production elsewhere in the developing world and it would be interesting to know the results.

With particular reference to the bubble gum, Mr. Ashkar has also expressed interest in the inclusion of a cartoon or short comic strip with each packet of gum. He has further expressed a willingness to directly relate this "media message" to nutritional concerns if he receives assistance in developing an appropriate message for illiterates as well as literates and possibly the "plates" necessary for printing. Again, this raises a variety of questions regarding the carrier to be used and the Agency's relation to the private sector. I would once more recommend that this proposal be discussed and examples of similar activities be sought from other countries before a decision is made.

Finally, Mr. Ashkar is planning the development and sale of small, packaged quantities of a weaning food based on the "waste" such as bran left over from his flour mill operations along with quantities of corn, sorghum and/or millet flour, and dried milk for sale throughout Mali and West Africa. He is intent on deve-

loping as inexpensive a weaning food as possible recognizing that his hopes for real success in this area require a market larger than that represented by salaried workers. He feels that with his already established distribution system and as a result of his bulk production, he may succeed in keeping the price low enough to bring the product within reach of a wide population. It might also be possible to sell this weaning food in bulk to governments for use in nutrition programs. He would like some technical assistance with the determination of an appropriate blend of ingredients and nutrients. As he appears to be well down the road to the creation of this weaning food and as his large-scale operation does offer some hope of economies of scale along with a built-in distribution system, I would recommend that the Mission, which as already developed a working relationship with Mr. Ashkar in regard to Action Ble, investigate the situation carefully. If AID/Washington feels that past experience in other countries supports this effort, they should make a specialist available to USAID to determine local feasibility and to prepare a "mini-project" or AIP.

Too many commercial weaning food projects have failed for lack of economic viability due to limited production and/or limited markets to ignore the potential in this suggestion. Insofar as West Africa is concerned, a large-scale enterprise of this sort might establish whether any commercial weaning food can be prepared and marketed to the benefit of "at risk" groups and yet be profitable

to an entrepreneur. Finally, this situation may offer USAID an opportunity to experiment in this area without excessive Agency funding.

F. Functional Literacy Projects: Conversations were held with Messrs. Diallo, Samake, Delgado, and Park on the subject of the addition of functional literacy classes in integrated rural development projects, particularly in the areas covered by Operation Mils and Operation Haute Vallee. The enthusiasm of all concerned with the potential for nutrition education within the context of literacy classes was noted and appreciated. Indeed, literacy classes can serve as excellent "vehicles" for nutrition education. Programs including only nutrition education have frequently failed due to what has appeared to be a lack of real interest on the part of food preparers, normally women. Even with the use of "incentives" such as the free distribution of PL 480 foods at nutrition education classes, interest has often not been high enough to assure the retention of information and its use in a day-to-day practical sense by the people "educated". As has happened in other countries, initial experience in Mali suggests that rural people are very excited when offered the opportunity to be trained in literacy.

This excitement has readily been translated into attendance at literacy classes. In this sense, a "learning environment" is much simpler to create than under circumstances where some sort

of "gift" is needed simply to assure attendance. My experience with literacy classes in West Africa, primarily in northern Ghana, suggests that whatever is presented to participants in the course of their learning to read and write is well-remembered and treated with great seriousness. Given the West African context, I can think of few means as excellent as this for nutrition education. As a result, I strongly recommend a continued and, if feasible, increased emphasis on nutrition and nutrition-related topics during literacy training.

With the kind assistance of Mr. Diallo, I was able to "read" a small portion of the literacy materials (the portions involving direct nutritional information) after their translation from local languages to French. Unfortunately, no complete French or English translations were available. This cursory review of the materials suggests that improvements could be made in the presentation of information (more stress on the values of breast-feeding; more thorough descriptions of weaning foods appropriate to the area in which classes are held; the inclusion of a simple description of the warning signs of malnutrition to alert a mother to a potential problem; etc.). I was especially perturbed with two short lessons that encouraged weaning the child beginning at the third month. The lessons went on to recommend feeding with powdered milk and water. There was no mention of sterilization of the bottle, boiling of the water, or even simple sanitary precautions to be taken. Breast-feeding

took a decided "back seat" to bottle feeding in these lessons and left a clear impression that switching from the breast to the bottle or cup with powdered milk was a normal occurrence when a child reached three months of age. I spent considerable time with Mr. Diallo and also with Mr. Park discussing the problems found and recommending various corrective measures. I would further recommend that future literacy lessons be translated into French or English to allow Mission personnel, especially the Health Officer, an opportunity to review lesson content.

Technical assistance in the preparation of appropriate lessons could be offered to the GRM and the Mission by AID/Washington. It would not take a great deal of time, effort, or expense to make a simple, but practical, impact on these materials. Assuming the selection of a technical advisor with experience in West Africa, particularly the Sahel, and given a willingness on the part of GRM officials to cooperate, an advisor could complete the rewriting and up-grading of the presently existing lessons in a period of two weeks, as an estimate. Inclusion of a great deal of supplementary nutrition lessons at literacy or post-literacy levels would require considerably more time. However, I would recommend that initially the present, basic lessons in child care and feeding be rewritten and emphasized without the addition of much extra material for the following reasons: 1) we will have made a great step forward if this basic information is properly presented and assimilated; 2) we do not want, regardless of our good intentions, to "overwhelm"

pre-literate and newly-literate people with information that might be confusing; and 3) we should first check to see that the basic information is having an appreciable impact before adding significantly to the areas covered.

G. The work of Madame Mondot: My comments are based primarily on my reading of the reports, Parts 1 and 2, entitled "Problems Connected with the Satisfaction of Food Requirements in the Developing Countries" authored by Jacqueline Mondot-Fernard, Loic Monjour, and Marc Karam of OICD; the two page "outline of Preliminary Report - Nutrition Surveys in Mali"; and discussions with Mr. Park of USAID, and Ms. Neuhauser and Mr. McKigney of AID/Washington.

