

Proj. 5240139-
 PH - ②

Appendix 6A, Ch 6 87p
 Page 4 (TM 3:1)

PD-AAB-144-B1

AGENCY FOR INTERNATIONAL DEVELOPMENT
PROJECT PAPER FACESHEET
 TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE ("X" appropriate box)
 Original Change
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PP
 DOCUMENT CODE 3

2. COUNTRY/ENTITY: **NICARAGUA**

3. DOCUMENT REVISION NUMBER

4. PROJECT NUMBER: **524-0139**

5. BUREAU: **LA** (a. Symbol) **5** (b. Code)

6. ESTIMATED FY OF PROJECT COMPLETION: **FY 7/9**

7. PROJECT TITLE - SHORT (stay within brackets): **FAMILY PLANNING SERVICES**

8. ESTIMATED FY OF AUTHORIZATION/OBLIGATION:
 a. INITIAL **7/76** (mo. yr.) b. FINAL FY **9/79**

9. ESTIMATED TOTAL COST (\$000 or equivalent, \$1 =)

a. FUNDING SOURCE	FIRST YEAR FY <u>10</u>					
	b. FX	c. L/C	d. Total	e. FX	f. L/C	
AID APPROPRIATED TOTAL	50	50	100	346	691	1037
(Grant)	(50)	(50)	(100)	(346)	(691)	(1037)
(Loan)	(--)	(--)	(--)	(--)	(--)	(--)
Other 1.	--	---	---	---	---	---
U.S. 2.	--	---	---	---	---	---
HOST GOVERNMENT	--	---	---	---	1587	1587
OTHER DONOR(S)	--	---	---	---	---	---
TOTALS	50	50	100	346	2278	2624

10. ESTIMATED COSTS/AID APPROPRIATED FUNDS (\$000)

a. Approp-riation (Alpha Code)	b. Primary Purpose Code	c. Primary Techn. Code	FY <u>10</u>		FY <u>77</u>		FY <u>78</u>		ALL YEARS	
			d. Grant	e. Loan	f. Grant	g. Loan	h. Grant	i. Loan	j. Grant	k. Loan
PH			100		397		365		1037	
Contraceptives			31		200		290		821	
TOTALS			131		597		655		1858	

11. ESTIMATED EXPENDITURES: **486** (Grant) **110** (Loan) **425** (Total)

12. PROJECT PURPOSE(S) (stay within brackets) Check if different from PID/PRP

To provide improved family planning and maternal-child health services through traditional (health centers) and non-traditional (community based parteras) means.

13. WERE CHANGES MADE IN BLOCKS 12, 13, 14, or 15 OF THE PID FACESHEET? IF YES, ATTACH CHANGED PID FACESHEET.
 N/A Yes No

ORIGINATING OFFICE CLEARANCE **Anselmo E. Bernal**

Signature: **Robert E. Eubertson** **Population Officer**

Title: **Director** **USAID/Nicaragua**

Date Signed: **0 0 5 0 8 7 6** (mo. day yr.) **0 7 0 9 7 6** (mo. day yr.)

15. Date Received in AID/W, or For AID/W Documents, Date of Distribution

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FAMILY PLANNING

NICARAGUA

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I. SUMMARY AND RECOMMENDATIONS

A. See Project Paper face sheet for summary data and project purpose.

B. Recommendations:

The USAID recommends that additional project funding for the activities outlined in the Project Paper Revision be authorized as follows:

<u>GRANT</u>	<u>TQ</u>	<u>77</u>	<u>78</u>	<u>79</u>	<u>Total</u>
Bilateral	100	397	365	175	1,037
Centrally funded:					
Orals	30	150	141	200	521
Condoms	1	50	149	100	300
Total Contraceptives					821

Total new A. I. D. Obligations \$1,858

C. Description of Project

Family Planning services in Nicaragua are the responsibility of four separate agencies which benefit from bilateral A. I. D. assistance. The principle recipient of our bilateral assistance is the Ministry of Health Family Planning Program. It has the biggest program and has the greatest number of active users--20,698 or 58.3% of the total. The other agencies involved in family planning and with the corresponding percentage of active users through December 1975, are as follow; Instituto Nicaraguense de Seguro Social (INSS)--5,886 active users (16.6%); Asociación Demográfica Nicaraguense (ADN)--6,607 (18.6%); Moravian Mission Group (MMG)--1,752 (4.9%). Three other centers which provide FP but are not officially part of the program enrolled 539 clients or 1.6%. All four programs provide family planning services through health centers or clinics. In 1975 the active users were nearly 36,000, or about 8% of the fertile age women in Nicaragua and the drop out rate for the year was approximately 26%. Orals are by far the most common means of contraception (68.4%) followed by IUD (27.0%), and other methods (4.6%). The number of health centers/clinics providing family planning services reached 80 in 1975, The breakdown of service points per agency involved in family planning is as follows: MOH-64, INSS-8, ADN-6, and MMG-2.

In addition to the direct A.I. D. bilateral funding outlined below, intermediary assistance is provided to the ADN by IPPF and Pathfinder Fund. Assistance from these two agencies has been in the form of support of operational costs for six clinics, plus commodities and office supplies and materials. ADN is seeking assistance from IPPF, Pathfinder, FPIA and World Education, Inc. to: (1) expand its community base distribution program (oral and condoms); (2) introduce sex education in schools; (3) promote family planning through the use of primary school teachers; (4) and, for the long range, develop a full fledged community distribution program for contraceptives.

