

PD-1125-001  
83853

**TRIP REPORT: GUATEMALA**

January 15-26, 1990

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Report Prepared for  
The Agency for International Development  
Contract # DPE-5966-Z-00-8083-00  
Project # 936-5966

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## ACRONYMS

DHS	-	Demographic Health Survey
IMR	-	Infant Mortality Rate
INCAP	-	Instituto de Nutricion de Centro America y Panama
LBW	-	Low birth weight
MCH	-	Maternal and child health
MOH	-	Ministry of Health
ORT	-	Oral rehydration therapy
PAHO	-	Pan American Health Organization
PHC	-	Primary health care
PVO	-	Private voluntary organization
ROCAP	-	AID Regional Office for Central American Programs
SILOS	-	Local health system
TBA	-	Traditional birth attendant
UNICEF	-	United Nations Children's Fund
USAID	-	United States Agency for International Development
WHO	-	World Health Organization

## I. EXECUTIVE SUMMARY

MotherCare Long-Term Projects Coordinator, Patricia Taylor, traveled to Guatemala at the request of the USAID Mission to work with INCAP on the development of the Quetzaltenango Maternal and Neonatal Health Project. This technical assistance followed an October 1989 assessment visit by MotherCare, discussions with INCAP Director Hernan Delgado and ROCAP Advisor Melody Trott in November in Washington and subsequent submission by INCAP of a proposal to MotherCare for support of the Quetzaltenango project.

During the visit, Ms. Taylor and PRITECH consultant, Pamela Putney, worked with INCAP Investigators, Dr. Barbara Schieber, Dr. Alfred Bartlett and Dr. Jorge Hermida on the revised design of the project. Meetings were also held with INCAP's director, Dr. Delgado. Other activities included: a review of the research findings from Dr. Schieber's study of TBA knowledge and practice and health system management of high risk obstetrical and neonatal cases; a three day site visit to Quetzaltenango which included discussions with Area Ministry of Health (MOH) officials, staff of the department's referral hospital and several active TBAs; refinement of the proposed project's strategy; and, development of a detailed workplan and local cost budget.

Following the visit, the INCAP research team and Ms. Putney continued to collect necessary background information and to work on the revision of the proposal narrative. The revised proposal was received in Washington mid-February, reviewed and returned for additional changes. Follow-up to the visit will include finalizing the project proposal with INCAP, preparing MotherCare subcontracting documents and processing approvals. The target date for start-up of funding in May 1, 1990.

Meetings were also held with ROCAP and USAID advisors to discuss the parameters of the proposed project, MotherCare's involvement and the potential for buy-in funding from both Missions. Both ROCAP and USAID encouraged MotherCare's continued involvement and funding of the Quetzaltenango project. While no commitments were made regarding ROCAP or USAID buy-in support, both indicated their intention to pursue this possibility if monies became available.

## II. BACKGROUND AND PURPOSE OF VISIT

MotherCare Long Term Project's Coordinator, Patricia Taylor, visited Guatemala from January 15-26, 1990 at the invitation of the USAID Mission. This was MotherCare's second technical assistance mission to Guatemala for work with the Nutrition Institute of Central America and Panama (INCAP). The earlier mission, in October 1989, resulted in a review of INCAP activities in the area of maternal and neonatal health, and recommendations for both MotherCare collaboration with INCAP on several projects.

Following the October visit, INCAP's newly appointed director, Dr. Hernan Delgado, and ROCAP Advisor, Melody Trott, visited Washington and reviewed MotherCare's recommendations with the Project Director, Dr. Marjorie Koblinsky, and the AID Cognizant Technical Officer (CTO), Dr. Mary Ann Anderson. At that time, Dr. Delgado submitted a proposal to MotherCare for a maternal and neonatal health improvement project in the department of Quetzaltenango - a planned INCAP project in which MotherCare had expressed interest.

The proposal was subsequently reviewed and found to require additional details. A series of questions were sent to INCAP and at the same time MotherCare requested concurrence to work directly with INCAP on its revision. The USAID Mission approved this travel and requested that Ms. Taylor work with PRITECH consultant, Pamela Putney, to:

1. Assess on-going INCAP activities in the Quetzaltenango health area, particularly those related to the study of TBAs and the health system's management of high risk obstretrical and neonatal cases;
2. Provide direct technical assistance to INCAP in the design of the proposed Quetzaltenango TBA training project and its training components;
3. Further develop the proposal submitted by INCAP to MotherCare for support of this project.

