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A Report On

The FAO/World Bank Socio-economic/Nutrition Survey

Feasibility Assessment
in the north of Haiti

Report to USDA, Nutrition Economics Group
Under Contract No. 53-319R-9-184

Irwin J. Shorr

October 1979

RSSA 3-77
Economic Analysis of Agricultural Policies

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I. Introduction

At the request of the Food and Agricultural Organization, Food and Nutrition Assessment Service, Food Policy and Nutrition Division, Irwin Shorr visited Haiti from August 13-24 1979 to assist in assessing the feasibility of conduction a socio-economic/nutrition survey in the north of Haiti. This was a follow-up to previous visits to Haiti made by Dr. John Mason, Nutrition Officer, ESNA; and Mr. Serantis Andricopoulos, IBRD; FAO, Rome. During this two week visit, Mr. Shorr met with numerous representatives from government, international, private and voluntary agencies. In Haiti, Mr. Shorr met with Mr. Andricopoilos, who visited Haiti from August 13-17, where together, they attended planning meetings for the proposed survey. After Mr. Andricopoulos' departure (1), Mr. Shorr, who was accompanied by a USAID employee from the Health, Population and Nutrition Division, visited personnel at the Organisme du Developpment du Nord (ODN) in Cap Haitien where the intended survey will be administered.

Mr. Shorr's two week trip was funded by the Agency for International Development (USAID), Office of Nutrition, Washington, D.C., administered through the United States Department of Agriculture (USDA), Office of International Cooperation and Development.

Appreciation is expressed to all those involved for their cooperation, in particular, to FAO, Rome and their representatives who facilitated this endeavor, to ODN in Cap Haitien, to FAO, Port au Prince and to USAID, Port au Prince, Health, Population and Nutrition Division for various logistical and administrative assistance.

II. Background

The intended socio-economic/nutrition survey is part of Phase II of a four-phased Rural Development Project of the North administered through ODN in cooperation with the World Bank and FAO (2). Other surveys planned in Phase II include topography, soil, drainage feasibility, marketing and feeder roads and village water supply feasibility studies.

III. The Project Area

The project area is located in the Northern Department, specifically, the areas of Le Borgne, Port Margot, Limbe, Quartier Morin and Grand Riviere du Nord, which encompasses an area of approximately 343,000. Three of the five areas, Le Borgne, Port Margot and Limbe, were included in the sample of the socio-economic survey conducted by Mr. Isnard and Mr. Barriere of ODN in November and December 1978.

IV. Data Collection

A. Alternatives

The "Rapport Provisoire" (2)*, and Mason's office memorandum (4), cite three possible ways of obtaining the required data in the project area:

1. By obtaining supplementary socio-economic data to the 1978 National Nutrition Survey, which was an anthropometric based survey conducted by the Government of Haiti with the assistance of the Center for Disease Control, Atlanta, Georgia, USA (5). This would involve a reidentification of 30 villages in the Northern Department which includes 900 children (i.e. 30 children for each village (site) (5))

2. By adding anthropometric nutritional status data retrospectively to the socio-economic survey conducted by ODN in November and December 1978. This would involve a reidentification of 630 households in the Northern Department.

3. By conducting a new survey to include both nutritional status and socio-economic information. This would involve designing a new survey and drawing a new sample in the project area.

4. A fourth option was considered not cited in references which would involve associating the data of the 1978 National Nutrition Status Survey data with the November and December 1978 socio-economic survey data to obtain the required information. This option would be the least complicated and least expensive since it would mean working with two separate existing data sets.

*and Annex 12 (see reference 3)

B. Solutions

In discussions with the sampling statician of IHS (Hatian Statistics Division), Mr. Eric Babut stated it would not be valid to incorporate socio-economic information in the 1978 National Nutrition Status Survey since the universe from which the National Nutrition Status Survey was drawn (i.e. the entire country) is different from the universe of the intended survey which covers only the Northern Department. Additionally, not all the five areas mentioned were in the Nutrition Survey.

