

DRAFT

Progress Report:
**Final Evaluation of the Impact & Cost-Effectiveness of World
Vision's Integrated Health and Nutrition Program in Central
Plateau, Haiti**

IFPRI-Cornell University-World Vision-Haiti Team

Written by:

Purnima Menon, Cornell University
Marie T. Ruel, IFPRI
Mary Arimond, IFPRI

Submitted to:
The Food and Nutrition Technical Assistance (FANTA) Project

October 5, 2005

This publication was made possible through the support provided to the Food and Nutrition Technical Assistance (FANTA) Project by the Office of Health and Nutrition of the Bureau for Global Health at the U.S. Agency for International Development, under terms of Cooperative Agreement No. HRN-A-00-98-00046-00 awarded to the Academy for Educational Development (AED). The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

Financial support for this research is also provided by the Government of Germany, World Vision-Haiti, USAID (Haiti) and the World Food Programme.

ACRONYMS USED

BCC	Behavior Change Communication
FANTA	Food and Nutrition Technical Assistance
FDP	Food Distribution Point
IHE	<i>Institut Haitien de l'Enfance</i>
IFPRI	International Food Policy Research Institute
MC	Mothers Club
MCH	Maternal and Child Health
RP	Rally Post
SFB	Soy-Fortified Bulgur
USAID	United States Agency for International Development
WSB	Wheat-Soy Blend
WV	World Vision

TABLE OF CONTENTS

ACRONYMS USED	I
TABLE OF CONTENTS.....	II
1. OBJECTIVES AND DESIGN OF THE IMPACT EVALUATION ACTIVITIES.....	3
1.1 Objectives	3
1.2. Design of the impact evaluation	4
1.2.1.Sampling and impact assessment design	4
1.2.2. Impact	4
1.2.3 Cost and cost-effectiveness.....	5
1.2.4 Coverage	5
1.2.5. Mediating and modifying influences	6
2. METHODS	7
2.1 Census	7
2.2. Household survey.....	7
2.3 Community surveys	8
2.4 Interviews with program staff.....	8
3. FIELD WORK LOGISTICS	9
3.1 Research staff and training.....	9
4. PROGRESS TO DATE AND NEXT STEPS	10
4.1. Progress to date and timeline for proposed activities	10
4.2. Proposed outline for the final evaluation report	11
REFERENCES	12

1. OBJECTIVES AND DESIGN OF THE IMPACT EVALUATION ACTIVITIES

This progress report describes the various research activities conducted by the IFPRI-Cornell-World Vision Haiti team between May and October 2005 to complete the final evaluation of the impact of World Vision's Integrated Health and Nutrition Program in Central Plateau, Haiti.

1.1 Objectives

The main purpose of the evaluation is to evaluate the difference in impact and cost-effectiveness of preventive versus recuperative approaches for delivering integrated food and nutrition programs with a take-home food ration. The impact on reducing undernutrition among children between the ages of 12 and 42 months of age is assessed. The specific objectives of this overall evaluation, as laid out in the IFPRI-Cornell-WV proposal (IFPRI, 2001) are presented in Box 1 below:

Box 1. Objectives of the overall IFPRI-Cornell-World Vision Haiti evaluation.

Main objectives:

1. Compare the impact of the preventive and recuperative models on the following child outcomes:
 - a. Attained growth (mean WAZ, HAZ, WHZ and their distributions)
 - b. Prevalence of undernutrition (stunting, wasting, underweight)
2. Compare the cost of the two approaches with respect to financial and human resources such as amount of food required, staff training and time.
3. Compare the cost-effectiveness of the two approaches, combining information from 1 and 2.

Additional objectives

4. Assess differences between the two interventions in coverage of their respective targeted age groups (preventive: 6-24 months; curative: 6-60 months).
5. Document, with the use of operations research methods, differences between the two intervention groups in: a) the effectiveness of delivery of the various components of the two intervention packages; 2) the quality of the services provided; and 3) the institutional demands for successful implementation.
6. Document, using qualitative research methods, the intrahousehold utilization and consumption of the food commodities, particularly consumption by the target individual.
7. Assist World Vision in the design and implementation of a fully developed preventive model to be compared with the recuperative model. This will include designing new education messages that emphasize prevention of growth faltering, and designing a delivery mechanism to ensure the timely delivery of the messages to the targeted audience.
8. Assist World Vision in reviewing and improving (if necessary) the set of education messages currently used in the recuperative model."

