

World Vision Relief & Development, Inc.

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MIDTERM EVALUATION REPORT  
Lumi Child Survival Project  
Sandaun Province  
Papua New Guinea  
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PVO Child Survival Grant Program  
Office of Private and Voluntary Cooperation  
Bureau for Humanitarian Response  
1515 Wilson Boulevard  
Rosslyn, VA 22209

Submitted by:

World Vision PNG  
P.O. Box 484  
Madang, PAPUA NEW GUINEA  
Tel: (675) 823148  
Fax: (675) 823577

PVO Headquarters Contact:

Larry Casazza, M.D., M.P.H.  
World Vision Relief & Development, Inc.  
220 I Street, NE, Suite 270  
Washington, DC 20012  
Tel: (202) 547-3743  
Fax: (202) 547-4834

**TABLE OF CONTENTS**

	<u>Page #</u>
<b>A BBREVIATIONS</b> . . . . .	ii
<b>I. EXECUTIVE SUMMARY</b> . . . . .	1
<b>II. BACKGROUND</b> . . . . .	1
<b>III. INTRODUCTION</b> . . . . .	2
A. Composition of the Team . . . . .	2
B. Evaluation Methodology . . . . .	2
<b>IV. FINDINGS</b> . . . . .	3
A. Project Focus and Use of Funding . . . . .	3
B. Project Design and Implementation Plan . . . . .	4
C. Organizational Development . . . . .	7
D. Effectiveness of Services . . . . .	11
E. Host Government Cooperation . . . . .	17
F. Sustainability . . . . .	17
G. Project Finances . . . . .	18
H. Constraints Affecting Project Implementation . . . . .	19
<b>V. LESSONS LEARNED AND RECOMMENDATIONS</b> . . . . .	20
A. Lessons Learned . . . . .	20
B. Recommendations . . . . .	21
<b>VI. APPENDICES</b>	
A. Key Informants	
B. Reference Documents	
C. Lumi CSP Annual Report FY93	
D. Lumi CSP Staff Training and Workshops	
E. Lumi CSP Organizational Chart	
F. HIS Forms	
G. Financial Reports	

## ABBREVIATIONS

<b>ARI</b>	Acute Respiratory Infection
<b>ATO</b>	Administrative/Training Officer
<b>ANC</b>	Antenatal Care
<b>APO</b>	Aid Post Orderly
<b>CDD</b>	Control of Diarrheal Diseases
<b>CDW</b>	Community Development Worker
<b>CHW</b>	Community Health Worker
<b>cs</b>	Child Survival
<b>CSP</b>	Child Survival Project
<b>CSP, L</b>	Child Survival Project, Lumi
<b>DHI</b>	District Health Inspector
<b>DIP</b>	Detailed Implementation Plan
<b>DOH</b>	Department of Health
<b>EPI</b>	Expanded Program on Immunization
<b>HC</b>	Health Center
<b>HEO</b>	Health Extension Officer
<b>HIS</b>	Health Information System
<b>HS-C</b>	Health Sub-Center
<b>MCH</b>	Maternal and Child Health
<b>MTE</b>	Midterm Evaluation
<b>NA</b>	Nurse Aide
<b>NHP</b>	National Health Plan
<b>OIC</b>	Officer in Charge
<b>ORT</b>	Oral Rehydration Therapy
<b>PHN</b>	Public Health Nurse
<b>PNG</b>	Papua New Guinea
<b>POA</b>	Plan of Action
<b>RN</b>	Registered Nurse
<b>SPHN</b>	Senior Public Health Nurse
<b>TA</b>	Technical Assistance
<b>TT</b>	Tetanus Toxoid Immunization
<b>UNICEF</b>	United Nations Children's Fund
<b>USAID</b>	U.S. Agency for International Development
<b>VBA</b>	Village Birth Attendant
<b>VDC</b>	Village Development Committee
<b>VHA</b>	Village Health Aide
<b>WCBA</b>	Women of Childbearing Age
<b>WV/WVI</b>	World Vision/World Vision International
<b>WVPNG</b>	World Vision Papua New Guinea
<b>WVRD</b>	World Vision Relief & Development

**I. EXECUTIVE SUMMARY**

This report summarizes the Midterm Evaluation (MTE) of the Child Survival Project (CSP) in Papua New Guinea being implemented by World Vision International (WVI) in the Lumi District of Sandaun Province. The three-year project was initiated in October 1992 to support and strengthen existing health services of the Department of Health (DOH) as well as to promote general economic and human development in the community. The project seeks community ownership of, and public support for the project through the training and use of volunteer village health aides (VHAs) and village birth attendants (VBAs), and the formation of village development committees (VDCs). The Child Survival Project interventions include immunization, oral rehydration therapy (ORT), nutrition (including Vitamin A supplementation), prevention of respiratory diseases, and malaria prophylaxis.

The project staff found deficiencies in the project's management. The deficiencies are reflected in shortages in staff numbers, the limited use of technical assistance, and the poorly developed health information system. Still, project staff have succeeded in partially achieving some of the objectives. Special questions identified by the project staff addressed during the evaluation included the advisability of continuing to address all the project's objectives and strategies for enhancing sustainability.

Key recommendations for the remainder of the project period address the need to consolidate achievable and sustainable project objectives. Project efforts should, therefore, be directed towards continuing in-service training for DOH staff, providing a depot of medical supplies and equipment for the DOH, training and supporting VBAs from isolated areas, and establishing VDCs.

**II. BACKGROUND**

The World Vision Child Survival Project in Lumi is a \$519,463 three-year project initiated in October 1992 to support and strengthen existing health services of the DOH as well as to promote general economic and human development in the community. The USAID funding (\$383,052) comprises 74 percent of the total project budget. The project also receives funding from other sources through World Vision International.

The project is located in Lumi District, Sandaun Province, Papua New Guinea, with a population of approximately 28,611. The project is expected to serve six of the seven subdistricts of Lumi District, each of which is served by a health extension officer and a public health nurse. The project area covers a total of 118 villages. Most of the population in the project area are small-scale gardeners and gatherers, with little to no cash income. There are four distinct "language groups," of which Pidgin is the only shared language.

Within the province, Lumi is the largest and most populous district; yet due in part to its size and isolation, much of the population does not have access to formal health services.

The infant mortality rate and malnutrition rate, among other key indicators of Child Survival (CS), are the highest in the province. Its isolation and distance from major town centers increases

transport costs and results in frequent shortages and high prices for food, medical supplies, and other essentials. Much of the area's population is several days' walk from the nearest health facility.

The project's goal is to reduce morbidity and mortality in children under five and in their mothers by improving the ability of the Department of Health to provide child survival and maternal health services in accordance with the National Health Plan (NHP). Much of the project's focus is on supporting the routine activities of DOH staff through the provision of resources and technical expertise.

The project seeks to foster community ownership of and public support for the project through the training and use of volunteer VHAs and VBAs and the formation of VDCs, representative members of which will participate in a project management committee. The Child Survival Project interventions include immunization, ORT, nutrition (including Vitamin A supplementation), prevention of respiratory diseases, and malaria prophylaxis. The DOH has been fully supportive of World Vision's efforts to expand child survival interventions into this area.

Community involvement and the prospect of a future income-generating activity resulted in the funding and management of the Wokabout sawmill. This sawmill was set up to provide wood to be used in the construction of the project staff houses.

### III. INTRODUCTION

#### A. Composition of the Team

The team was selected by World Vision staff in Sydney to provide a balance of internal and external evaluators. The team included:

<u>Team Member</u>	<u>Organizational Affiliation</u>
Dr. Leigh Trevillian	Consultant, Team Leader, Canberra, Australia
Ms. Helen Ashwell	Consultant, Sydney, Australia
Dr. Fe Garcia	Health Resources Manager, WVRD, USA
Mr. Matthew Hapoto	Child Health Care Coordinator, WVPNG
Mr. Michael Pagasa	Coordinator, Community Involvement, DOH, Southern Highlands Province, PNG
Mr. Gewane Poge	SeniorArea Project Coordinator, WVPNG
Dr. Graeme Swincer	Development Associate, WV1 Pacific Development Group, Australia

The team gratefully acknowledges the invaluable support and insights of the project staff, especially Mrs. Alexia Gamando, Ms. Evangeline Kaima, and Mr. Bonny Kinei.

#### B. Evaluation Methodology

Methods used for the MTE evaluation included:

1. Review of project activities
2. Review of project records
3. Individual and group discussions with project staff
4. Key informant interviews

5. **Focus** group discussions with project volunteers and beneficiaries

Key informants to whom special gratitude is due are listed in Appendix A. A partial list of documents reviewed for the evaluation is provided at Appendix B.

**IV. FINDINGS**

**A. Project Focus and Use of Funding**

The project's focus is to reduce the morbidity and mortality of children under five and their mothers throughout the Lumi District through a strategic focus on child survival, maternal health, and community development. This is to be achieved by strengthening the Lumi District DOH. Project funds have to date been used primarily for infrastructure development; that is, project office and staff housing, and also for salaries and administration, including travel. Very little project funds have been directed towards achieving project objectives as Table 1 indicates:

**Table 1: Breakdown of Project Funds Spent**

<u>Objective</u>	<u>% Expenditure Inception to Date</u>
PHC Planning	0.07%
In-Service DOH Staff	2.4%
EPI	0.8%
Malaria	0.1%
MCH/Nutrition	0.5%
Community Development	3.5%
Evaluation	0.5%
Salaries/Benefits	59.4%
Administration Travel	14.9%
Administration Other	17.8%

Source: Monthly Financial Report June 1994. Expenditure Report Against Activity Objective.