It is not advisable to add anthropometric nutritional status measurements to the November and December 1978 socio-economic survey , since Mr. Barriere of ODN, who implemented the survey, stated that the quality of the data collected is questionable. Additionally, only three of the five areas required were in the sample of the socio-economic survey of 1978.

It is also not advisable to employ the fourth option, IV., A, 4, because of the aforementioned explanation. It would not be valid to combine the data from the two studies.

Therefore, the best way to obtain the required information is to conduct a new socio-economic/nutrition survey. This option was agreed upon in a meeting in Port au Prince with Mr. Menager and Mr. LaGarce of ODN, and Mr. Andricopoulos and Mr. Shorr.

V. The Proposed Survey

A. General

Initially, October through December 1979 was identified for conducting the entire survey, from planning through analysis. However, a starting date of January 1980 was chosen at the aforementioned meeting since logistical, financial and personnel arrangements and preparations must be made.

A longer preparation period was suggested by Shorr to Mason and Andricopoulos of November and December 1979 for the following reasons:

1. Specific agricultural and socio-economic issues needed to be carefully investigated for inclusion into the intended survey.

2. At the time of this two week investigation, the FAO methodology (6) was not known by Shorr.

3. Because of 1 and 2 above, it was not possible to judge the length of time necessary to complete a survey form. Neither the sample size, nor the primary sampling unit was known, and consequently, it was not possible to plan the time necessary to complete the survey.

4. Training manuals and questionnaire forms must be designed and written.

5. There were logistical problems, particularly with vehicle sources.

6. An agricultural economist, Dr. Theodore Ahlers expressed interest in participating in the project. His availability was subject to the timing of the project.

These concerns were expressed by Shorr from Haiti in phone call conversations to USAID, Washington, and USDA, Washington, and in a debriefing meeting held on September 25 at USDA in Washington, D. C. Present at that meeting were Mr. Jason Clay, USDA; Dr. John Mckigney, USAID, Office of Nutrition; Ms. Carmen Hamond of the World Bank; Mr. Shorr and other USDA staff and guests. An initial budget and time frame was presented at this meeting and was conveyed to Dr. Mason by phone.

Through follow-up phone calls among Mason, Andricopoulos, McKigney and Shorr, the schedule of three months for the total survey time from planning through analysis to begin in January 1980, was insisted upon by FAO.

A subsequent meeting was held in Washington, D.C. with Dr. Mason, Dr. John Mckigney, Mr. Jason Clay, Dr. Theodore Ahlers and Mr. Shorr. At this meeting, Dr. Mason expressed the position of FAO and explained the methodology (6). A revised budget (see VII) and schedule (see Timing, V,B;1) was then agreed upon.

B. Specific Components

1. Timing .

Survey to begin in January 1980
Survey planning.....2-3 weeks
Training of enumerators.....3-4 weeks
Data collection (field phase).....4 weeks
Approximate completion date: March/ April 1980

2. Support

The primary field and administrative support will be provided by ODN in Cap Haitien which will be the seat of survey activity.

After lengthy conversations with Ms. Monica Elser, FAO, Port au Prince, it appears that FAO, Port au Prince will be able to provide some administrative support during the project.

The World Bank will provide financial support for the project and will also support the salary of the agricultural economist. Mr. Andricopoulos will check on final approval of these funds at the end of October.

The USDA will administer USAID funds for Mr. Shorr's support. USDA and USAID, Washington have expressed concern about and will keep a pulse on the overall implementation of the project and have already assisted in identification of needs and priorities.

3. Personnel

It is planned that Mr. Irwin Shorr, a public health nutritionist with experience in national nutriton status assessment surveys in developing countries will serve as the project nutritionist, who, along with an agricultural economist, will implement the survey, plan and design questionnaire forms and training manuals, run the training, implement the field phase and data collection, be responsible for quality control and participate in the data analysis and report writing.

Dr. Theodore Ahlers, an agricultural economist, has been identified to work with Mr. Shorr in the capacity described in the above paragraph. Dr. Ahlers has unique experience in the project area having conducted socio-economic survey assessments in the North of Haiti. Mr. Shorr met Dr. Ahlers in Haiti where initial discussions took place concerning the project.