From: Prevention or Cure? "A Comparison of the Effectiveness of Targeting Food Supplements to Malnourished Children Compared to Universal Targeting of Children Under Two in Haiti" . Revised proposal submitted to: Food and Nutrition Technical Assistance (FANTA) Project. By: International Food Policy Research Institute (IFPRI). November 29, 2001

Objectives 5, 7 and 8 (and to a lesser extent, 6) have been addressed through the formative research and program development activities (Menon et al, 2001, Menon et al., 2002a; Menon et al., 2002b; Loechl et al., 2003a, Loechl et al, 2003b), and the operations research activities (Loechl et al, 2004; Menon et al., 2005). Objective 2 has been addressed partially through the first cost study (Maluccio and Loechl, 2005). The impact evaluation report will address primarily objectives 1, 2, 3 and 4. It will also showcase the other project activities briefly, in terms of their contribution to the overall impact evaluation.

1.2. Design of the impact evaluation

The impact evaluation seeks to answer questions about the impact, cost, and coverage of the two programmatic approaches. In addition, through analyses of data on factors influencing program implementation and factors influencing utilization of program services and inputs, it aims to provide a basic understanding of factors that could mediate and modify the impact of the two program models. The following section briefly describes the sampling and the data gathered to address each of these questions.

1.2.1. Sampling and impact assessment design

The impact evaluation research activities took place in the intervention area of the IFPRI-Cornell-World Vision evaluation project, which covers 20 zones or clusters in three communes: Hinche, Thomonde and Lascahobas. The clusters were defined at the beginning of the evaluation project by taking into account the potential number of child beneficiaries at each of the Rally Posts, and ensuring that the health agent responsible for each cluster would work with approximately 75 beneficiary families. Ten pairs of clusters were constituted in which two clusters in each pair were matched for distance to main road, access to a dispensary, type of terrain and access to World Vision's private sponsorship program arm (called the Area Development Program). The type of MCH program, i.e., preventive and recuperative, was then randomly assigned to one cluster in each pair.

1.2.2. Impact

The impact assessment used a community longitudinal design. Under this design, two cross-sectional surveys serve as the primary mechanism for evaluating differences in impact between the two program models. A baseline survey was conducted in the 20 clusters described above between June and September 2002, and the impact survey was conducted between June and September 2005. Prior to both surveys, a census was conducted in the communities to identify households that were eligible for inclusion in the surveys. The baseline survey showed that overall, the two program groups were comparable on the program outcomes as well as on potential effect modifiers and mediators (Menon and Ruel, 2003).

The assessment of differences in impact of the two program models is based primarily on change in mean height-for-age z-scores and the prevalence of stunting between the baseline survey in 2002 and the final survey in 2005. The target age group for the assessment of impact is children between the ages of 12 and 42 months. This age group was selected for the impact assessment as it is the age group that is expected to show the most benefit from supplementation and to have been exposed to the program activities between 2002 and 2005. Differences in

program impact on child weight for age z-scores (WAZ) and weight for height z-scores (WHZ) will also be examined, although these are not considered the primary outcome measures of the evaluation.

1.2.3 Cost and cost-effectiveness

The assessment of the total cost of the two program models will be based on estimates of costs that relate to delivering the program services (for example, the costs of food, health services, staff time, etc.) as well as private household costs that relate to utilization of program services (for example, the time and cost of utilizing program services).

The findings on impact and cost of the two program models will be used to calculate the cost effectiveness of the two program models in reducing undernutrition among the target age group.