Project monitoring is by a Monthly Management Report, detailing all project staff activities, and a monthly Financial Management Report, submitted by all project staff, which includes a budget forecast for the coming month. In the absence of a project manager, the individual staff reports are forwarded directly to the senior area project coordinator, Wewak, who produces a single report that is then forwarded to WVPNG in Madang.

There is no Plan of Action (POA) for WV staff in Wewak to use for planning their finances. This lack of a POA has occasionally been responsible for delays being experienced by the project staff following the submission of the project's monthly budget forecast in receiving funds needed to finance project activities. Similarly, delays **have** occurred on occasions in WVPNG addressing the supply of urgently requested materials and supplies, consequently delaying the implementation of project activities.

**B. Project Design and Implementation Plan**

The **overall** project has been well designed to improve the capacity of the DOH to meet the primary health-related needs of the community by addressing critical limitations in the existing health system. Strategies selected have been fully considered for their appropriateness to the target population, but the number of objectives and the levels to be achieved within these objectives **have** not been realistic. Moreover, the effectiveness in achieving any or part of the objectives cannot be clearly demonstrated as the project's Health Information System (HIS) is still in its infancy.

**1. Plan Of Action**

The project has suffered greatly from the absence of a revised POA that took into account the difficulties being encountered in trying to achieve all the objectives as outlined -in the Detailed Implementation Plan (DIP). The staff endeavored to follow the POA but have been hindered by the shortages of staff and limited resources, including funds, supplies, and human resources such as facilitators for workshops.

In March 1994, the project manager in consultation with the project team revised the POA to what they considered presented more realistic objectives in lieu of the difficulties they were experiencing in attempting to achieve all 14 objectives. These 14 project objectives were reduced to just six objectives, which it was felt could be achieved during the remaining two financial quarters of 1994. These six objectives are listed below:

- a. Facilitate the formation and preparation of six village development committees.
- b. Facilitate recruitment, training, and development of 20 village health aides.
- c. Facilitate recruitment, training, and development of 20 village birth attendants
- d. Increase completed immunization coverage to 45% of children 0-11 months.
- e. Ensure that 60% of infants 0-3 months are exclusively breast-fed.
- f. Ensure that 50% of households with a child under five have an impregnated bed net.

This revised POA was not reviewed by WVPNG and WVRD during their visit to Lumi in March 1994, thus leaving the original 14 project objectives to be addressed by the project staff. Because of the difficulties the project has encountered to date, it is considered that these objectives will not be achievable within this time-frame.

**2. Technical Review of the DIP**

Comments and recommendations from the technical review of the DIP were addressed in the Lumi CSP Annual Report FY93. The Annual Report addressed three specific topics:

- a. Recommendations that will be implemented because they were implicit in the original plan.
- b. Recommendations that will be implemented because they are **new ideas** that are obviously appropriate to the situation and project guidelines.
- c. Recommendations that will probably not be implemented because they do not fit the situation or project's chosen role or fall beyond the project's capacity.

No significant changes, however, have been made to the project design following submission and approval of the DIP. The project has failed to address the recommendations arising from the DIP review. These recommendations are attached as Appendix C.

3. **Efforts to Improve Health Behavior**

Project strategies to improve health behavior depend largely on interpersonal communications. The project staff have appropriately sought to alter health behaviors by conducting a literacy and awareness training which was directed at community members, both male and female. The inclusion of males in these activities is seen as an essential component because of the society's male-dominated structure. These community mobilization activities have been complemented by small group sessions between mothers and project staff during maternal and child health (MCH) clinics.

4. **Appropriateness and Targeting of Activities**

The CS interventions outlined in the project's objectives effectively address the major causes of infant and child mortality, which include malaria, respiratory disease, diarrheal disease, and vaccine-preventable diseases. Project staff have not, however, been able to address any of these objectives satisfactorily in an effort to achieve an improvement in health indicators. This has been largely due to staff shortages, lack of an effective "cold chain, insufficient medical supplies, and transport difficulties.

The project focuses its activities on proper target groups as defined by DOH policy, including the following:

<u>Intervention</u>	<u>Target Group</u>
Immunization	Children 0-11 months Women of childbearing age
ORT	Children under 5 years
Nutrition	Children under 5 years
Malaria Prophylaxis	Children under 5 years Pregnant women
Respiratory Diseases	Children under 5 years
Training of Health Workers	Children under 5 years Women of child bearing age
Formation of Village Development Committees	Entire community population

Within these target groups, children and women are further defined as "at risk" according to the criteria outlined below.

Children are defined "at risk" if they:

- a. Fail to receive immunizations,
- b. Fail to be breast-fed in infancy (0-3 months) or to receive appropriate weaning, or
- c. Fail to receive ORT and feeding during and after diarrhea.

Women are defined "at risk" if they:

- a. Fail to receive immunizations,
- b. Fail to have supervised deliveries, or
- c. Fail to receive **malaria prophylaxis** during pregnancy.

## 5. *Specific Interventions*

### a. *Objectives and Phasing of Country Project*

The objectives as stated in the DIP are clearly described and include achievement targets for each fiscal year. These objectives are, however, not achievable due in part to staff shortages, shortages of medical supplies and equipment, and transport difficulties. The lack of a fully developed HIS also means that any progress made in reaching these objectives is unable to be accurately measured.

The project staff have demonstrated their capability of managing by objective as they have endeavored to follow the DIP. Review of the project's objectives has not been undertaken at a level higher than that of the project staff. This failure to review the project's objectives continued even after receipt of the First Annual Report which indicated that the project was, even at that stage, significantly behind schedule.

### b. *Technical Adequacy of Intervention Design and Implementation Strategy*

The small number of training materials, all in the form of textbooks, provided by the CSP are appropriate for each level of health worker who has received them. Health extension officers (HEOs), registered nurses (RNs), community health workers (CHWs), and nurse aides (NAs), have been provided with the *Pediatric Standard Treatment Manual for PNG*; aid post orderlies (APOs) received *Daunim sik long pies* and *Standard Treatment Manuals for Aid Post Orderlies*. No other training materials nor health education materials have been supplied by the project. Educational materials are needed for use at MCH clinics and for use by village educators.

Staff who conduct MCH clinic patrols in isolated areas provide technical supervision of APOs in the field. No supervisory checklists, however, have been developed to guide supervision in the field. Regular meetings between APOs and CHWs and their supervisors to review achievements are not conducted. The current supervision lacks a technical basis, is hindered by staff

shortages both in the DOH and in the project, and also is hindered by the difficulties encountered in regularly attending the outlying villages.

c. Quality *of* Field Activities

The project, through Refresher Workshops, has improved the quality of field activities undertaken by the DOH. Prior to these workshops the DOH staff had not received any refresher training during the past 10 years. Details of Staff Training and Refresher Workshops conducted by the project are attached at Appendix D.

The project encourages and supports the activities of the DOH staff in conducting MCH clinics and immunization coverage at 22 villages easily accessible by road and 24 isolated villages accessible only by air transport. The project has encouraged the DOH staff to reintroduce health education to the community on a regular basis. Difficulties in achieving education of a large number of communities has arisen due to shortages in staff numbers, a lack of educational material, and difficulties in transport and access to many villages.

The absence of a "cold chain" in many locations and shortages of vaccines have ensured that these field activities are very limited in their achievements. Also, the shortage of registers and personal immunization cards makes it difficult to achieve complete immunization levels. There is no master register to enable identification of defaulters who could be followed up by the CHWs either by vaccination or motivation to attend immunization clinics. The quality of field activities cannot be fully assessed due to staff shortages.

There is almost no supervision of health workers from the provincial government level. Provincial DOH staff invited to participate in the MTE did not attend. The HEO at the Lumi Health Center (HC) is unable, due to time and geographical restraints, to adequately supervise all health workers within his area.

The project's system for supervision of its staff is inadequate and does not assist with quality assurance by giving health workers frequent feedback on their performance. There has not been any written feedback on the monthly reports submitted nor any verbal feedback when WVPNG staff visit the project site. There have been no annual performance evaluations for project staff.

C. **Organizational Development**

1. *Human Resources*

The Lumi CSP team is composed entirely of Papua New Guinean nationals who are committed and work well together

in a project that has experienced both staffing and administrative difficulties. Since inception the project has not employed its full complement of six staff (excluding the driver and the two saw mill operators); the administrator and training officer (ATO) position has never been filled, and there have been two project managers each remaining in the position for only four months. Project staff were to start in Lumi in February 1993; however, only three staff members commenced work at this time. The first project manager did not take up his position until June 1993. Staff positions and corresponding dates of employment are outlined below:

<u>Position Title</u>	<u>Dates Employed</u>
Project Manager	1. June 1-Sept. 30, 1993 2. Jan. 29-May 28, 1994
Admin. & Training Officer	Vacant
Sr. Public Health Nurse (SPHN)	Feb. 16-March 10, 1994
Public Health Nurse (PHN)	Feb. 23, 1993-Present
Community Dev. Worker (CDW)-1	Feb. 10, 1993-Present
Community Dev. Worker-2	March 23, 1994-Present

Thus, from a total of 102 available project staff months (February 1993-July 1994), only 60 have been used; that is, the project has employed staff (ancillary staff not included) for only 59% of the project life to date. The project has suffered greatly from this, especially from the significant periods of time without a project manager.