Mr. Jean Claude Lucas, who is situated in the Bureau of Nutrition, and works on the Vitamin A program, has been identified to assist full time with the field implementation, team management and other miscellaneous logistical considerations. He has served in this capacity in the 1978 National Nutrition Status Survey and comes well recommended.

Fr. Joseph of the Notre Dame College in Cap Haitien has committed 15 students for the survey training and field phase. A selection process will take place since fewer than 15 enumerators and supervisors will be required. These students have had training in survey and data collection techniques.

Mr. Eric Babut, a sampling statician from IHS has agreed to assist with the sampling and/or analysis of data as requested.

Dr. Mason stated in the October 11 meeting and Mr. Menager stated in an earlier meeting with Shorr in Cap Haitien that Mr. Barriere will assist with the survey.

4. Facilities

ODN, who will administer the survey, will provide logistic and administrative support and office space for Shorr and Ahlers, a duplicating facility for survey questionnaire forms and training manuals, and use of a typist.

Dr. Marc Angrand, the Chief Medical Officer of the Bureau Regional Sante Publique in Cap Haitien, has agreed to provide a training room and storage room for equipment and supplies.

5. Equipment

The Bureau of Nutrition has agreed to loan height/length boards and hanging scales for the project which were used on the 1978 National Nutrition Status Survey. The boards will need minor repair.

A significant problem still exists with the vehicle requirements. Three vehicles will be required for the field phase, and two vehicles for the other phases. Dr. Mason stated in the October 11 meeting that ODN had committed the use of vehicles to Mr. Andricopoulos. Dr. Mason stated that he would check with Mr. Andricopoulos about this committment.

If full time vehicles cannot be obtained for the period required, rental vehicles will have to be considered which will be costly, if available at all.

ODN will supply various support equipment such as pens, pencils, paper and other miscellaneous office and field supplies.

6. Analysis

The mini computer, Hewlett Packard HP 9815 S' has been identified as the most suitable, which has been used in other similar studies implemented by FAO. They are low cost (under $10,000), simple to program, and are serviceable world-wide ( ).[4]

7. Future Actions

Dr. Mason stated in the October 11 meeting that final approval of the project and funding for Dr. Ahler's involvement will be reviewed at the end of October. On November 6, Dr. Mason will cable Ahlers in Haiti and Shorr in California as to the actions taken.

It is planned that Mr. Shorr will travel to FAO, Rome in November, funded by FAO, for a period of three weeks and Dr. Ahlers for 1-1/2 weeks to participate in preparation of the survey instruments.

VI. Budget

A. Vehicle Rental

January 1980	1 vehicle	$1000.
February	3 vehicles	$3000.
March	1 vehicle	$1000.
April	1 vehicle	$1000.
	Total	$6000.

B. Petrol

January 1980	$20/day X 30 days	1 vehicle	= $0600.
February	$20/day X 30 days	3 vehicles	= $1800.
March	$20/day X 30 days	1 vehicle	= $0600.
April	$20/day X 30 days	1 vehicle	= $0600.
		Total	$3600.

C. Drivers

January 1980	1 driver	$150/month	= $150.
February	3 drivers	"	= $450.
March	1 driver	"	= $150.
		Total	$750.

D. Enumerators

January and February 1980 60 days X $3/day X 10 enumerstors = $1800.

E. Supervisor

January and February 1980 $300/month X 2 months = $600.

F Field Supplies.....$500.

G. Office Supplies.....$300.

Grand Total.....$13,550.

Note: The Grand Total does not include the cost of analysis (i.e. general costs and the cost for the mini computer,) nor does it include the salaries of Shorr and Ahlers. The total will be reduced to $7500. if vehicles are supplied by ODN. An additional $2000. should be added for vehicle maintainance and repair, and $300. for internal flights (i.e. air fare Port au Prince-Cap Haitien).

VII. References

1. Office Memorandum, to Mr. P. Bono, Chief, Service III, from S. B. Andricopoulos, 12 September 1979

2. Rapport Provisoire, Haiti, Project de Development Rural du Nork--Phase II, Rapport D'Identification, Rapport #32/79 NA 1-4.