During the visit, Ms. Taylor and Ms. Putney worked closely with INCAP Co-Investigators, Drs. Barbara Schieber, Alfred Bartlett and Jorge Hermida.

## III. ACTIVITIES

Activities during the visit included:

1. Briefing and debriefing meetings with ROCAP (Melody Trott and Sandra Callier) and USAID (Jane Lyons).
2. Briefing and debriefing with Dr. Hernan Delgado, INCAP Director.

3. A full-day briefing from Dr. Barbara Schieber covering the design, methodology and key findings of her study of TBA knowledge and practice and health system management of high risk obstetric and neonatal cases in Quetzaltenango district.
4. A three day site visit to Quetzaltenango, including meetings with representatives of proposed collaborating organizations (the area health office, district medical officers and the departmental referral hospital) and visits to four practicing TBAs.
5. An up-date from Dr. Alfred Bartlett on the results of the Santa Maria de Jesus study of intrapartum, neonatal and early post-neonatal deaths and a meeting with PAHO representative, Dr. Norberto Martinez C.
6. Revision of the Quetzaltenango project's design; development of a detailed workplan and schedule and a local costs budget for the project. (four days)
7. Meeting with INCAP Health and Nutrition Division researchers to discuss MotherCare objectives and priorities for future project development.

#### **IV. FINDINGS/RESULTS**

##### **A. Assessment of INCAP Activities in Quetzaltenango**

Readers are referred to MotherCare's October 10-17, 1989 trip report for a summary of the studies being carried out by INCAP in the Quetzaltenango Health Area. This Health Area has been designated a Local Health System (SILOS), an experimental area in which responsibility for planning and administration of funds should be decentralized to the Area Health Office. It is also considered a "Reference Training Center", or an area where training, service delivery and research activities are being combined to yield more effective service models and better trained health professionals. The MOH has given INCAP a coordinating role in this process.

Our initial work was to assess INCAP's on-going work related to improved management of high risk obstetric and neonatal care, particularly that provided by traditional birth attendants (TBAs). At present, this includes:

1. Completion of a study of TBA knowledge and practice as well as the management of high risk obstetric and neonatal care at health post, health center and hospital levels. The final analysis of data is in progress and Principal Investigator, Dr. Barbara Schieber, estimates that results will be written up by late Spring. This process is complicated because of the massive quantity of information collected and the use of open-ended questions in most interviews. Barbara has prepared a summary of initial findings which she is using to brief

her MOH, hospital and INCAP colleagues. These are summarized in the revised project proposal, Appendix 1.

2. Start-up of a study of intrapartum, neonatal, and early post neonatal deaths in selected districts. This study was started at the end of the TBA study, using a similar protocol to that used by Dr. Alfred Bartlett in Santa Maria de Jesus. While the Santa Maria study was limited to a populated village of 10,000, the Quetzaltenango study is district wide. Depending on civil registry data to identify late fetal and early infant deaths, field workers had found that substantially more time was needed just to locate the families than had been anticipated. This posed a problem since the PI, Dr. Schieber calculated that there was only funding available through February for its completion. See recommendation below.
3. Validation study of indicators of obstetrical and neonatal risk: This study interviewed women during pregnancy and postpartum and their infants were monitored for several months after birth; women with hospital births and women with community births were compared. It should provide interesting information including recommendations for anthropometric measurements and cutoff points that can be converted to easy-to-use tools for TBAs and clinic and hospital staff. Data collection was completed in late 1989. The PI, Dr. Eric Boy, estimates that data analysis will be complete by early March.
4. Double blind study of supplementation of maternal diet during lactation and its impact on infant weight gain. This study is in its final phase of data collection in Quetzaltenango. Lic. Teresa Gonzalez Cossio, the PI, reported that a slight increase in weight gain has been noted in infants whose mothers have been receiving the high energy supplements. This is part of the PI's doctoral research and, as such, it is unclear when the final results will be ready for publication.

In addition to the above, there were three small studies planned as follow-on to Dr. Schieber's work and in preparation for the proposed intervention project presented to MotherCare. The proposal for the three studies had been submitted to the USAID Mission for funding and tentatively approved. They included a retrospective, in-depth investigation of all reported maternal deaths in the department; a qualitative study of reasons for compliance and non-compliance with referral to higher levels of health care; and a study to determine baseline indicators prior to the intervention phase of activity.