Staff shortages have meant an increased work load and extra responsibilities for those employed. Two staff members from WVPNG went to Lumi for a total of four weeks (approximately two weeks each) as acting project managers during the period October-November 1993. Since March 1994, the PHN has had to take on the added responsibilities of SPHN. The CDW 2 is also responsible for local administration and finance. A position established in February 1994, senior area project coordinator, located in Wewak, has responsibility for managing the overall project, including the administration and finance. This organizational change is reflected in the project's organizational chart which is attached as Appendix E.

Also, formal orientation to the project for Lumi staff has not been routinely conducted by WVPNG. Formal orientation to the project is required, and its importance is increased because the duties of the current staff have been expanded to include project administration in the absence of a project manager. It is noted that the initial project manager was the only staff member to receive a formal orientation to the project (two weeks in June 1993 prior to his taking up the position).

The administrative support for project staff from WVPNG has been inadequate, with poor overall coordination of activities. WVPNG has undertaken very little field-based supervision to assure quality of services offered by the project staff. Visits by WVPNG only covered general and administrative duties and were too short to allow for

individual discussions with staff. Performance evaluations of project staff have not been undertaken.

Training for the project staff has been inadequate. Due to the staff shortages and, as a consequence, the extra duties that existing staff have been expected to undertake, it is considered that the staff do not have all the relevant training and skills required to perform the necessary tasks. The existing Lumi CSP staff have received very little on-the-job training. A five-day Refresher Workshop in June 1994, addressing EPI, CDD, ARI, and malaria, was attended by the PHN. A schedule of training undertaken and provided by CSP staff is attached as Appendix D. It is recognized that staff are selected for their ability to perform the duties described in their individual job descriptions.

It should be noted, however, that the existing staff are all doing other duties outside of these positions. As such, staff have expressed a need for training in community mobilization; management skills, including basic computer and financial skills; and PHC concepts. The absence of **any** close supervision makes it even more important that project staff are allowed to develop these skills.

Solid management support to the project staff has not been demonstrated by regional staff. Visits to the project site by the health programs coordinator, child health care coordinator, and senior area project coordinator (following this position's establishment in February 1994) have not been frequent enough to develop adequate involvement in both the technical and administrative matters of the project.

Visits to the project site by the development associate from the WV Pacific Development Office also have not been frequent enough to allow provision of constructive advice on the project's management and progress towards achieving its objectives. The absence of any form of direct communication, such as telephone or radio, from the project site has increased feelings of isolation among the project staff and exacerbated supervisory and management issues.

## **2. Use of Technical Resources**

The major technical support received by the project has been the assistance from WVRD staff member Tom Ventimiglia in conducting the baseline survey and preparing the DIP. A subsequent technical assistance visit was made by Pamela Kerr for WVRD in March this year to review project progress outlined in the DIP and to make plans for the midterm evaluation.

The project has used locally available technical assistance (TA) in the development of health education messages and materials for the Literacy and Awareness Workshop and to develop HIS. Technical assistance was also obtained from experts in the National DOH. Following the inability

of WVPNG to supply facilitators and consequent postponement of planned workshops, the project staff have shown strong abilities to recognize local TA resources and have started to establish a network of support for the project activities. This network has been primarily within the DOH, however, and, at this late stage of the project, it is still very limited.

There have been few resource materials selected and sent to the project staff by WVPNG. A total of 11 textbooks and two training manuals have been forwarded. Of these, only four textbooks and two training manuals remain. It is believed that the other texts were removed by staff member(s) no longer employed. The texts are considered appropriate and are well used by the staff. However, a much greater range of books and also other texts which address a higher level of expertise are considered necessary to support the project staff in their development of training programs and health education messages and materials.

### 3. **Health Information Systems**

The absence, since the project's inception, of the Administrative/Training Officer (ATO) has meant that there has been no overall responsibility taken for the management of the project's HIS. No project staff have been trained in computer skills for HIS management as described in the DIP. Also, no training workshops for project and DOH staff have been conducted in the implementation and use of HIS. Despite this lack of technical assistance, DOH staff at Lumi, with the assistance of project staff, have developed and implemented a village-based register, the *Aid Post Daily/Disease Tally Sheet*, for use by APOs. The effectiveness of this register will be assessed at the end of its first month of usage in August 1994.

A *Weekly Vaccination Tally Sheet* for the MCH clinics and an *OPD/MCH Weight for Age and Attendance Tally Sheet* for use both at Lumi Health Center and MCH clinics have also been developed. These forms are attached as Appendix F. Particular attention **has** been given to the development of these registers to ensure that recording of information is more streamlined and less time-consuming than existing documentation so as to encourage their use by health workers.

The existing HIS 1 form and HIS 2 form, covering MCH, immunization, and disease incidence, and EPINT Returns form (records of immunization) currently used by the DOH at Lumi have been expanded to include all the project area, as some of the project districts are outside of the Lumi HC area. Health data from each Health Sub-Center (HS-C) will be prepared in three copies. Original copies of all HIS 1 forms and HIS 2 forms will be forwarded to the Vanimo provincial health officer, and a copy will be directed to the sister in-charge of Lumi HC. These forms have not as yet been printed.

No MCH registration is currently being undertaken in the Lumi district due to the absence of register books. It is vital that this information is collected. Once collected, the statistics will enable the project to assess the relevant objectives. Lumi KC has been registering details of births at the HC since March 1994 when it received the appropriate registers from the DOH.

Apart from the use of the baseline survey, the results of which were used to design the project's objectives, the project has collected very little information which could enable staff to review the project's performance against the stated objectives.

#### **D. Effectiveness of Services**

The effectiveness of the limited project activities undertaken to date cannot be well demonstrated by quantitative achievements due to the project's poorly developed HIS. Qualitative evidence of project effectiveness is found by observing other aspects of the project's activities, but this is limited.

The effectiveness of the project's social mobilization activities is manifest in the participation of community members in continuing health education and establishing vegetable gardens. The project has been able to reach only a small percentage of the target area, and the formation of the VDCs will enhance this social mobilization.

The commitment of project staff and DOH staff was evident in their activities demonstrated to date and their stated intent to continue with project activities in spite of the difficulties already encountered and the continuing staff shortages.

Both project staff and community members were articulate in their understanding of the needs and benefits of the project in their community, and this was evidenced by their questions and thoughts on sustainability. Community members did express concern, however, over the delay in achieving these objectives.

##### **1. Documented Achievement of Objectives**

Progress toward achieving each project objective is outlined below:

###### *Objective 1: Primary Health Care Information and Planning*

Work in partnership with the Lumi District DOH to:

- Fine-tune a District Health Plan for the next five years.
- Upgrade and activate the Lumi district health information system, including provision of forms and appropriate computer software.

Accomplishments: No work has been undertaken in the development of a five-year District Health Plan. The DOH and project staff, however, have expanded the area covered by HIS 1 forms and HIS 2 forms to encompass the entire

project area. New health information forms for use at the **Aid Posts** and also for use at MCH clinics have been developed. The MCH clinic forms will allow the nutritional status of; children under five years and their level of immunization to be assessed. The Aid Post **Tally** Sheet will document the number of new and repeat incidence cases that occur. No village-based registers have been implemented for use by **APOs, VHAs, and VBAs** (once selected and trained) as a complement to the facility-based HIS. A laptop computer with word processing and spreadsheet software and a printer have been provided to the project for HIS development. The project staff and the DOH staff do not, however, have the appropriate skills to develop a database for collation of this information once it has been collected.

*Objective 2: Village Development Committees*

Work in partnership with the Lumi District DOH to facilitate formation and preparation of 12 Village Development Committees (VDCs).

Accomplishments: Twelve villages within the project target area have been selected to form VDCs. The project staff have used the presence of an Aid Post in the area as the criteria for selection for assistance in developing a VDC. Eight villages in the project area have already established a committee, consisting of a chairman, deputy chairman, secretary, and treasurer. Two representatives from each of the 12 selected villages will undergo a one-week Village Leadership training in September 1994.

The National Primary Health Care Coordinator will be the main source of technical assistance. Each VDC will be asked to develop their own plan of action and to liaise closely with the DOH staff. It is planned to review the progress of these VDCs after six months, with representatives from those most active committees undergoing a refresher workshop at this time.

*Objective 3: Village Health Aides*

Facilitate recruitment, training, and deployment of 20 Village Health Aides (VHAs).

Accomplishments: Twenty **villages** have each selected a representative for training as a VHA. Criteria used for selection were more than two hours walk to the nearest Aid Post and the trainees being prepared to work on a voluntary basis. Training is expected to take place in August 1994. The project staff have not yet located a facilitator for the training. The curriculum has been developed, but the lesson content is still to be completed. The ongoing monitoring and supervision of **VHAs** has not been finalized.

*Objective 4: Village Birth Attendants*

Facilitate recruitment, training, and deployment of 20 **Village Birth Attendants (VBAs)** .

Accomplishments: Representatives have been selected from 20 villages for training as VBAs. Criteria for selection was more than a two hour walk from the village to the nearest Aid Post. Training is expected to take place in September 1994. The project staff have not yet selected a facilitator for the training. It has been suggested that a DOH staff member from Mendi be approached to act as facilitator. The curriculum has been prepared and the lesson content is completed. VBA kits are still to be purchased. The ongoing monitoring and supervision of VBAs has not been finalized.

*Objective 5: Immunization Coverage*

Facilitate an increase of completed immunization coverage from 14% (baseline) to 45% of children 0-11 months.

Accomplishments: Immunization coverage commenced in July 1993, and a one-year clinic program for the Lumi district has been developed. The project area covers 118 villages. Clinics are conducted at 24 villages on a monthly basis and at 22 of the more isolated villages on a bimonthly basis. Within the 24 villages that are within easy access of Lumi Health Center, 38% of children less than one year of age have been fully immunized.