3. Annex 12, Haiti, Rural Development Project of the North-Phase II Nutrition

4. Office Memorandum, to Mr. P. Bono, Chief, Service III, from J. Mason, Nutrition Officer, ESNA, Haiti-Rural Development II, Nutrition Identification Mission, 28 May to 9 June, Back-to-Office Report, 6 July 1979

5. National Nutrition Status Survey Haiti, 1978, Center for Disease Control, Atlanta, Georgia

6. Methods for Assessing Nutrition Impact of Development Projects, Progress Report No. 1 on FAO/SIDA Project (end of Phase I (a)), 3 October 1979

METHODS FOR ASSESSING NUTRITION IMPACT OF DEVELOPMENT PROJECTS

Progress Report No. 1 on FAO/SIDA Project (end of Phase I (a))

3 October 1979

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1. Introduction

FAO Resolution 8/77 (1), calling for methods of assessing nutrition impact of development projects, led to production of draft guidelines (2) for a first-stage of project analysis. These were presented to the ACC Sub-Committee on Nutrition in October 1978. The approach advocated was presented to the Committee on Agriculture in April 1979 (3), where it was endorsed. SIDA agreed in principle to cooperate with FAO in developing methods, in July 1979, on the basis of a discussion paper entitled "FAO/SIDA Cooperative Programme for Improving Nutrition through Agricultural and Rural Development" (4). This has led to formulation of a Phase I project, now (October 1979) being formally processed by FAO (5). In the meantime, WCARRD substantially endorsed the concept of nutrition both as an objective of rural development as well as an indicator for monitoring progress (6). Details have been presented (7) as to how this objective would be pursued and the monitoring developed.

The first step of the FAO/SIDA Phase I project envisaged further theoretical development of methods, as a basis for field work, to be carried out in July to September 1979. The consultations involved have been completed, and now is a convenient time to summarize the approach to the next stage of Phase

FAO consultants involved have been: M. Garcia (Philippines) (8), C. Rose (U.K.) (9), L. Taylor (U.S.) (10). FAO(ESN) staff have contributed. Work under contract to FAO on this aspect is still to be carried out by J. Holmberg (Sweden), L. Joy (U.K.), and these results will be available by the end of the year.

Apart from reviewing the general approach of the draft guidelines, the recent work in Rome has looked mainly at:

a) means of quantifying nutrition benefit, and
b) data requirements.

The focus has been on requirements for assessing area-level multisectoral investment projects at the design stage. The results will also be valuable for national programmes.

2. Concept

The types of questions to be addressed in relation to the nutrition impact of development projects have been decided. This allows progress to examining how to get the answers.

Essentially, the questions are:

a) who is reached by (who benefits from) a project, in relation to their nutrition problems; and
b) what happens to their nutrition; as bought plus subsistence food consumption, and sanitary environment.

These questions are the same as in FAO's draft guidelines. The issue of how to ascribe a 'nutrition benefit' to a project is related to the answers to these questions, but requires development of new indicators (see below).

There are strict operational limits to how far these questions can in practice be answered and conclusions drawn. These limits depend on the extent of project analysis, and supporting data, already going on in the project design (irrespective of nutritional considerations). The present method

development is aimed at the type of area development project typically being undertaken by national governments, normally with support of international development banks (World Bank, regional DB's) or bilateral agencies. Very roughly, these tend to involve populations of around 1 million, and investments of around $20 to 200 million. In these circumstances, about 1-2 years planning time is available, with some possibility for socio-economic data collection and analysis. Project planning is usually pragmatic, based primarily on economic feasibility, does not involve any detailed economic/cost-benefit modelling, and would generally include only superficial examination of human effects. It is for building up the specification of effects on quality of life, mainly (but not exclusively) in terms of food consumption, that these methods are being developed. A major consideration is to use as far as possible data that would anyway be collected even if nutrition were not of concern.