Our general assessment of the on-going and planned activities was that they were all valuable to the overall effort of improving knowledge about risk factors, service delivery and possible interventions that could improve maternal and infant health. Specific conclusions and recommendations were as follows:

1. Recommendation: Proposals for the on-going study of perinatal mortality, the study of maternal mortality and the study of compliance with referral should be combined and resubmitted to USAID for funding.

The perinatal mortality study had not originally been included in this proposal and because of lack of funds, it was in danger of being terminated. This study is important not only because it will provide important information for the development of interventions in Quetzaltenango, but also because it will require scaling-up and testing the case-control methodology originally used by Dr. Bartlett in Santa Maria de Jesus as a planning tool. USAID was in agreement and gave INCAP the go-ahead to submit a revised proposal.

2. Recommendation: The proposed study to develop indicators for the intervention phase of Dr. Schieber's project should be removed from the proposal to USAID and included in the proposal to MotherCare.

Technical assistance for its development was also recommended. As this will actually be the baseline study against which the success or failure of a series of interventions will be measured, it must be developed with those interventions in mind; it must also be carried out systematically to allow for later comparison. This recommendation was also accepted by INCAP and USAID.

3. Recommendation: In the future, INCAP should insist on more realistic schedules and budgets from its researchers and donors. Also, if INCAP's central computer center is unable to provide the support required, projects must include support that can be used to contract outside assistance in this area.

The final analysis of data from Dr. Schieber's and Dr. Boy's studies is behind schedule. While initial results are in the hands of the PIs, they are not yet written up. This seems to be because of limited computer support as well as an underestimation of the amount of time required to carry out a study and subsequently to process, analyze and write the results. INCAP and ROCAP recognize that these initial studies were seriously underbudgeted for the amount of work proposed. As a result, the investigators are being forced on to other projects before their data is processed and reports have been produced. In the end, this is frustrating and counterproductive for the individual researchers, INCAP and the donors.

## **B. Revision of the Quetzaltenango Project Design and Proposal**

The original proposal submitted to MotherCare presented an extensive background and rationale for a project to train TBAs and health workers in Quetzaltenango Health Area. The stated objectives were to develop and test a revised TBA training approach, to improve relationships and communications between the health system and the TBAs and to improve government health workers knowledge and ability to recognize and manage high risk obstetrical

and neonatal cases. The findings of Dr. Schieber's study on TBA knowledge and practice and health system back-up were presented as justification for the project and as the basis for development of an innovative new training approach.

The proposal failed, however, to clearly define the scope, content and scheduling of project activities and it lacked a definition of the research design and activities to be included. As with some of its earlier studies in Quetzaltenango, MotherCare also felt that the timeframe (1 year) and budget were generally unrealistic.

During this visit, we worked with Dr. Schieber, Dr. Bartlett and Dr. Hermida to remedy some of these problems. Dr. Schieber had also held several meetings with Health Area, hospital and district health officers since the preparation of her initial proposal. By mid-January she was better able to define their interests and commitments to the process of project development and implementation. Approximately four days were spent working through a project planning exercise that resulted in the:

1. Decision to limit project intervention to four highland districts of Quetzaltenango (approximate population 120,000) and to measure results in intervention districts against those in comparable, non-intervention districts. The four intervention districts will most probably be those in which Dr. Schieber's pre-project studies have been carried out.
2. Definition of the problems the project can reasonably hope to address at each level of service (TBA, health post, health center, referral/teaching hospital) and the types of interventions to be undertaken at each level.
3. Development of a detailed workplan, including the sequencing and scheduling of activities and the assignment of responsibility for those activities. As a result of this exercise, it was determined that the total period of the MotherCare-supported project would be approximately 26 months, from preparation through final evaluation.
4. Development, review and revision of a detailed operational budget for the project which follows the workplan. The total funding request of MotherCare is US\$ 355,000.
5. Definition of concrete steps to be taken by INCAP during project planning, implementation and evaluation, so that the project's findings have an impact on policy at the health area and national levels. Mechanisms for ensuring the active involvement of counterpart organizations in Quetzaltenango (MOH Health Area, hospital, medical school) were also discussed and their participation was built into each project activity. The participation of national level MOH officials in all planning and evaluation activities was also discussed. The mechanisms discussed

remain to be presented by INCAP to the counterpart agencies and negotiated with them.