Statistics from MCH clinics conducted by the three other HS-C (Fatima, Anguganak, and Edwaki) in the Lumi district are not available. There are on average 30 children per village under five years of age, the greater proportion of whom reside in the more isolated areas. Nonimmunized children over five years of age from these more isolated villages have also been included in the immunization coverage. At these clinics 165 mothers have been educated on the importance of immunization.

To date no "cold chain" equipment has been purchased by the project. In August 1993, WVPNG contacted UNICEF PNG concerning the purchase of "cold chain" equipment (8 kerosene refrigerators, 20 "cool" boxes), eight remote locations having previously been identified by the project and DOH staff for the placement of these refrigerators. A reply was received in September 1993 indicating that the equipment was available for immediate purchase. WVPNG did not proceed with the purchase of this equipment as it was decided that solar power units were preferable to kerosene-powered. No further efforts, however, were undertaken to purchase solar-powered units.

As a result, the lack of an adequate "cold chain" has severely hampered the activities of the DOH staff and has made the attainment of this objective very difficult. The DOH has in the past 12 months experienced an acute shortage of hepatitis B vaccine in addition to reduced supplies of all other vaccines. The project has not supplemented the DOH supply of drugs, immunization registers, and child health record books. This shortage has resulted in children attending clinics being indiscriminately immunized as there is no record of any

previous vaccination. Sustainability of this objective will be more achievable if the "cold chain" is in place.

Further difficulties encountered in achieving this objective include the reliance upon **air** transport to reach the more remote areas. There are no routine flights to these areas, and the MAF airline will only transport staff if there are three or more passengers. MAF will transport project staff at a reduced rate but require DOH staff to pay full fare. This creates difficulties as DOH staff frequently do not have the finances available to cover the cost of transportation to isolated areas. It is understood that the project is not to cover the DOH airfares, but it is considered appropriate for the project to assist the DOH in its planning and budgeting to allow for these costs so that the clinics can continue after the project's life. Isolated rural health facilities are manned by APOs who have not been trained in immunization. Many of the APOs are due for retirement, and it is anticipated that they will be replaced by the new cadre of health worker in PNG, the CHW who has been trained in immunization.

*Objective 6: Tetanus Toxoid*

Facilitate immunization of 35% of Women of Childbearing Age (WCBA) with two doses of TT.

Accomplishments: In the villages where MCH clinics are being conducted by the Lumi HC staff, all pregnant women are immunized with at **least** one dose of TT, and 26 have received the second TT. Antenatal records have only been kept at Lumi HC since February 1994 and do not include the statistics from the entire project area.

*Objective 7: Oral Rehydration Therapy*

Ensure that 70% (baseline 57%) of cases of diarrhea in children under five are treated with appropriate ORT.

Accomplishments: Project and DOH staff have educated 105 mothers on the use of ORT for the treatment of simple diarrhea. Ten packets of ORT are held at each health facility. The DOH does not currently monitor the use of ORT at its health facilities. Three APOs require training in the use of ORT. The remaining DOH staff have received refresher training under the project.

*Objective 8: Diarrhea and Nutrition*

Ensure that 60% (compared to baseline 40%) of mothers with a child under five having diarrhea continue providing usual or increased amounts of foods and fluids.

Accomplishments: A total of 105 mothers have received education on the management of simple diarrhea, whereas 75 mothers have received nutritional education. DOH staff have received refresher training covering diarrhea and nutrition. The DOH and the project staff do not collect any statistics relating to this objective.

DOH staff have received supplies of seeds to enable them to establish vegetable gardens. These included peanuts, lettuce, corn, tomatoes, cabbage, watermelon, and cucumber. The literacy and awareness course participants (community members) were only given seeds once they had prepared the ground for planting in an effort to encourage self-reliance. Four community members from a total of 26 participants have already requested and planted seeds.

The project purchased a total of 16 foot scales in August 1993, but only five have been distributed to health facilities. The project staff are to ensure that health workers are competent in the use of these scales before their distribution. No training, however, in this regard has been undertaken or is currently being planned. Hanging scales and drugs (vitamin A capsules) have not been purchased by the project.

*Objective 9: Breast-Feeding*

Ensure that 60% (compared to baseline 47%) of infants 0-3 months are exclusively breast-fed.

Accomplishments: A total of 135 mothers have been given instruction in exclusively breast-feeding infants up to three months of age. The DOH and the project staff do not collect any statistics relating to this objective.

*Objective 10: Antenatal Care*

Facilitate an increase to 70% (from baseline 54%) in the percent of pregnant women who make at least one ANC visit.

Accomplishments: Thirty mothers have received instruction on the importance of attending for antenatal care. Antenatal care is provided for any pregnant woman who attends the mobile MCH clinics. The DOH and the project staff do not collect any statistics relating to this objective.

*Objective 11: Supervision of Deliveries*

Facilitate an increase to 40% (from baseline 19%) in the proportion of deliveries supervised by a trained health worker or birth attendant.

Accomplishments: Fifteen mothers have received instruction regarding the importance of a supervised delivery. Thirty mothers have safely delivered under the supervision of a health worker at the Lumi Health Center. These statistics cover the period March 1994 to August 1994. Prior to these dates no record of deliveries were kept. Since the arrival of the current HEO/OIC Lumi HC in March 1994, women have exhibited a willingness to attend the HC for their deliveries.

*Objective 12: Childhood Pneumonia*

Facilitate an increase to 20% (from baseline 0%) in the percent of mothers who can name at least two signs of childhood pneumonia.

Accomplishments: DOH staff have attended a Refresher Workshop which covered the topics of childhood pneumonia and the management of acute respiratory infections. Supplies of crystalline penicillin have been distributed to Aid Posts for use by APOs who have been trained in its use. The CSP has not assisted in the development of educational materials nor provided supplies of other antibiotics (e.g., amoxicillin, bactrim, and chloramphenicol) for use by health workers educated in their use. The DOH and the project staff do not collect any statistics relating to this objective.

*Objective 13: Impregnated Bed Nets*

Ensure that 50% (compared to baseline 0%) of households with a child under five have an impregnated bed net.

Accomplishments: The Divisional Health Inspector (DHI) has been systematically obtaining and impregnating nets and distributing them to villages located in a radial fashion from Lumi. Each net is made from double nylon netting and is able to accommodate three persons. The DOH has distributed 200 nets within the Lumi and Fatima district, and the project has supplied 23 nets for the Edwaki area. The DOH conducted a course in July 1992 which educated all health workers, including APOs, on how to issue and re-impregnate the nets. The CSP similarly instructed the APOs and CHWS at the Community Health Worker Refresher Workshop in July 1994.

Therefore, it is considered that health workers have sufficient knowledge to be able to distribute nets to and also educate their communities if the nets are made available. The CHW from Magleri Aid Post has already instructed and supervised a female community member to impregnate the nets. The DOH and the project staff do not collect any statistics relating to this objective.

*Objective 14: Malaria Prophylaxis*

Ensure that 40% of pregnant women receive chloroquine or other appropriate malaria prophylaxis.

Accomplishments: The DOH and the project staff do not collect any statistics relating to this objective. The project has not purchased chloroquine or other anti-malarial drugs for the DOH.

**2. Effectiveness in Targeting Services**

As described in section B.4. above, the project DIP effectively targets the appropriate demographic groups and high-risk sub-groups. The project's effectiveness in achieving these objectives is described in section D.1. above.

**E. Host Government Cooperation**

The Provincial DOH involvement in support of CSP activities has included facilitating training and provision of teaching materials. The absence of any staff member from the Provincial DOH at the MTE, having been previously invited to attend, was disappointing. It is, therefore, important that the findings and recommendations of the MTE are conveyed to the Provincial DOH in an effort to develop closer cooperation.

Close consultation and coordination has already developed between District DOH staff and project staff.

**F. Sustainability**

The project has made little progress towards achieving sustainability of its activities. The number of VDCs organized and functioning and the number of voluntary VHAs and VBAs trained and working are all indicators to be used to track this progress. To date, the project has facilitated the formation of eight VDCs, and a further four villages have been selected to establish VDCs. These VDCs, however, have not yet become functional nor have they developed their own POA, a vital component for sustainability. The project has not trained any VBAs or VHAs.

**1. Community Motivation and Participation**

The baseline survey conducted in February 1993 motivated and created an awareness and expectation in the community about the project. To date, however, there has been little community involvement apart from one literacy and awareness workshop. Also, this literacy workshop was organized by the project and was not a community initiative. Initial relationships were established but, due to the delays in achieving project objectives, the majority of these have not been built upon, and the general community is, on the whole, questioning the performance of the project. The absence of functioning VDCs, VBAs, and VHAs have all contributed to this lack of community "ownership" of the project. A very real concern is that the community may be discouraged by this slowness in achieving tangible results and thus become disinterested in future project activities, which will adversely affect its sustainability.

**2. Training of DOH Staff**

The project has provided only limited resources and training to upgrade the skills of the DOH staff. Further efforts need to be applied by the project to achieve these objectives as these factors are the DOH's primary constraints in sustaining quality CS activities.

**3. Commitment of the Government**

The DOH staff feel that the CSP activities will be of value to the community and will also enhance the activities of the DOH staff. There have, however, been no significant commitments of human and material resources to achieve the project's objectives by the DOH.