3. Approach to field work

Whilst identified projects in four countries will be examined, the results are intended to be open to generalization to a range of other projects. A package of data collection and project analysis, within the operational constraints given above, is therefore to be developed. The stages in this are as follows:

a) Initial analysis, equivalent to the identification stage in an investment project. This will be based on a short (1-2 week) input, which will essentially give a preliminary assessment, to be confirmed (or otherwise) in the subsequent stages.

b) Data collection and analysis. This will involve survey work to be carried out within a 6-month period and a proscribed budget. It will define nutritional problems of different potential project target groups, attempt to project changes in their nutrition as a result of development inputs, and generate indicators of nutritional benefit. See sections 4, 5 and 6.

c) Project analysis. Based on (b), this will lead to proposals for alternative orientations of the overall project and for additional components that would further improve nutrition.

The package to be produced therefore involves not only methods, but organization requirements for the local institutions involved, and technical assistance required.

4. Variables required

Two types of variables, albeit possibly overlapping, are needed, to answer who benefits? and what happens to their nutrition? A list of variables, with survey design to obtain them, has been tentatively agreed[1] as follows:

a) For ranking groups, household level data

i) Nutritional status of 1-5 year old children (wt/age, ht/age, wt/ht, as appropriate)
ii) Water supply (distance, safety, etc.)
iii) Wealth indicators (e.g. land, housing, cattle, etc.)
iv) Staple food prices, access to markets
v) Child mortality
vi) (Possibly) morbidity.

As a first analysis, groups would be ranked with respect to these variables. A composite ranking, giving equal weight to each, would be calculated. Other methods of ranking will be investigated.

The number of groups would normally be restricted to around five. The planned sample size is around 500, which is thought likely to be adequate to give significant differences when the distinction between groups is sufficiently important to merit consideration in project design. This is of course a new area and can only be decided from the results of the surveys. It is also a problem both of concept (what constitutes an 'important' difference?) and of project design (what sample size is needed to detect such a difference?).

b) Variables for projecting changes in food consumption

These data will be time-consuming to collect (by interview), and will require more extensive analysis than those under (a). Therefore they are probably to be collected subsequently to (a), maybe on a sub-sample depending on results of (a).

1/ Note for the Record of ESNA meeting on 24 August 1979 (GP 2/1 SIDA)

Variables required are:

i) Food consumption, probably confined to staple foods plus a few important items; to be split into
   - bought food (plus barter, if significant)
   - subsistence food

ii) Expenditure, food plus other items.

At the same time, certain additional socio-cultural data may also be collected, e.g. migration, employment, etc.

Methods for these variables to be tried in the first instance have been decided.[1/] In summary, these are as follows:

Food consumption:	24-hour recall of food quantities, repeated for 3 consecutive days.
Food expenditure:	24-hour recall as above, plus recall for previous 8-10 days for food plus non-food expenditure, repeated once after 8-10 days.
Total expenditure:	as above, plus recall of longer-term (up to yearly) expenditure on major items.

5. Data analysis

There are three types of (interrelated) output required.

a) Ranking or identification of nutritionally deprived groups. (This is along the lines of M. Garcia's table 'Scalar ranking matrix' (8), but with fewer groups and variables).

b) Comparison of food consumption of different expenditure groups, to lead to projection of food consumption changes.

c) Either construction of indicators of nutrition benefit or preparation of statement on impact.

a) Ranking/group identification

At least two stages of analysis are required.

1/ Note for the Record of ESNA meeting on 2 October 1979 (GP 2/1 SIDA)

i) Transformation of data, by household, to variables needed for ranking. For example:

Nutritional status: anthropometric data to wt/ht, etc.
Water supply: to give numerical value(s) for 'safety'.
Wealth: again to put numerical value (or ranking value), e.g. value of assets per head.
Staple food prices: may be adequate as they stand.
Child mortality: to give indicator of rate for that family.
Morbidity: to give household (by child?) morbidity rating.

ii) Aggregation of these data by household groups, e.g. geographical area, occupation, land holding, etc. Either mean values or proportions less than certain cut-off points could be used. Analysis of statistics significance of differences between groups will be needed.

b) Projecting changes in food consumption

The output required here is calorie consumption of different expend (as proxy for income) strata (on cross-sectional basis). A decision will be needed on whether to use income strata within groups defined under (a), or within the population as a whole.