The final project design calls for the training of approximately 400 TBAs using a new training curriculum and approach. Training will focus on the most common life-threatening problems encountered by TBAs, as documented through Dr. Schieber and Dr. Barlett's pre-project studies, and appropriate response to them. It will be modular, with short, one-topic training sessions held monthly over a 10 month period. The project will develop and test a new information system for use by TBAs and a referral and counter-referral system between health services and the TBAs. At the district health center and health post level, basic equipment for screening during pregnancy and labor will be provided. At both the referral hospital and health clinics, revised policies and norms for care of high risk obstetrics and neonatal patients will be developed and staff will be trained. Forms for monitoring of pregnancy and labor and delivery will also be developed. To improve collaboration and communications between the system, regular meetings between district nurses and TBAs will be instituted. Review of all maternal and neonatal deaths in special meetings between district health staff, Area Health officers and the referral hospital chiefs will also help to improve communications and knowledge of problems at all levels.

### C. Preconditions for Project Funding

Although great progress was made in terms of project design, there were a number of concerns outstanding at the end of the visit. The first was the rewrite of the project proposal and incorporation of the revised strategy, workplan and budget. INCAP was left with the responsibility for this. Ms. Putney, who planned to stay in Guatemala through March, offered to help with the task. Other concerns were discussed with the researchers, ROCAP and AID and INCAP's Director. They are expressed below as preconditions for MotherCare support of the project:

1. INCAP must obtain letters of commitment from each of the counterpart agencies in Quetzaltenango specifying their agreement with the project's objectives, their general areas of involvement and their level of financial support (in-kind or direct). This same letter could also define INCAP commitments to the organization under the MotherCare project. (In addition, one of the first project deliverables will be a revised workplan specifying the responsibilities of each of the collaborating entities.) The commitment and involvement of counterpart agencies is the weakest remaining link in the project's design.
2. The central level MOH must be in agreement with the project's objectives and proposed activities and willing to allow the Health Area flexibility in the development of policies and norms of care. This is critical to the success of the project and extremely important in terms of project sustainability and the potential for impact at the policy level.

3. INCAP must be willing to administer the project separately from the ROCAP supported TRO project. While MotherCare support could have been provided as a buy-in to that project, the TRO end date is currently summer 1990. While it is likely to be extended for one year, the project would still end before the MotherCare-supported effort in Quetzaltenango. INCAP has a mechanism for separate administration of project that could be used in this case. MotherCare will require a description of the system used and its approval prior to start-up of funding.
4. The project's research design needs additional work. Issues of sample size, sampling, and a narrowing of the indicators to be measured must be addressed. INCAP has assumed responsibility for this work but it is recommended that MotherCare staff provide technical assistance to them in this area. It is not critical that this assistance be provided prior to project start-up as the general framework for the research component is considered reasonable. It will, however, be critical during design of the baseline survey and the development of specific project interventions.

#### **D. Potential for Buy-in Support**

ROCAP and USAID funding has been critical to the execution of the pre-project studies in Quetzaltenango that are the basis for the work proposed with MotherCare. ROCAP funded Dr. Schieber's study of TBA knowledge and practice, as well as Dr. Boy and Lic. Gonzalez-Cossio's studies. USAID has funded Dr. Bartlett's studies in Santa Maria de Jesus and is committed to funding the three additional studies (approximately \$75,000) proposed by Dr. Schieber as preparation for the project to be carried out with MotherCare.

ROCAP and USAID representatives were both pleased with the results of our work and the proposed design and scope of the Quetzaltenango project. USAID is very interested in supporting INCAP's work and other projects in Guatemala that focus on enhancing the skills and knowledge of the TBA, not only as a birth attendant but also as a promotor of child spacing among the population. ROCAP is also interested in supporting the follow-on to the studies carried out under the TRO Project and sees MotherCare as an appropriate mechanism for continued technical as well as financial support.