**4. Cost Recovery/Income Generation**

Health care in PNG is provided free of charge in an effort to encourage the population to use the services rather than relying on their traditional methods. Therefore, this project does not expect to recover costs for health services. -----

The project has made limited progress in the establishment of income-generating activities. The project Wokabout sawmill will be unable to become a source of income generation as the motors are too small to cope with a financially viable load and continually require maintenance. Screen printing of garments and their subsequent sale is being introduced as a means of providing funds for literacy classes. The introduction of vegetable gardens will allow community members to have more cash for other needs and become locally self-sustainable.

The project has supported and encouraged the building of a Community-Based Training Center at Taulote village near Lumi. It was proposed that once completed this Center would be rented to the project for training workshops, and when not in use, it could be used as a guest house. Building of this center was interrupted by a dispute between two villages over which village was responsible for its erection. This dispute has been settled but building has not recommenced, and it appears that the community is no longer motivated to proceed with the center's construction. A "revolving fund" scheme whereby funds raised through the sale of treated bed nets are used to purchase more nets has not been introduced.

**G. Project Finances**

At the end of the third quarter FY94 (June '94 Financial Report), \$280,878.50 had been expended from the total project budget of \$519,463. The remaining funds are expected to be more than adequate to cover expenses for the remaining 14 months of the project period, based on the average monthly expenditure of \$12,767.20. These figures indicate that just over half the project budget has been expended during the past 22 months. The majority of this has been spent on staff/casual salaries and construction of project housing. Very little has been spent on the project objectives, with no funds directed towards PHC information and planning, ARI, diarrhea, and ORT. A total of **\$14,902** has been allocated for the project's final evaluation. There are no recurrent costs associated with the project.

Financial reports supplied to the evaluation team cover the period from inception to June 30, 1994. The project expenditure for year 1 was underspent by \$89,500.56, and until June 30, 1994 (Quarter 3 FY94), total underspent was \$27,676.50. The "Project Budget by Objectives," the "Quarterly Financial Report for Year 2 Quarter 3," and the "Expenditure Report Against Activity Objectives" are detailed in Appendix G. It is noted that the objective numbers in the financial report do not correlate with the specific objective numbers in the DIP. By the end of quarter three FY94, CS funding had not markedly strengthened the DOH nor had it delivered, to any notable extent, health interventions which would, if monitored, achieve the objectives outlined in the DIP.

#### **H. Constraints Affecting Project Implementation**

The vast and rugged terrain of the targeted areas has contributed to delaying project implementation. The project staff are faced with long walking distances over, at times, difficult terrain in order to reach the very remote villages. These villages have little outside contact, and for this reason the social mobilization and progress of the project will be very slow. The difficulty in reaching some villages to conduct clinics and form VDCs is compounded by unreliable MAF flight schedules, due largely to a shortage of pilots. Attendance at CSP workshops has also been adversely affected when flights were not available for participants to travel to Lumi.

A second area of constraint is illiteracy. Only about 10% of the total population are literate. This is a major reason that the people's general level of understanding about health is very low. A related factor is the isolation mentioned above. Rapid changes cannot be expected; certainly in the more remote areas only minor progress may be anticipated within the time frame of this project. It could take at least two generations before certain major changes take place.

Major delays have been experienced in the purchase and delivery of building materials and spare parts for the Wokabout sawmill. As a consequence, the construction of the staff houses has been delayed. The main contributing factors have been the difficulties encountered with the purchase and transportation of goods. The closest town to Lumi for purchase of supplies is Wewak, at best about seven or eight hours driving time away but frequently inaccessible during the wet season. Wewak itself is remote from the major supply towns of Lae and Madang, from where materials at times had to be purchased, and it has no road links with these places. Access is by air or sea.

The construction of the staff houses has experienced significant delays and increases in the original budgeted costs. The project's Wokabout sawmill has two machines that are both too small to sustain the work load required to supply the amount of timber needed. Also, the wood was too hard. Mechanical problems frequently occur, resulting in one and, at times, both machines being sent to Madang for repairs.

The relative isolation of Lumi and its distance from both Wewak and Lae presented difficulties in administration and

guidance of the project. The absence of a radio at the project site compounded these difficulties. A further contributing factor to this isolation has occurred due to the fact that only the project driver has a driver's license. During the times when the driver has been unable to attend work due to illness, no other staff member is able to drive for supplies or to the other villages to conduct project activities.

**V. LESSONS LEARNED AND RECOMMENDATIONS**

**A. Lessons Learned**

The major lessons learned which will be useful in refining project implementation strategies are the following:

1. The importance of regular support, monitoring, and supervision to ensure that project objectives are met.
2. After the initial introduction of the project to the community, it is necessary that the project activities are commenced in accordance with the DIP to prevent the community from regarding the project as not having improved CS.
3. The project's efforts in developing interpersonal communications and relationships with the community have been highly successful.
4. The project staff have shown great dedication and enthusiasm even when confronted with insufficient support, monitoring, and supervision.
5. The attitudes of health staff dictate women's response to attending KC for supervised delivery.
6. Isolation and transport difficulties are major factors in the levels of health service delivery, notably immunization, maternal and child health **care**, and supervision of deliveries, achieved in the target villages.
7. The project design document should be written after visiting the proposed project area to ensure that a full appreciation of the difficulties that may be encountered in achieving the objectives is gained. The project design should then be modified accordingly.
8. A detailed plan of action should be developed and followed closely. Three monthly reviews with redesign as appropriate should be undertaken.
9. Adequate funds should be made available for use by project staff in accordance with the POA so as to avoid delaying project activities.
10. The effect of climate on project activities needs to be considered. Travel is severely restricted by the wet season, and the project staff must plan accordingly. This is especially true in relation to the EPI program.

11. Present strategies for the selection of facilitators have not been very successful. This is apparently due to lack of knowledge of appropriate facilitators and also the relative short notice given to some possible facilitators that does not allow them time to attend the workshops.
12. It is considered that it would have been valuable for the project staff to have visited pre-existing CS projects in PNG to review their lessons learned.
13. The absence of a fully developed HIS does not allow the achievement of project objectives to be assessed.

**B. Recommendations**

Based on the lessons learned and the other findings of the evaluation outlined in this report, the following recommendations were made by the evaluation team:

**1. General**

- a. Use the remainder of the project to improve the capacity of the DOH to meet the primary health-related needs of the community by addressing critical limitations in the existing health system. Consolidate present achievements and add no new interventions during the remainder of the project.
- b. Enhance monitoring and supervision of the project. Develop a detailed POA which is achievable under present staff shortages. Ensure WVPNG undertakes more frequent site visits and gives more guidance to project staff, delivers feedback following receipt of the project's monthly reports, and makes funds available so no delays in implementing project activities are experienced.
- c. Review training required and implement same for project staff to satisfactorily conduct their work.
- d. Ensure that all project staff obtain driving licenses to avoid periods when the project vehicle cannot be driven during times when the driver is absent.
- e. As a consequence of extensive costs, build no more houses. Bring all existing houses up to standard.

**2. DOH Strengthening and Collaboration**

- a. Consider delaying the fine-tuning of the five-year District Health Plan until the five-year Provincial Health Plan (1992-1997) has been printed and distributed. The design of the District Health Plan should be in accordance with the overall objectives outlined in the five-year Provincial Health Plan. This will assist in ensuring the sustainability of the District Health Plan once the CSP has been completed.
- b. Further assist by improving the skills and knowledge of existing health workers through training on

technical interventions, improved communication, and counseling strategies. Consider a second workshop for **HEOs**, **RNs** and **CHWs**, and **APOs** to run for two weeks to be held in the first or second quarter of FY95. It is proposed that one week be dedicated to counseling techniques, with the other week addressing CS interventions with technical assistance from the National DOH.

- C. Provide in-service training of DOH staff in monitoring and supervision of **VHAs**. Consider providing a one-week workshop to follow after the completion of the VHA training course. VHA training should include line of responsibility, roles, and functions.
- d. Provide in-service training for DOH staff in village-based maternal health care and supervision of **VBAs**. This is seen as essential for sustainability of **VBAs**. Consider providing a one-week workshop to follow after completion of the VBA training course.
- e. Consider enhancing the role of the DOH by using the existing health infrastructure to provide a depot for supplies (such as **ORT**, malarial chemoprophylaxis and impregnated bed nets, antibiotics, iron, folic acid, and antipyretics) at the Aid Post level. These additional supplies are particularly needed at the beginning and end of the financial year as this is the time when the DOH experiences monetary shortages and as a consequence is not able to provide adequate medical supplies. It is noted that this is not a long-term solution, but it is envisaged that the project will encourage improved ordering procedures by the DOH to avoid these shortages in the future.
- f. Obtain and provide all reference material and health education literature to all health facilities in the project area.
- g. Implement a program of regular supervision of all health facilities by the **HEO**. Establish a system for monitoring and supervision of all DOH staff and community-based health volunteers.

### **3. Health Information System**

- a. Immediately fund the printing of the **HIS** forms recently developed which cover the entire project area and supply the urgently needed registers for maternal and child health clinics.
- b. Encourage and facilitate the registration of all births by providing the DOH staff with the necessary registers.
- C. Train **HEO** and selected project staff in computer skills. Consider two training courses, each of three days' duration. The initial course should be to set up a database and then tabulate the health information collected during August 1994. The second course is

proposed to be conducted after a further two months and at this stage should include a review of data collected from APOs and also incorporate the information collected with the new HIS 1 and HIS 2 forms, which cover the entire project area.