1.2.4 Coverage

An assessment will be made on the coverage of the two program models, both in terms of their current coverage and their overall coverage. Data on program participation have been gathered through the census of 2005. With the preventive model, assessment of coverage (i.e., proportion of the eligible population that is covered by the program) is relatively simple to calculate as program targeting is based on child age, data on which is available easily from the census. The coverage for the preventive program areas will thus be calculated as follows:

$$\frac{\text{(Number of 6-23 mo children reported to be program beneficiaries, from census)}}{\text{(Total number of children in 6-23 mo age group, from census)}}$$

For the recuperative program, an assessment of the population eligible to receive program benefits (i.e., malnourished children between 6 and 60 months) will be made based on the proportion of malnourished children in this age range in the *household survey*, since the census activities did not include house-to-house anthropometric assessments of children to assess potential eligibility for program services. Rather, census interviewees were asked to indicate which beneficiary category a child had received food aid benefits under, thus providing data on participation in the program. The coverage for the recuperative program will thus be calculated as follows:

$$\frac{\text{(Number of 6-60 mo children reported to have received food benefits because of poor nutritional status, from census data)}}{\text{(Proportion of 6-60 mo children malnourished, from survey * total number in age group, from census)}}$$

In both preventive and recuperative program models, the coverage estimates will be triangulated with participation data from the household survey, and World Vision's program records on number of beneficiaries who received food aid in the different program areas during the census activities.

1.2.5. Mediating and modifying influences

The impact of the program models depends both on appropriate implementation of the program by program field staff as well as appropriate utilization of the program inputs by program beneficiaries. The impact evaluation activities therefore included explicit efforts to gather data on staff factors that can influence implementation so as to be able to conduct a quantitative analysis of the influence of staff related factors on program impact. It also included an explicit assessment of beneficiary utilization of program inputs to allow a full analysis of impact in relation to actual program utilization (i.e., a dose-response analysis). This is useful in the event that an intent-to-treat analysis reveals poorer impact than expected. Furthermore, it can also be used to estimate the minimum exposure to program inputs that is required to achieve cost-effective benefits.

2. METHODS

The impact evaluation used a variety of research methods. These included: (1) a census; (2) a household survey; (2) community surveys; (3) interviews with program staff. A brief description of the data gathered through each of these approaches is provided below.

2.1 Census

A census was conducted in the entire evaluation area, with each cluster censused just prior to the household survey . In addition to household composition data, the census also gathered information on program coverage by asking if any of the women or children in the census households were current beneficiaries of the World Vision program, or if they had been beneficiaries in the past. The census data will provide a basis for evaluating program coverage in the preventive and recuperative program areas.

2.2. Household survey

The household survey was conducted in the twenty clusters of our evaluation area. Following a census that covered all households in each cluster, 95 eligible households were selected randomly as potential candidates for the household interview. Households were eligible for the survey if a child between the ages of 12 and 42 months lived in the household. The first 75 households where an interviewee was available and consented to the interview were then interviewed in each cluster, yielding a total sample size of 1500 households. The mother of the index child was interviewed and data were gathered on child care and feeding practices, maternal and household characteristics. Data on program use was gathered not only for the index child but also for other siblings and for the mother herself. Table 2.1 below provides further details about the information gathered through the household survey.

Table 2.1. Data gathered through the household survey

	Types of data	Subject/unit
Outcome variables	Child anthropometry (Height, Weight)	All children under 42 months of age.
Child care variables	Child feeding (breast feeding, complementary feeding) Alternate child care when mother is out of the home Care-seeking during illness	Index child 12-42 months of age; Sibling of index child: under 12 months of age Index child 12-42 months of age Index child 12-42 months of age; Sibling under 12 months
Maternal resources for care	Education, civil status and employment Physical and mental health Knowledge of care practices	Mother of the index child.
Household resources for care	Household socioeconomic status (assets, house construction, etc.) Household food security	Mother of the index child
Use of program services	Receipt of food assistance	Index child (12-42 months); younger sibling (less than 12 months); other sibling (12-42

	Types of data	Subject/unit
	Attendance at RPs Attendance at MCs	months); and mother (when pregnant with each of the mentioned children, or when lactating) Index child (12-42 months) Index child (12-452 months); younger sibling (less than 12 months); mother (when pregnant with each of the mentioned children, and/or when lactating)

2.3 Community surveys

The community questionnaires were designed to obtain information on community services and infrastructural facilities. Issues such as access to public health services, water and sanitation services, and World Vision program services are covered in the community questionnaires. The data from the community questionnaires will be used to evaluate whether there have been any major changes in services at the community level (aside from the WV program services) in the period between the baseline and the final survey.