While both ROCAP and USAID expressed their willingness to pursue a buy-in if funds became available, the availability of uncommitted funding was, at the time, questionable. Shortly before this visit, ROCAP informed INCAP that the new project they had planned to initiate with INCAP in mid 1990, would have to be postponed, tentatively until mid 1991. The delay, due to overall ROCAP budget cut-backs, resulted in a no-cost extension of the current INCAP project. This is mentioned simply to illustrate the effect that funding cutbacks are having or threatening to have on ROCAP.

It was agreed that MotherCare would provide both ROCAP and the Mission with appropriate project documents and that they would attempt to identify

additional monies that could be used to buy into MotherCare for its support of the Quetzaltenango project.

**V. SUMMARY OF FOLLOW-UP REQUIRED**

- INCAP
- Prepare revised project proposal and submit to MotherCare
  - Obtain letters of agreement from collaborating agencies in Quetzaltenango
  - Present the project proposal to central level MOH officials and obtain their agreement
  - Send MotherCare a written description of the project administration and accounting procedures followed by INCAP.

**MOTHERCARE**

- Complete the internal review and approval of the project proposal
- Prepare subcontracting documents and process for AID/Office of Health and USAID approval
- Review INCAP project administration system and provide accounting and reporting guidelines
- Identify potential consultants to work with INCAP on the development of project interventions, including the research design
- Provide USAID and ROCAP with project documents.

## APPENDIX I

### Summary of Findings

#### INCAP Study of Community, TBA and Health System Management of High Risk Obstetrical and Neonatal Cases

Principal Investigator: Dr. Barbara Schieber

In 1988, INCAP began an operations research project in Quetzaltenango to determine how high risk obstetric and neonatal cases were being detected and managed at three levels: the community (mothers and fathers), the TBAs (trained and untrained) and the formal health care delivery system (hospital, health center and health post).

The two basic questions being investigated at all three levels were:

1. What is known and what is done regarding high risk situations/cases and how are they managed?
2. What resources exist for the detection and appropriate management of high risk situations/cases?

The survey has been completed and the data are currently in the process of analysis. The preliminary findings are discussed below in the form of problems identified overall and at each level.

#### GENERAL

1. High risk obstetric and neonatal cases/events are not being managed appropriately at any of the three levels.
2. Maternal and neonatal mortality are progressively more under-reported at each of the three levels, resulting in significant under reporting at the levels of district and area health decision-makers.

#### THE TBA

1. Few TBAs understand and systematically apply the concept of "risk" detection and management, in relation to events such as malpresentation (breech/transverse lie), retained placenta or hemorrhage. In most cases, TBAs know that certain situations are "dangerous", however in general, they do not know the appropriate ways to prevent and manage these events so as to increase the probability of a positive outcome. The concepts of "luck" or "the divine will of God" or "evil eye damnation" are often cited as the reason for a certain outcome.
2. High risk cases are often not recognized, detected and referred.

3. TBAs usually see the primary object of prenatal care to be "reassuring the mother that things are going well", not as an opportunity to "screen for high risk events/conditions". (This does NOT mean to imply that reassurance of the mother should not be an important/appropriate part of any prenatal intervention/visit)
4. The majority of TBAs do not know why a woman should be vaccinated against tetanus.
5. In regard to their relationship to the health care delivery system, the TBAs do not consider the health services as a support system for either them or their clients. Few positive comments were expressed regarding their treatment by health personnel. Commentaries about bad treatment and scolding were common.
6. Many trained TBAs do not consult or report to the health services, with the relationship of untrained TBAs to the health system being essentially non-existent.
7. TBAs are not supervised by health personnel on any type of regular basis and almost never at their home or while attending a delivery.
8. Many TBAs speak little Spanish and few health professionals speak the Indian dialects, resulting in a significant language barrier (during training translators are rarely used).
9. Intramuscular injections of oxytocin are widely used to "give force to the labor". This practice results in significantly higher mortality (Bartlett, 1989). Other harmful practices include: vaginal exams, early pushing, manipulation during labor, ingestion of alcohol, lack of hygiene, prelacteal feeding, improper cord cutting and care and improper care of the newborn immediately postpartum.
10. TBAs are anxious to talk about their experiences and problems, however, they rarely talk to the health personnel in their areas due to fear of criticism.
11. A conflict exists in regard to TBA referral of patients due to: loss of status (referral is seen as a "failure"), loss of delivery fee, bad treatment at hospital/health center and a lack of confidence that the health care system will manage the complication appropriately if referred. Referrals are often made too late for a positive outcome, which increases the lack of confidence in the system.