**4. Village Development Committees**

- a. Continue to facilitate the formation, training, and supervision of 12 VDCs, whose role is to mobilize communities to participate in CS activities and to promote and support literacy programs and income-generating activities.
- b. Ensure there is a broad-based community awareness and application of PHC principles.

**5. Village Health Aides**

- a. The activities of the VHAs could be covered by members of the VDC and those who have attended the literacy and awareness workshop. Consider conducting a further in-depth two-week workshop for those who attended the initial literacy and awareness workshop.
- b. Consider deferring the recruitment, training, and deployment of all 30 VHAs due to time restraints and shortages of project staff. Consider limiting the training of VHAs to areas where there are currently no APOs and in areas of development where new schools are being built and for which no Aid Posts are planned.
- c. Ensure the recruitment of community members as VHAs from isolated areas that do not have easy access to a health facility.
- d. Ensure the VHAs are well supported and motivated voluntary health workers with appropriate basic training. Ensure they have well-defined roles and links with the government health system. Ensure there is support for these health workers at the Aid Post level.

**6. Village Birth Attendants**

- a. Continue to facilitate the recruitment, training, and deployment of 30 VBAs. It is proposed that VBAs be trained to recognize and refer high-risk pregnant women and to provide assistance during a village delivery in outlying rural areas.
- b. Ensure the recruitment of women from isolated areas that do not have easy access to a health facility to be trained as VBAs.
- c. Ensure the VBAs are well supported and well motivated voluntary health workers with appropriate basic training. Ensure they have well-defined roles and links with the government health system. Consider providing further one-week refresher training courses

## Lumi Child Survival Project-Midterm Evaluation, September 1994

at six monthly periods after the initial VBA training course.

- d. Purchase VBA kits immediately so as to ensure their availability for distribution on completion of the training course.

### **7. EPI**

- a. Consider liaising with the regional epidemiologist to obtain a list of 'cold chain" equipment needed for the health facilities and communicate with the coordinator of the Child Survival Crash Program at the National DOH on means to purchase this equipment.
- b. Purchase "cold chain" equipment to assist DOH and project staff to meet project objectives and to enable the DOH staff to provide effective EPI services. Consider purchasing eight solar refrigerators due to their appropriateness over kerosene refrigerators.
- c. Provide vaccines to the health facilities. Ensure there is a constant supply by improving ordering procedures and assisting with transport.
- d. Continue to work towards fully immunizing with TT all children under five years of age and all pregnant women in the target area.
- e. Continue to work towards making immunization services available to isolated outlying areas on a regular two-month basis.
- f. Ensure there is a high level of demand for and participation in EPI activities by continued community education.
- g. Provide immunization registers for MCH clinics and Child Health Record books.

### **8. Diarrhea**

- a. Obtain and distribute ORT packets to assist DOH to meet project objectives.
- b. Introduce a health education program to the community as part of MCH on the need for personal hygiene, good sanitation, and safe drinking water.
- c. Ensure there is a high level of demand for and participation in diarrheal prophylaxis activities by increasing the numbers of mothers educated at clinics and through community activities.

### **9. Nutrition**

- a. Liaise with the Agricultural Extension Unit in Lumi to encourage families to establish a 'home garden" to help improve the nutritional intake of children under five and women of childbearing age. The home garden

should be fenced with bush material to protect the plants from destruction by pigs.

- b. Obtain a supply of seeds for distribution to families to encourage increased food production in the district and the cultivation of more nutritious foods.
- C. The population has a high level of anemia caused by malaria, nutritional deficiency, and worm infestation. The project is addressing two of these issues. Consider obtaining and distributing supplies of antihelminthics for six-month deworming of children under five years of age.
- d. Recommend the design of a mutually acceptable strategy with the DOH related to the therapeutic use, including supply, of Vitamin A capsules.
- e. Train DOH staff to be competent in the use of weighing scales.
- f. Obtain and distribute to health facilities equipment such as hanging scales and standing scales as required.
- g. Ensure there is a high level of demand for and participation in improved nutritional diet by continued community education.

#### **10. Malaria**

- a. Obtain and distribute impregnated bed nets to community members to reduce incidence of malaria. APOs, CHWs, and NAs have all been trained in the impregnation of nets.
- b. Encourage community members in their expressed desire to prevent malaria outbreaks by working with them and with other sectors concerned with the impregnation and distribution of bed nets. Supply of nets to be arranged in consultation with the DOH.
- C. Ensure that there is a high level of demand for and participation in malarial prophylaxis activities. In consultation with DHI, use MCH clinics, VDCs, and VHAs to educate and encourage community participation in removing stagnant water collections, cleaning the village area, and using larvivorous fish.

#### **11. Sawmill**

- a. Consider donating the equipment to the community to run as an income-generating activity, ensuring there is a committee prepared to take responsibility for the sawmill project once the CS project is completed.

APPENDIX A

**KEY INFORMANTS**

Sr. Agnes Sakara	Officer in Charge Ningil Sub Health Center
Mr. Steven Yaworam	Acting/Officer in Charge Anguganak Health Center
Mr. Walmart	Aid Post Orderly Puang Aid Post
Pastor Henrick	Rivival Church, Lumi
Mr. James Noelei	Land Owner, Tabale Village
Ms. Susan Wene	Community Member, Out Village
Ms. Anna Popis	Women's Representative, Lumi
Mr. Dominic Sumei	Council Representative, Lumi
Pastor Mark Woko	Christian Brethren Church, Lumi
Ms. Bev Sundgren	Literacy Advisor, CMML, Anguganak
Ms. Margaret Biai-	Literary and Awareness Trainer, Karate Village
Mr. Tom Wakin	Community Member, Wabute Village
Mr. Bernard Selam	Literacy and Awareness Trainer Wabute Village
Sr. Cecilia	Officer in Charge Fatima Health Center
Mr. Jack Nekiau	Assistant District Manager, Lumi
Mr. Barth Mase	Nursing Officer in Charge of MCH Lumi Health Center
Ms. Evangeline Kaima	Community Development Worker 2-CSP Lumi Staff
Mrs. Alexia Gamando	Community Development Worker 1-CSP, Lumi Staff
Mr. Bonny Kinei	Public Health Nurse-CSP Lumi Staff
Mr. Francis Wes	Driver-CSP Lumi Staff

APPENDIX B

REFERENCE DOCUMENTS

1. MTE Report: Kamalapur Child Survival Project. World Vision Relief & Development, Inc., Bangladesh, September 15, 1990.
2. West Sepik (Sandaun) Child Survival Project Proposal Papua New Guinea. World Vision Relief & Development, Inc., December 18, 1991.
3. Knowledge and Practice Baseline Survey: Lumi Child Survival Project. World Vision Relief & Development, Inc., April 1993.
4. Detailed Implementation Plan Lumi Child Survival Project Sandaun Province, Papua New Guinea. World Vision Relief & Development, Inc., April 1993.
5. Lumi Child Survival Project Annual Report FY93. World Vision Papua New Guinea.

APPENDIX C

V. **BUDGET AND EXPENDITURE**

A. **Justification for Any Major Budget Revisions**

The only **significant change** in project budgeting is to move into the second year most of the items related to planned first-year activities that have been delayed.

B. **Pipeline Analysis**

See attached forms.

C. **Quantifiable Unit Costs**

So far, there is insufficient quantifiable data for meaningful unit costs to be computed.

D. **Other Pertinent Financial Information**

The costs of operating the sawmill and constructing the staff houses has been much higher than anticipated due to logistics difficulties during the wet season.

Difficulties in recruiting suitable senior staff have led to additional costs in advertising positions, subsidizing travel for interviews, and funding the required extra travel of WVPNG supervisors between the national office in Madang and the project area at Lumi.

Damage to the project vehicle caused by a dropped log during sawmilling activities resulted in additional expenditure for "vehicle operating."

VI. **FOLLOW-UP OF DIP REVIEW**

It seems necessary to highlight several key points before responding to the DIP review recommendations in detail.

1. In general the review was helpful. However, it seemed to be based on some misunderstandings about the intended role of the project (perhaps due partly to occasional inconsistencies in the DIP), it sometimes betrayed a lack of familiarity with the realities of the context, and in some cases there seemed to be misinterpretations of the text. On this basis it was felt to be justifiable to qualify some of the recommendations.
2. There seems to be an inconsistency between the concern that "The project is still overly ambitious . . ." (page 4) and the subsequent litany of ideas for adding activities. The DIP was deliberately restricted in scope (admittedly perhaps not restricted enough); only small increases in activity levels will be possible without corresponding increases in staff numbers and budgets.

3. The project is designed primarily to enhance the skills and capacity of the Lumi DOH staff; it does not presume to take any unilateral initiatives, nor to play any supervisory role, nor to exercise any authority; it is by nature responsive, facilitative (i.e., process oriented), and supportive. For this reason a number of the recommendations would seem to be inappropriate, and some impressions given by the **DIP** may need correction (e.g., WV itself does not plan to make lists of immunization defaulters or carry out annual immunization surveys; it will only provide support for the DOH in these areas).
4. Implicit in the project design are the twin assumptions (a) that much is already known by the DOH and church-based health staff about local realities (and that this knowledge will be readily shared with project staff in due time), and (b) that the project is itself a learning process. For this reason many of the gaps in information in the DI-P are regarded as no cause for immediate concern; with reasonable skills, tools, objectives, and alertness, useful information can be expected to emerge in the course of project implementation. Furthermore, in the early absence of such information and because of the interactive, supportive, and responsive nature of the project, it will hardly be possible (nor, it seems to the respondents, of very much practical usefulness) to add additional detail about the "who, what, when, and how."
5. During its compilation the DIP was not regarded by the writers as a medical textbook. In general it was assumed that the consultants and trainers who would be contracted would be competent in their fields and would devise appropriate curricula, introduce valid protocols, and make suitable, well-contextualized recommendations. For this reason there will be no immediate attempt to fill in all the indicated gaps; eventual documentation based on the consultant's own materials is, however, a reasonable expectation.