I am very pleased to note that this type of study has been undertaken in Mali and, regardless of whatever criticisms I may have, the concept behind this survey is important and worthy of continued support. To be of real use to the GRM and to nutrition policy planners, indeed any policy planners, I feel that such surveys must be undertaken in a manner that allows its results to be accepted as statistically valid and 2) the presentation and analysis of the information gained should be presented in detail, but clearly and understandably so to facilitate its use by planners who may have little or no background in the technical aspects of nutrition. Unfortunately, although any survey undertaken in the Sahel is of automatic interest to nutrition

planners due to the scarcity of data, this survey (as presented in the preliminary reports) fails to satisfy the above mentioned requirements.

In regards to statistical validity, I am aware of the criticisms raised by various reviewers, among other things, that the number of children under 5 was insufficient to assure us that the biological survey was statistically valid. I certainly agree with this, but I believe the question of validity is more profound and basic than merely the limited number of young children included. In any survey such as this, one immediately looks for the methodology employed in selecting the sample population. The preliminary report can be faulted on many counts for the lack of explanation and analysis of important points. In regards to sample population choice, this is very much the case. In fact, there is really only one substantive sentence in the introduction to the report that deals with the selection of the compounds surveyed, most important point in establishing statistical validity. On page 6 of Part 1, it is stated, "The final choice of the compounds was made with 'the Council of the Village!'. There is no further explanation of this statement presented. However, it cannot help but leave the impression that this judgement was subjective in nature as we can have no assurance that the "Council of the Village" chose the compounds (or participated in choosing them) on an objective, random basis. On the contrary, my experience and that of others with whom I am familiar strongly

suggest that such a Council's involvement would be anything but objective and random, and understandably so. As a result, a very basic requirement for establishing statistical validity is missing and, from that point on, we cannot accept the data gathered as statistically valid. Frankly, it amazes me that such a simple requirement could be overlooked. There are few enough villages, compounds, and individuals included in the survey as it is for this error to be allowed. It might, in some countries, be argued that cultural sensitivity requires village involvement in the selection of compounds. This still does not permit us to accept the findings as valid beyond the sample population. However, in Mali, we have evidence that such a situation is not the case. In three surveys undertaken by CDC, one in 1974 and two in 1975, concerned with nutritional status in Mali, measures were taken without apparent difficulty in up to 35 Malian villages to assure statistical validity. I refer the reader specifically to pp. 2-6 of "Protein/Energy Undernutrition Surveys in the Sahel: 1974 and 1975". The techniques used in these surveys were simple, but sufficient to establish statistical validity. It seems clear that the OECD team could have done at least as well. If not, a full explanation is required. Explanation or no explanation, the problem is serious and cannot be overlooked by the serious reviewer.

Beyond this basic concern, there are other points that are disconcerting:

-there is indeed an insufficiently large sample of children

under 5 included in the biological survey to support any broader conclusions;

-the division of compounds into "rich", "average", and "poor" categories is insufficiently described as to techniques used or justification for such a division. It also affects statistical validity and one is forced to ask why 2 "rich", 3 "average", and 3 "poor" compounds were chosen. What is the statistical basis for these proportions and how might this "skew" the results?;

- the anthropometric measurements are presented without reference to a standard population rendering them less useful;

- the concept of "zones" is introduced without sufficient explanation leaving us to wonder if the division of the total group into three sub-groups might not also have ramifications statistically.

Closely related to many of the above points is the lack of explanation, discussion, and analysis throughout the report. As earlier stated, I expect the results of a survey of this sort to be presented in such a manner as to be useful to policy planners, regardless of the discipline in which they have been trained, in determining policies to be recommended for implementation. Without going into a great deal of detail, I would simply state that I have found the organization of the report extremely confusing and difficult to follow for a nutrition policy planner, much less an economic or agricultural planner. I recognize that this report is preliminary and that further reports may include vastly more detail presented in a more organized, understandable manner.

I should certainly hope so or I would frankly doubt that GRM planners will have the patience or the expertise to do the organization themselves, to say little of the fact that they should not be expected to have to do this. From a nutritional policy planning viewpoint, this reports lacks a great deal.

Finally, I am truly left breathless when I consider that this initial survey is to serve as the basis for a second stage of the work which "will be to utilize the results of stage I as the basis of developing food production goals for the next 15 years and defining production models for the three ecological regions of the country. This exercise would also determine the volume of food imports necessary to fill the production - requirement gap until such time that self-sufficiency is reached. (A food gap was assumed)." (From a memorandum to "The Record" by John McKigney, Nutrition Advisor, DSB/N dated November 20, 1978)

In all honesty, I cannot see any means by which this initial survey could be used for such an ambitious purpose. To the contrary, considering the questionable validity of the initial survey, any such projections would be ^{so} poorly based as to invite ridicule from other policy planners and policy makers who would have to agree to use of the projection. The credibility of nutrition policy planning could well be dealt a severe blow and, in some respects ought to be dealt a severe blow. It is hard to say how long it would take before another nutrition cum agriculture policy exercise of this type would receive any attention. When one considers how politically impotent nutrition-conscious

planners are at present in Mali and the Sahel, the problem becomes even more acute.

In summation, I would recommend that support of this survey effort by AID be discontinued unless full and satisfactory answers can be supplied for the deficiencies noted (and they must be "full and satisfactory" to non-nutritionists as well as nutritionists). Otherwise, I would recommend that this initial survey be treated as a methodological test and that a second survey that takes these deficiencies into account and corrects them be undertaken before passing onto the second stage.