## THE COMMUNITY

1. The majority of mothers and fathers "know" about high risk situations such as breech/transverse presentation, hemorrhage and retained placenta and associate them with the possibility of death for the mother and/or infant. When asked where help should be sought when these conditions occur, the majority of parents stated the hospital/physician, followed by the TBA. The reason most frequently given was that doctors had more "knowledge, medicine and equipment (aparatos)". However, the community often is reluctant to accept referral when it is made.
2. The community often expects the TBAs to handle high risk problems at home. Reasons cited for reluctance to accept referral to the health center/hospital were: "they would die there", they would be operated on or sterilized, language barrier, bad treatment, long waiting times, economic considerations, lack of transportation and fathers not wanting male doctors to examine their partners (jealousy).
3. When asked what could be changed to make referral more acceptable, parents replied that health personnel should: "explain more what they are doing", be more friendly, speak their language, give them more medicine and not make them wait so long for attention.
4. Half of the parents interviewed knew about the use of oxytocin in labor by comadronas and what it was for. Of these, 25% acknowledged receiving oxytocin injections during their last delivery.

## HEALTH SERVICE DELIVERY SYSTEM

1. The high risk screening/management approach is not being used at any level of the health system (hospital, health center, health post).
2. No institutional norms for high risk management of cases exists at the hospital level. At the level of the health center/health post, personnel are often unaware that MOH norms for high risk screening/case management exist.
3. Health personnel at all levels have not received training in the high risk approach to maternal and infant care. The "newborn" stage, which statistically is the most critical in terms of greatest mortality for the infant, is not recognized or treated as a special time, requiring special monitoring or interventions.
4. In the evaluation of the efficiency of health services in the MCH program, the level found was 50%, below what would generally be considered adequate. The health centers/health posts often do not have even the most basic equipment required for screening (ie; functioning BP cuff, stethoscope).

5. A functioning referral and counter-referral system between the health posts, health centers and hospital does not exist. The evaluation found that in general, information on cases registered is poor and inadequate for appropriate management of high risk conditions. The data that is collected is not used to plan, manage or analyze problems.
6. Health personnel in general, have little knowledge about TBAs and how they practice/function in the community. Traditional practices are often viewed as "dangerous", even when they are not (ie; cord cauterization).
7. The TBA "trainers" (nurses) have received no additional training in high risk obstetric and neonatal case screening and management, nor in appropriate educational methodologies. Educational materials used in the training courses appear to be both insufficient and inappropriate. The nurses expressed their preoccupation with the ineffectiveness of the TBA training courses and the lack of adequate supervision for TBAs.

#### OVERALL STRENGTHS IDENTIFIED

1. The community acknowledges the hospital to be the appropriate source of referral in high risk situations.
2. TBAs want to have a working relationship with the health care delivery system and receive "support" from health personnel in their areas.
3. TBAs and health professionals at all levels of the system expressed a strong desire for further training and more "knowledge." There is support and acknowledgement for the need to improve and change the system from the "top-down and bottom- up." The common goal identified is to improve the survival rate for mothers and infants. Little (if any) opposition exists to programs to improve the current health care delivery system in regard to the management of maternal/infant health problems.

**APPENDIX II**

**REVISED WORKPLAN, SCHEDULE AND BUDGETS**

**INCAP QUETZALTENANGO MATERNAL AND NEONATAL HEALTH PROJECT**



Responsible

Time  
Required

Months

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

7. Normalization of hospital  
obstetrics and neonatal care  
and development of perinatal  
history

- a. Develop norms  
- Analysis of hospital  
information  
Develop high risk  
and normal classi-  
fications  
- Revise existing norms  
INCAP Consultant  
Hospital Staff  
(OB, Pediatrics,  
Nurses)  
2 months
- b. Adapt INAP perinatal  
history form and test  
-----
- c. Print forms and norms  
Hospital/INCAP 2 weeks
- d. Train hospital staff  
to use forms and norms  
(MDs, doctentes, nurses)  
Hospital/INCAP 1 month
- e. Supervise the use  
of norms and forms  
Hospital/INCAP On-going
- f. Evaluate norms and  
forms  
Consultant 6 months  
after training
- g. Train hospital manage-  
ment to analyze and  
use data  
INCAP Consultant  
On-going