Again two stages of analysis will be neded.

i) Transform raw data: food quantities consumed to calories; total, and per item, expenditure.

ii) Aggregating consumption by expenditure strata, etc.

The output here (ideally) gives the kcal consumption level at different (three groups, probably) total expenditure levels, total expenditure being assumed to be related to income; this should by interpolation allow estimates of the response of food consumption to changes in income resulting from the project. Where changes in cropping pattern are important, particularly shifting from subsistence to cash crops, the analysis will need also to take this into account, for estimates of the evolution of these two elements of consumption.

This part of the methodology is the most problematical, both in terms of data collection and analysis. It should be noted that a semi-quantitative result (e.g. projected trend in food consumption is positive, negative, or zero) would suffice, although not be ideal.

c) Indicators of nutrition benefit

A number of possible indicators of 'nutrition benefit' have been proposed in the consultants' papers. In general, they depend on having baseline data on the food consumption of the population in the project area as a whole, and projecting changes in this. The feasibility of obtaining such information will be assessed as the project proceeds. In principle, extensive resources will not be committed to producing a neat answer, provided some reliable statement, even if qualitative, can be made.

The presentation aimed for can be simply expressed as:

Project alternative	Measure of economic benefit	Measure of nutrition benefit
A	E_A	N_A
B	E_B	N_B
		Etc.

As an example, L. Taylor (10) proposed that a measure of N_x could be changes in the indicator:

kcal consumption per head (1 - Gini coefficient for kcals per head)

This, and other such indicators, require representative food consumption data for the population as a whole.

It seems clear, at least, from the work done by the consultants and by ESNA that there is no short-cut quantitative indicator for nutrition benefit. Methods and indicators proposed can be summarized as:

a) Changes in food consumption (distribution and mean) - as above.

b) Assigning 'weights' to income accruing to different groups based on income/kcal consumption elasticities of different income groups (8).

c) Modelling approaches to assess cost (to the project) of reaching certain food consumption levels, etc. (9).

Investigation of the suitability of such indicators will be one output of the Phase I project.

6. Data processing

The use of micro-computers for processing survey data within the countries concerned has been investigated. This would have the advantage of overcoming

the delays usually experienced in relying on large computer systems, and would allow those directly concerned with surveys to keep control over the data processing.

The criteria for choosing a suitable machine have included: low cost (under $10,000); simple programming; reliability and world-wide service; the minimum sophistication necessary to do the processing envisaged. The machine identified as most suitable, at least for trial in two countries, is the Hewlett Packard HP 9815 S.

As far as possible, standard programmes will be developed to handle the processing required as described in sections 4 and 5. In the first place, these are likely to be developed under contract in the Philippines, and by ESNA staff in Rome.

It is intended that machines will be provided to each of the institutions involved in the Phase I project. A further output of Phase I will therefore be a standard set of programmes - with possibility for modification for individual needs - plus instruction manual.

7. Conclusions

The present stage of progress may be summarized as follows:

(1) Arrangements are in hand for organizing project work in cooperation with institutions in 4 countries. By the beginning of November, each of these will have been visited, work plans should be agreed, and an initial assessment made in one (Philippines). Identification and even recruitment of experts can begin therefore before the end of the year.

(2) Project procedures, particularly survey methodology, data processing and analysis, have been decided on as far as is possible in advance of field operations. Some important details remain, notably the drafting of questionnaires, providing training instructions for enumerators, and programming the HP 9815 S. These are in hand in ESNA and with forthcoming short-term contracts.

(3) The outcome of the in-country projects and timely production of the case-studies now depends on operational factors: fitting in with other priorities of national institutions concerned, including availability of national staff to participate in the field-work, analysis, and writing-up; stage (and progress) of planning of the area development projects assessed; delivery of project inputs; and not too many unforeseen delays and hitches in carrying out and analysing the surveys.

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4. Discussion paper for FAO/SIDA Meeting, July 1979, 'FAO/SIDA Cooperative Programme for Improving Nutrition through Agricultural and Rural Development'.

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10. L. Taylor, Consultant's Report. August 1979.