It follows that the DIP Review recommendations require a variety of responses.

A. **Recommendations that will be implemented because they were implicit in the original plan.**

- ▶ Discuss income generating activities further (page 4).
- ▶ List present weaknesses in knowledge and skills of the present DOH health workers (page 4).  
[Comment: This is already quite well understood but will become a much richer picture once the first combined workshop is held and opportunity is given for considerable amounts of interactive feedback.]
- ▶ Develop a list of locally appropriate illness concepts and terms to use in education (page 5).  
[Comment: In partnership with DOH.]

## Lumi Child Survival Project-Midterm Evaluation, September 1994

- ▶ Develop separate educational and training materials in the different languages of the area (page 5).  
[Comment: In partnership with DOH.]
- ▶ Set aside time in the training courses to discuss methods for community organization and support (page 5).
- ▶ Make completion of the antigen series a major focus of health worker training and maternal education (page 6).
- ▶ Develop checklists and other materials related to diarrhea to assist the home visitor (page 6).
- ▶ Explore introducing more protein via poultry and egg production (page 7).
- ▶ Give more emphasis in the educational messages to changing the cultural reliance on starch staples (page 7).  
[**Question:** More than what? In any case, a strong emphasis **was** always intended, so the recommendation is affirmed.]
- ▶ Target pregnant and lactating women for educational messages to increase plant protein in the diet after establishing whether a reasonable amount of plant protein would be available (page 7).  
[**Comment:** Not strictly WV's role; DOH staff should do the "targeting," WV the training, encouraging, and supporting.]
- ▶ Focus on training aid post orderlies in the correct use of the growth chart and recognition of signs of malnutrition (page 8).
- ▶ Make some estimates of antibiotic demand based on incidence of acute lower respiratory infections and the percent seeking treatment; monitor very closely at the beginning so that timely adjustments can be made (page 9 and top of page 10).  
[**Comment:** The key point here is that in theory DOH has adequate supplies, but in practice this is unlikely to be so. At the time of writing the DIP, the shortfall could not be guessed with any certainty, and that situation may not improve very much. Instead of saying "an adequate amount," it may have been better to say "quite a large amount which should be plenty if the guess is reasonable." The project will try to cover the shortfall and will try to improve its ability to predict what this might be as time goes by. Certainly it is beyond WV's mandate or control to overcome the fundamental antibiotic supply problems.]
- ▶ Place a high priority on assuring that antibiotics are only used as necessary, where a child truly meets the case management criteria for pneumonia (page 10).
- ▶ Consider ethnographic issues in the design of the AR1 control messages . . . use only local terms to communicate with mothers and train providers (page 10).

Lumi Child Survival Project-Midterm Evaluation, September 1994

- ▶ Train aid post officers and others in the supervision of volunteers and support of communities (page 12).
- B. **Recommendations that will be implemented because they are new ideas that are obviously appropriate to the situation and project guidelines.**
  - ▶ Plot incidence of main diseases/maladies against seasons and devise appropriate responses (page 5).  
[Comment: In partnership with DOH.]
  - ▶ Include in the definition of high risk "mothers who do not have appropriate tetanus toxoid coverage (verified using maternal cards)" (page 6).
  - ▶ Review objectives for case management of diarrheal diseases (page 6)  
[Comment: Suggest by 10% or perhaps 20% in each **case**; whatever the case it will make little practical difference to project implementation; the staff will simply do the best it can in the circumstances.]
  - ▶ Clarify and include in the Annual Report the diarrheal **disease** treatment protocol to be used (page 6).

**Papua New Guinea Department of Health**

**Diarrheal Disease Treatment Protocol**

- a. Give home fluids for mild diarrhea.
- b. Use ORS for mild to moderate dehydration where patients can tolerate oral fluids.
- c. Give intravenous fluid for severe dehydration.
- d. Antibiotics are only to be used in confirmed cases of typhoid dysentery.
- e. Health education must be continued throughout treatment.
- f. Continue feeding with other foods besides breastmilk.

- ▶ Clarify in the Annual Report the Vitamin A situation in the project area and WV's intended response (page 7).  
[Clarification: Several factors need to be kept in **balance**:
  - " health workers in the project area do not consider Vitamin A deficiency to be a significant problem relative to the more common diseases of childhood morbidity." (DIP 5c.12) [This is a comparative statement involving general impressions; it *does* not mean "that Vitamin A deficiency is not a problem" (page 7)].
  - a The Child Survival Project, based in Port Moresby, has evidence that sub-clinical Vitamin A deficiency may be quite widespread in PNG, and that it may well be a significant contributing factor to the seriousness of a number of important childhood diseases.
  - WVRD had funds available designated for Vitamin A activities; it seemed not inappropriate to utilize

these funds as part of the grant match to focus a certain amount of attention on possible sub-clinical Vitamin A deficiency in the light of the above points and the generally inadequate nutrition status of children in the area.1

- ▶ Develop an objective relating to introduction of specific weaning foods (page 7).
- ▶ Develop specific messages promoting good available weaning foods, which are recognized by mothers as culturally appropriate (page 7).
- ▶ Monitor the seasonal availability of plant and animal protein sources (page 7).
- ▶ Identify the reasons women eat less during pregnancy so that specific messages may be developed for them (page 7).  
[Comment:. WV does have a general objective of understanding the underlying factors in as many critical health practices as possible; this specific practice will be prioritized for attention. Of course, this is much more complex than simply developing specific messages, but that would be a useful start.]
- ▶ Clarify who will purchase scales for weighing pregnant women (page 7).  
[Clarification: The project will do this, using funds no longer needed for certain other planned activities. This was one of several oversights committed in preparing the DIP.]
- ▶ Clarify the high risk for malnutrition statement: "children who show faltering growth between two successive weighings" (page 8).  
[Clarification: While the difficulty of nonpresentation for a second (or even a first) weighing is understood and accepted, it is not easy to imagine better alternatives in this context. Assuming (based on the reviewer's question) that the malnutrition high-risk statement should relate to something measurable or observable by a health worker or professional, then whatever is suggested will depend on contact with the observer. Otherwise, two possibilities might be "children whose mothers are ignorant about signs of malnutrition" or "children whose mothers are ignorant about providing nutritious food."]
- ▶ Clarify in the Annual Report who will be carrying out activities to improve agricultural methods and raise family incomes as strategies for improving nutritional status (page 8).  
[Clarification: The first stages will be facilitated by the CDWs, the second of whom will be appointed early in the second year and given the responsibility of facilitating raising community awareness about possibilities and limitations. Consultants, technical facilitators, and trainers will be brought in as appropriate. Budget provision has been made for this, including several

workshops. Technical inputs will be provided by government officers from the relevant sectors, contracted specialists from other NGOs and the private sector, and WV's own specialists. Details cannot be spelled out until the community participation process is further advanced. It is admitted that these are complex and time-consuming strategies, but there seem to be few alternatives. At least a beginning can be made, building on the resources and potential already present in the situation.]

- ▶ Do not list decreased incidence as an intended outcome of the AR1 program (page 9).
- ▶ Have discussions with the DOH about piloting a community-based care management system for ARI in the child survival project area, with VHAs and VBAs providing antibiotics (page 9).
- ▶ Develop one or two additional objectives for ARI, focusing on the provision of services (page 9).  
[Note: The suggestions are accepted gratefully, with percentages to be established by consultation with the key participants during the first quarter: "percent of providers correctly managing ARI" and "percent of time antibiotics are available at health facilities."]
- ▶ Obtain a copy of the new WHO algorithm for the management of AR1 (page 10).
- ▶ Validate the effectiveness of the planned short course for AR1 case management, or adopt the longer WHO course (page 10).  
[Note: There should be no impediment to using a longer course, so this alternative will probably be implemented.]
- ▶ Use the WHO training videos which show children with AR1 signs and symptoms and allows trainees to practice counting respiratory rates (page 10).
- ▶ During training sessions on AR1 case management, use simulations to check on performance (page 11).
- ▶ Consider training more voluntary health workers to allow for drop-outs (page 12).  
[Comment: Allowance has **already** been made for drop-outs but perhaps not quite enough. The planned total of 60 during the life of the project was already regarded as stretching the limits of budgets and personnel. The reviewer's comment on page 4 about the project being "overly ambitious" is again seen as pertinent.]
- ▶ Consider phasing in development of village health workers in a few **villages** so that some begin working earlier and there is a chance to work out problems with their role (page 12).  
[Comment: The term "project village health workers" (used by the reviewer) will not be used in the project context: they must be seen clearly as belonging to the communities,

not to the project. It follows that, strictly speaking, the project will not, in fact, implement this recommendation; the deployment will be done by the communities in partnership with the DOH, not by the project. However, the spirit of the recommendation is accepted, and it will be promoted in discussions with the partners.<sup>1</sup>

- ▶ Clarify the plan for monitoring the extent for which the HIS objectives are met (page 12).  
[Clarification: Developing the HIS, including an increasingly precise and detailed plan for doing this, is part of the project. It is intended to be a learning process in itself. An appropriate monitoring plan will only be formulated as the HIS evolves. It will be a shared responsibility between DOH staff and project staff.]
- ▶ Make the objectives about community groups, savings clubs, and small enterprise development more specific . . . supply technical input on how best to implement them (page 12).  
[Clarification: This will be done as part of the development process, but it will hardly be possible or useful to accurately guess the details before the CDWs have spent a considerable time facilitating awareness raising and community planning activities. Only then will it be possible to confidently identify critical limitations, priority areas of interest, and key local pace-setters and opinion leaders. And only through such a process (which will need to continue for some time) will there be a good chance of people "owning" any new structures and enterprises that might emerge.]