In addition to the community surveys, data are being gathered from the World Vision regional office in the Central Plateau and from World Vision program workers to get precise information on services delivered in each of the communities covered by the impact evaluation (including information on when any changes or additions had been made to program services). This information will be used to ensure that the communities within each pair of clusters remained comparable throughout the period between the baseline and the final impact survey.

2.4 Interviews with program staff

Through individual interviews with program staff, data are being gathered on overall job satisfaction, motivational factors in the work context, perceptions about supervision, staff technical knowledge about topics discussed at MCs and RP education sessions, and staff time allocation and workload. In addition, basic demographic characteristics of the staff were also noted (age, duration of employment with WV, gender, educational level, etc.). These data will be used to re-assess comparability between program groups, and to conduct an analysis of the impact of staff level factors on program outcomes, focusing first on the nutritional impact of the evaluation.

3. FIELD WORK LOGISTICS

3.1 Research staff and training

The main impact evaluation surveys (i.e., the household survey and community surveys) were undertaken in the 20 zones of the evaluation project located in the Central Plateau region in Haiti. The evaluation zones were censused just prior to the commencement of the household surveys in each zone.

The field team for the household and community surveys included 1 field coordinator, 3 supervisors, and 11 field workers. In addition, one consultant was hired to help with the questionnaire development, pretesting and fieldworker training. The census was conducted primarily by World Vision Haiti program staff (particularly the assistant health promoters) under the supervision of the field coordinator for the household and community surveys. The staff interviews will be conducted by the field coordinator in collaboration with a consultant.

The training of the team for the household and community surveys and the field-testing of questionnaires and interview guides, was done in May 2005. Data collection took place between June and September 2005. The staff interviews will be conducted in October 2005

Ethical approval for the study activities was obtained from the Cornell University Commission on Human Subjects. Informed consent was obtained from all study participants before any data collection was conducted.

4. PROGRESS TO DATE AND NEXT STEPS

4.1. Progress to date and timeline for proposed activities

The next steps of the impact evaluation include the analysis of the data gathered using the various research methods, and the dissemination of the findings through a final report, workshops and journal articles. Table 4.1 below presents an overview of the tasks accomplished to date, and a proposed timeline towards the preparation of the final report and associated outputs (e.g., workshops).

Table 4.1. Timeline of activities towards preparation of final report on impact and cost-effectiveness of preventive versus recuperative program models

Tasks	Status
Data collection (census)	Completed
Data collection (household survey)	Completed
Data collection (staff interviews)	Ongoing, anticipated completion October 31, 2005
Data entry (census, household survey)	Ongoing, anticipated completion Oct 31, 2005
Data entry (staff interviews)	Planned for November 2005
Data cleaning (census, household survey)	Planned for November 2005
Data cleaning (staff interviews)	Planned for December 2005
Data analysis	Planned for December 2005-March 2006
Submission of draft final report to FANTA, WV-Haiti, etc.	Planned for April 2006
Workshops to discuss final results (Haiti and Washington, DC)	Planned for April 2006
Revision and submission of final report Preparation of journal manuscripts	June 2006

Data entry of the quantitative information gathered through the impact evaluation is currently underway at the *Institut Haitien de l'Enfance* (IHE) in Haiti. Standard statistical software packages (e.g., SPSS and STATA) will be used for the analyses of these data. It is anticipated that the household data will be available for analysis in late October 2005 and the staff data will be available in November 2005. The cost study data will not be available until the end of 2005.

The findings from the impact evaluation will be disseminated through submission of a report to FANTA and to World Vision-Haiti by April 2006 (see proposed outline below). The report will also be shared with other USAID Cooperating Sponsors in Haiti. A workshop will be conducted in Haiti in April 2006 to present the results of the impact evaluation to World Vision-Haiti, USAID and other interested participants. A workshop will also be conducted in Washington, D.C. in April 2006 to disseminate the findings of the research to FANTA, USAID and other PVO staff. Manuscripts that showcase various aspects of the evaluation will also be prepared and submitted for publication.

4.2. Proposed outline for the final evaluation report

The final evaluation report will address the 3 main objectives of documenting impact, cost-effectiveness and coverage of the two programmatic approaches. In addition, it will be used to provide an overview of the entire evaluation process, including the design of the evaluation itself and the supporting activities that strengthened the design and implementation of the two program models. It will also present an overview of the influence of factors related to implementation and utilization of programs on program impact, and will conclude with lessons learned for programs as well as the policy and research implications of the findings.