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Activity	Responsible	Time Required	Months																										
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
4. Training of Comadronas (400 Comadronas: 4 districts 100 Comadronas/district)																													
a. Design and test referral forms and records for use by Comadronas	INCAP Jefatura/Nurse	3 months																											
b. Develop curriculum and materials	Consultant INCAP Jefatura/Nurse	3 months																											
c. Training of District Nurses as Trainers	INCAP Jefatura/Nurse	with Comadrona training																											
d. Training of Comadronas - 3 days initial training	District Nurses Jefatura/Nurse INCAP	3 months																											
- 1 day per month for	District Nurses	9 months																											
e. Supervision of Comadronas	District Nurses	9 months																											

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Activity	Responsible	Time Required	Months																									
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
5. Monitor Services																												
a. Supervision visits	INCAP/Jefatura Hospital																											
b. Investigation of maternal and perinatal deaths	INCAP/Jefatura Hospital																											
c. Case review of all maternal and neonatal deaths	INCAP/Jefatura Hospital																											
6. Evaluation																												
a. Baseline Survey	Consultant																											
- Preparation	INCAP																											
- Field Work																												
- Processing and analysis																												
b. Final Survey	Consultant																											
- Preparation	INCAP																											
- Field Work																												
- Processing and analysis																												
7. Revision of project design and planning of Phase II	INCAP Jefatura Hospital																											

Summary  
 Quetzaltenango Maternal and Neonatal Health Project  
 Local Cost Budget by Lineitem: Intervention Phase I (26 months)

Line Item:	Total US \$ Costs	MotherCare	INCAP/ROCAP USAID	Government Agencies
1. Salaries and Benefits	\$ 160,439	155,639	4,800	
2. Local Consultants	8,235	7,235	1,000	
3. Transportation	52,546	52,546		
4. Per Diem/Allowances	32,690	28,690		4,000
5. Rent and Utilities	6,206	6,206		
6. Office Supplies	2,912	2,912		
7. Training/Meeting Supplies	3,266	3,266		
8. Equipment/Furniture	11,293	8,793	2,500	
9. Printing and Photocopying	4,703	3,203		1,500
10. Communications	1,835	1,835		
11. Other Direct Costs	4,747	2,747	2,000	
Total	288,871	273,071	10,300	5,500
INCAP Overhead 30%	85,011	81,921	3,090	NA
Grand Total Local Costs	373,883	354,993	13,390	5,500

Quetzaltenango Maternal and Neonatal Health Project  
Detailed Local Cost Budget: Months 1-26

Activity	Units	Unit Cost Quetzal	Total Cost Quetzales	Total Cost US Dollars	Activity Subtotals
<b>1. Project Management</b>					
Salaries					
Principal Investigator	26 p. months	4,160 per month	108,160	31,812	
Co-Investigator	4 p. months	7,990 per month	31,960	9,400	
Medical Officer	26 p. months	4,190 per month	108,940	32,041	
2 Fieldworkers (nurse)	44 p. months	1,156 per month	50,864	14,960	
2 Secretaries	52 p. months	1,460 per month	75,920	22,329	
1.5 Drivers	39 p. months	807 per month	31,473	9,257	
Consultants					
Perinatal Health Expert					
- Hospital	4 weeks	2,000 per week	8,000	2,353	
- Jefatura	4 weeks	2,000 per week	8,000	2,353	
Trainers					
- Jefatura (1 person)	4 weeks	2,000 per week	8,000	2,353	
Programmer	8 weeks	500 per week	4,000	1,176	
Per Diem					
Drivers	39 p. months	250 per month	9,750	2,868	
PI and Medical Officers	78 months	250 per month	19,500	5,735	
Consultants	12 p. weeks	400 per week	4,800	1,412	
Fieldworkers	44 p. months	250 per month	11,000	3,235	
Rent and Utilities					
	26 months	700 per month	18,200	5,353	
Communications					
Local	26 months	100 per month	2,600	765	
International	26 months	140 per month	3,640	1,071	
Transportation					
Vehicle Rental, Maintenance and Fuel	560 days	195 per day	109,200	32,118	
Motorcycle Rental, Maintenance and Fuel	520 days	30 per day	15,600	4,588	
Equipment					
Computer, printer PC/AT/286/40mg	1 set	10,500 per set	10,500	3,088	
Software	4 programs	200 per program	800	235	
Office furniture and equipment	1 set	8,500 per set	8,500	2,500	
Office Supplies					
	26 months	250 per month	6,500	1,912	
<b>Activity Subtotal</b>					<b>192,914</b>