**C. Recommendations that will probably not be implemented because they do not fit the situation or project's chosen role or fall beyond the project's capacity.**

- ▶ Include facilitation of travel and provision of incentives for volunteers (page 4).  
[Reasons: This would be unsustainable; the idea is to motivate the communities to value and support their own volunteer health workers. It would also be inconsistent with DOH policy. Note that the project will not "use" or rely on volunteers; it will simply help to prepare, equip, and encourage them and their communities.]

(Note that the project does plan to facilitate travel and pay expenses for participation in orientation and training and provision of basic medical supplies).

- ▶ Add assistance for the DOH to maintain adequate staffing levels at the district level (page 4).  
[Reason: This has not been presented as a high priority but may be worth raising with DOH and considering carefully in the future, possibly as part of a new project, since the budget implications would be potentially very great. In theory vacancies are not due to lack of funds; government funds are available for salaries for all

positions, but this may not quite work out in practice, and the situation could be changing.]

- ▶ Clarify where and how malaria interventions will be made (page 4).  
[Reason: This is up to the DOH; WV only supports.]
- ▶ In the Annual Plan, clarify the plans to achieve greater community participation in health services (page 5).  
[Reason: Little more can be added to what is already stated. The project has no intention of imposing community participation; instead, it will pursue a facilitative approach in support of the DOH and any reasonable agenda it wants to set.]
- ▶ Prioritize child survival immunization efforts on completing immunization coverage by the children's first birthday; leave older children until the younger ones are covered (page 5).  
[Reason: There seems little point in opposing the DOH view that once an EPI patrol has made the effort and paid the cost of getting to a remote area with a scattered population, it makes little sense to exclude the older children; the number of younger children covered will not be diminished, and no one can be sure when the older ones will get another chance. The extra time and effort is minimal compared with the basic investment.]
- ▶ Record which mothers have received training in oral rehydration and dietary management of diarrhea (page 6).  
[Reason: This is the role of DOH, not WV. However, WV will encourage and support DOH efforts in this area.]
- ▶ Develop measurable objectives for growth monitoring and promoting Vitamin A uptake, and include these in the Annual Report (page 7).  
[Reason: It was not intended that the DIP should convey the impression that the project would carry out these activities; these are the province of the DOH staff. Perhaps the project will be able to help the DOH to formulate such objectives for itself, but it is felt that this is not a high priority, at least in the early stages; they have plenty of other things to worry about and will simply do the best they can in the circumstances, focusing on education and communication strategies.]
- ▶ Monitor the proportion of undernourished children who are followed and have a subsequent weight recorded (page 7).  
[Reason: This is the role of DOH, not WV. However, WV will encourage and support DOH efforts in this area.]
- ▶ Confine training in case recognition of Vitamin A deficiency to aid post officers and health center staff (page 8).  
[Reason: The rationale presented by the reviewer does not seem convincing enough to exclude VHAs and VBAs from receiving at least a basic level of training in this area. Since the PIM was completed, information has been received

## Lumi Child Survival Project-Midterm Evaluation, September 1994

from the Child Survival Project that sub-clinical Vitamin A deficiency may indeed be very common in PNG and a significant factor in the general health of children.]

- ▶ Maintain a log book at all health centers which includes the case management criteria, diagnosis, and therapy (page 10).  
[Reason: This falls within the role of DOH, not WV. However, WV will promote the idea and encourage DOH to implement it for themselves.]
- ▶ Periodically review AR1 log books to assess case management criteria, diagnosis, and therapy for each patient seen at the health centers.  
[Reason: This falls within the role of DOH, not WV. However, WV will promote the idea and encourage DOH to implement it for themselves if they are not already doing so. Project staff will almost certainly seek permission to accompany the DOH staff during some of these reviews if and when they occur.]
- ▶ Develop a written agreement with the PNG Institute of Medical Research and include in the annual report (page 11).  
[Reason: A good trust relationship exists already; from the standpoint of understanding local realities, a written agreement seems to be not only unnecessary for the kind of assistance envisaged (which may not be as extensive as the DIP might seem to indicate) but even possibly a somewhat offensive suggestion from one friend to another; not every part of the world places great store on written agreements.]
- ▶ Enhance surveillance of malaria at the local level as recommended by the Proposal Review (page 11).  
[Reason: It was decided that as the project could not do everything (in full agreement with the reviewer's comments on page 4 about being "overly ambitious"), some areas had to be left out; this **was** one item assigned a low priority and ultimately not included. In theory the DOH staff should be doing this, and the project may be able to enhance their capacity for it in a small way.]
- ▶ Enclose resume for Josie Mari in the Annual Report (page 11).  
[Reason: The reviewer has misunderstood the DIP. Mrs. Mari is not the Lumi CSP project manager; rather, she is the WVPNG program manager, with no particular role in the implementation of the AR1 component of this project.]
- ▶ Give specific attention to incentives for volunteers (page 12).  
[Reason: The volunteer health workers (VHAs and VBAs) do not work for the project; rather, they serve their own communities. The project will promote the idea of community responsibility to reward their own health volunteers. This is both consistent with government policy and the only hope for a reasonable level of sustainability.]

The WV project will help to train these people and provide them with a starter kit of basic equipment, dressings, and medicines. It would seem unwise to do much more.<sup>1</sup>

- ▶ Ensure project staff frequently accompany and supervise aid post orderlies on foot patrols to outreach sites and see that needed supplies are available . . . also conduct reviews of all village registers for immunization drop-outs, defaulter lists, etc. (page 12).

[Reason: This is not the responsibility, right, or privilege of project staff, except perhaps the "accompany" aspect. Certainly project staff will play a supportive role and will often act as mentors and motivators, but they will be careful not to assume a supervisory stance. On the other hand, they will be interested in any information the **DOH** staff may be able to share as a result of their own supervisory activities.]

**APPENDIX D**

**STAFF TRAINING AND WORKSHOPS FROM FEBRUARY 10, 1993 TO SEPTEMBER 1, 1994**

<b>Name of Training</b>	<b>Date</b>	<b>Duration</b>	<b>Topic Covered</b>	<b>Participants</b>	<b>Organized By</b>	<b>Remarks</b>
Baseline Survey Training	Feb. 10-11, 1993	2 days	Project background: survey objectives; WHO/EPI 30 cluster methodology; determination of sample size; selection of the starting household; responsibilities of supervisors	WVPNG staff (2); DOH staff; community leaders; project staff (3); community members	WVRD staff WVPNG	12 supervisors; 20 interviewers participated
Staff Orientation	June 1993	2 weeks	Project orientation and <b>goals</b>	Project staff (1)	WVPNG	Project manager no longer employed
VBA Curriculum Development	July 1993	4 weeks	VBA training	Project staff (1)	DOH	Participant no longer staff member
Administrative Meeting	August 19-23, 1993	3 days	VDC criteria; POA; Project staff orientation	WVPNG staff (3); Project staff (4)	WVPNG	
Child Survival People Making a Difference	Oct. 31- Nov. 6, 1993	5 days	Child survival training and supervision of Child Survival Projects	Project staff (1); WVPNG (1)	USAID	Bangladesh; no longer staff member
Health and Women's Welfare	Nov. 22-26, 1993	5 days	EPI, nutrition, antenatal care, diarrhea, ORT, sanitation, personal hygiene	Women leaders	Project staff	21 participants Venue: Edwaki
Administrative Meeting	January 21, 1994	1 day	Administration	Project staff; WVPNG (2)	WVPNG	
Orientation and Plan of Action Review Workshop	March 1, 1994	1 day	CSP Orientation; POA review	OICs, sisters in charge	Project staff (1); WVPNG (1)	Lumi HC; Anguganak HC; Fatima HSC; Ningil HSC; Edwaki HSC; Magleri Aid Post
Administrative Meeting	March 28, 1994	1 day	POA; DIP review	Project staff (4); WVPNG staff (2); WVRD (1)	WVPNG	

Name of Training	Date	Duration	Topic Covered	Participants	Organized By	Remarks
Literacy and Awareness Training	May 23-27, 1994	5 days	Literacy; agriculture; nutrition; hygiene; village technology; educational techniques.	26 participants, community members	Project staff	3 facilitators from ESP Literacy Section
Project Management	June 13, 1994	1 day	On-site project management; responsibilities of project staff	Project staff (3); WV Wewak (1)	WVPNG (Wewak) (1)	Senior Area Project Coordinator
DOH and Project Staff Refresher Workshop	June 27-July 1, 1994	5 days	CDD, ARI, EPI, malaria	19 DOH staff; 3 project staff .	Project staff	Facilitators: Dr. F.S. Ruberu; Dr. K.D.P. Jayatilaka
Administration	Mid July 1994	2 days	Project administration	WVPNG (4); project staff (3)	WVPNG	
Community Health Worker Refresher Workshop	July 18-22, 1994	5 days	PHC; diarrhea, malaria, APO's roles and responsibilities	27 participants-2 CHWs; 25 APOs	Project staff	Facilitators: DOH staff (5); project staff (1)

APPENDIX E

PROJECT ORGANIZATIONAL CHART