Chapter 1: *Rationale for a preventive approach to addressing undernutrition in early childhood*
(Review of key literature justifying the hypothesis that a preventive approach may be more cost-effective than a recuperative approach to addressing undernutrition in early childhood.)

Chapter 2: *Objectives and design of the evaluation.*
(Description of the design of the evaluation, the specific objectives, and the role of different research activities within the overall evaluation, e.g., the formative research, program development, operations research and cost studies).

Chapter 3: *World Vision's MCHN program*
(Background on World Vision's MCHN program: its objectives, structure, design and staff structure. Comparison of the preventive vs. recuperative approaches as implemented within World Vision's MCHN program)

Chapter 4.: *Getting it right from the start: Designing the preventive and recuperative models*
An overview of the formative research and program development activities and how they informed the design of the two models.

Chapter 5: *Delivering it well: The operations research process*
(An overview of the operations research methods and process and how the results were used to strengthen program delivery and interpret evaluation findings.)

Chapter 6: *Evaluating impact*
(Presentation of results of impact evaluation, comparing the two program models)

Chapter 7: *Comparing the cost effectiveness of the two approaches*
(Presentation of results of cost effectiveness evaluation, comparing the two program models).

Chapter 8: *Lessons learned for programs*
(An examination of the role of implementation and utilization factors in interpreting nutritional impact; Other lessons learned for programs – depending on the findings).

Chapter 9: *Program, policy and research implications*

REFERENCES

- IFPRI. Prevention or Cure? “A Comparison of the Effectiveness of Targeting Food Supplements to Malnourished Children Compared to Universal Targeting of Children Under Two in Haiti” . Revised proposal submitted to: Food and Nutrition Technical Assistance (FANTA) Project. By: International Food Policy Research Institute (IFPRI). November 29, 2001
- Loechl, C, M.T. Ruel, G. Pelto., and P. Menon. *An Operations Evaluation of World Vision’s Integrated Health and Nutrition Program in Central Plateau, Haiti*. Submitted to the Food and Technical Assistance (FANTA) Project, March 2004.
- Loechl, C., P. Menon, G. Pelto, and M. Ruel. *Behavior Change Communication to Improve Infant and Young Child Feeding Practices in Rural Haiti: Training and Communication Materials*. A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C., 2003b.
- Loechl, C., P. Menon, M. T. Ruel, and G. Pelto. *Process used for the design of an integrated health and nutrition program to prevent child malnutrition in rural Haiti*. A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C., 2003a.
- Maluccio, J. and C. Loechl. *Preventive versus Recuperative Targeting of Food Aid: Accounting for the Costs. Mid-term Cost Report*. Submitted to the Food and Technical Assistance (FANTA) Project, December 2004.
- Menon, P. and M.T. Ruel. *Child care, nutrition and health in the Central Plateau of Haiti: the role of community, household and caregiver resources*. Report of the IFPRI-Cornell University-World Vision baseline survey, Haiti 2002. Submitted to the Food and Nutrition Technical Assistance (FANTA) Project, October 30, 2003.
- Menon, P., C. Loechl, G. Pelto, and M. Ruel,. *Development of a Behavior Change Communications Program to Prevent Malnutrition in the Central Plateau of Haiti: Results and Challenges from a Formative Research Study*. A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C. 2002b.
- Menon, P., M. Arimond, M.T. Ruel, G. Pelto, J.-P. Habicht and C. Loechl. *Using operations research to monitor program implementation and inform impact evaluation*. Results of a second round of operations research of the World Vision Maternal and Child Health Program in Haiti. Submitted to the Food and Technical Assistance (FANTA) Project, March 2005.

Menon, P., M. Ruel, G. Pelto, Y.-F. Pierre, E. Metellus, and A. Ferrus. *A qualitative study of the patterns of infant feeding and care in the Hinche area of Plateau Central*. A report submitted to the Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C. 2002a.

Menon, P., M.T. Ruel, G. Pelto and J.-P. Habicht. *Review of health and nutrition education messages and delivery system currently used in Haiti, and recommendations for further research*. Report submitted to: Food and Nutrition Technical Assistance (FANTA), December 31, 2001.