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Activity	Units	Unit Cost Quetzal	Total Cost Quetzales	Total Cost US Dollars	Activity Subtotals
<b>2. Planning/Orientation Seminars (5 seminars with 10 persons each)</b>					
Space Rental	5 days	100 per day	500	147	
Supplies					
Translate proposal	30 pages	8 per page	240	71	
Photocopy proposal/report	40 reports	70 per report	2,800	824	
Meeting supplies	50 particip.	30 per particip.	1,500	441	
			Activity Subtotal		1,482
<b>3. Norms and Training of Primary Health Care Personnel</b>					
Space Rental (4 courses of 6 days each)	24 days	100 per day	2,400	706	
Training Allowance					
Training of District Hlth Teams (60 participants)					
- 45 part. close to town	270 p. days	15 per day	4,050	1,191	
- 15 part. far from town	90 p. days	30 per day	2,700	794	
- 2 Trainers per day	48 p. days	15 per day	720	212	
Training of Trainers					
- 5 Trainers for 3 days	15 p. days	15 per day	225	66	
Teaching materials and supplies	65 part.	12 per part.	780	229	
Photocopying of norms and forms	2000 pages	0.11 per page	220	65	
Printing					
100 manuals (50 pgs)	16000 pages	0.17 per page	2,720	800	
2,500 perinatal forms (4 pgs)					
500 referral forms (2 pgs)					
Clinic Equipment (BP cuff, fetascope, stethoscope)	20 clinics	125 per clinic	2,500	735	
			Activity Subtotal		4,799

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Activity	Units	Unit Cost Quetzal	Total Cost Quetzales	Total Cost US Dollars	Activity Subtotals
4. Norms and Training of Hospital OB and Pediatrics Personnel					
Photocopying of norms and forms and instruction manual	2000 pages	0.11 per page	220	65	
Printing 50 manual (100 pgs) 2,500 Perinatal forms (4 pgs)	15000 pages	0.17 per page	2,550	750	
5. Train and Equip 400 TBAs			Activity Subtotal		815
Per diem for Nurses during training of trainers	24 p days.	30 per day	720	212	
Training allowance for TBAs	400 TBAs 13 train days	5 per day	26,000	7,647	
Training supplies	400 TBAs	20 per TBA	8,000	2,353	
Teaching sets Doll Sponges Knitted uterus	15 sets	55 per set	825	243	
TBA Equipment Fetoscope Timer (5 minutes) Material for Kits: - Gillettes - Umbilical tape - Cloth - Candles - Cotton - Alcohol	435 TBAs 435 TBAs 435 TBAs	18 per item 4 per item 15 per kit	7,830 1,740 6,525	2,303 512 1,919	
Printing 30 Trainers Manuals (100 pgs) 500 TBA manuals (30 pgs) 500 Referral forms (2 pgs) 10,000 Mother's Cards (4 pgs) 10,000 Birth Reg. Cards (1 pg.)	44000 pages	0.17 per page	7,480	2,200	
			Activity Subtotal		17,388

Activity	Units	Unit Cost Quetzal	Total Cost Quetzales	Total Cost US Dollars	Activity Subtotals
6. Monitoring	no additional costs				
7. Baseline and Final Surveys					
Salaries					
20 Field workers for 6 months	120 p. months	755 per month	90,600	26,647	
2 Field supervisors for 6 months	12 p. months	1,500 per month	18,000	5,294	
1 Field Director for 6 months	6 p. months	3,315 per month	19,890	5,850	
2 Survey Drivers (ea. 6 mos.)	12 p. months	807 per month	9,684	2,848	
Per diems					
24 persons for 60 days per person each survey for 2 surveys	2880 p. days	11 per day	31,680	9,318	
Transportation					
2 vehicles	264 days	204 per day	53,856	15,840	
Data Management			6,800	2,000	
Survey Supplies			3,400	1,000	
			Activity Subtotal		68,797
8. Other Direct Costs	26 months	350 per month	9,100	2,676	
			Activity Subtotal		2,676
Total			982,162	288,871	288,871

**APPENDIX III**  
**LIST OF CONTACTS**

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