Bilateral assistance to the four agencies has covered part of the costs of training, surveys/research, salaries, other costs and commodities. The contributions to family planning programs by the GON amount to about 50% of total cost. With the funding proposed in this Project Paper revision, the bilateral project will continue to improve the clinical, educational and supportive services of the health centers which have been the traditional backbone of family planning services in Nicaragua and which currently provide services to approximately 36,000 participants (approximately 8% of fertile age women). In addition, the project will initiate an innovative community level delivery system for MCH-FP services through the training and utilization of mid-wives in the health system.

To assist in the attainment of a high level of performance in the above areas, it will be necessary to provide technical and other assistance as follows: a health administrator with experience in the design of informational systems and coordinated supervision, 2 person months (PM) each year; an epidemiologist-sociologist to design and implement microepidemiological surveys and rural level surveys, 2 PM per year; and a maternal child health-family planning specialist to advise on the training, operational and supervisory aspects of the midwife and clinic program, 2 PM/year.

The MOH and the Social Security system (INSS) will provide sufficient professional and support personnel to operate MCH-FP services in approximately 120 clinics by 1979, to train and supervise approximately 2,000 parteras through 1980 and to provide an effective health education and health services support system.

The Family Planning Section of the MOH, in coordination with affiliated private health agencies and the Family Planning Section of INSS, will be primarily responsible for implementing the project. The MOH

will provide approximately 132 person years (PY) of full-time central office personnel and regional coordinator personnel who will plan and supervise the implementation and evaluation of the project. The Demographic Association of Nicaragua (ADN) will provide approximately 7 PY of full and part time personnel to supervise, implement and evaluate programs of training and seminars which complement MOH and INSS activities. The Moravian Mission Group will provide some 48 PY of full and part time personnel to operate the MCH-FP program through its extensive health post system and in addition assist the MOH in the implementation of the midwife program.

The strategy for establishing MCH-FP services in Nicaragua consists of three phases. These phases have a time frame of approximately 20 years. The first phase which is the initiation of MCH-FP services throughout the health system has been underway for approximately 7 years and has developed an active family planning clientele and laid the groundwork for effective MCH services in 81 clinics which will be expanded to include all GON clinics by the end of 1979. The second phase consists of the present project which will dramatically expand services to the rural areas, utilizing local community based health workers as the extension agent and the health clinics as the operational referral base. This phase should require approximately 6 years for full implementation and integration into the formal health system. The third and final phase will be the consolidation and refinement of governmental clinic activities and the community based on MCH-FP delivery system, and the assumption of the majority of the costs for these services by individual participants and local communities.

The project will develop a low cost Maternal Child Health-Family Planning (MCH-FP) program for the rural areas of Nicaragua, and strengthen the MCH-FP services of the health centers which are the operational base for the health system in the rural areas. The basic operating unit for these activities will be the village midwife or partera. There are an estimated 4,000 parteras in Nicaragua, two thousand of whom are believed to be professionally active. Of the professionally active parteras, approximately 1,500 have already been identified as candidates for participation in the project. An additional 500 will be selected for participation during the life of the project. The average active partera delivers approximately 20 babies a year.

In terms of the Nicaraguan birth rate of 47/1000, this means that an active partera serves a population of approximately 400 people and there are approximately 4,650 towns in Nicaragua with a population of 500 or less.

With respect to the new bilateral program component, the parteras will be selected by the MOH central office personnel in cooperation with local GON health workers and community leaders. They will attempt to identify a mix with at least half of the parteras below the age of 50 years. Each candidate should be interviewed to determine, as nearly as possible, the partera's previous experience, interest in training and attitudes toward participation in family planning activities. Those selected for training will undergo a five to seven day period of training at the nearest Health Center. Emphasis will be placed on sterile techniques of delivering, handling of the umbilical cord, oral hydration, and the basic principles of family planning.

A health kit, which will provide basic maternity supplies, family planning contraceptives and minimum health commodities, will be provided to each partera who successfully completes the training course. The kit will consist of a light weight but sturdy plastic bag, with handle, which can either be produced locally or purchased outside of Nicaragua. It will contain pre-sterilized umbilical tape in individual transparent plastic packages, pre-sterilized metal scissors in individual transparent plastic packages, merthiolate, ophthalmologic tetracycline ointment, oralyte packets for rehydration, combantrin or mebendazole tablets for parasitic infestation, soap, iron tablets, vitamins, aspirin, condoms, and oral contraceptives (Norinyl). The initial costs of the kit, and three months supply of equipment and medications, is estimated at US\$40.00. Each kit will serve approximately 400 people including some 80 women of child bearing age. It is estimated that the average partera will enlist approximately 30% of these fertile age women (24 women per partera) as active participants in family planning activities. Assuming that 200 parteras will be trained the first year, 700 the second year and 1,100 the third year, the number of women enlisted as active contraceptors should approximate 4,800 the first year, 16,800 the second year, and 26,400 the third year or a total of 48,000 in the first three years of operation.

The health center system of MCH-FP activities will be

strengthened through improved supervision, training and administrative improvements. This aspect of the program will concentrate on minimizing the delays in providing MCH-FP service to each user, improving the technical capabilities of health center personnel in providing MCH-FP services, supporting the field work of midwives, and improving the supervision and support services to the health centers from the central and regional offices. During the period from 1976-1979, the MOH and INSS will gradually assume the entire cost of present clinical services in MCH-FP and the MOH will seek to add an additional 50 health centers which will expand these services to every center in the health system.

By the end of the project, this innovative and improved delivery system will have wider family planning coverage through its utilization of the health center approach and the non-traditional rural maternal child health and family planning phase of this project. All MOH health centers (some 125) will be delivering improved family planning and MCH services on an integrated basis. A system of pre-service, in-service training and education will be an established function carried out by the various agencies involved in family planning; and the MOH/GON will have the capability to conduct family planning studies, surveys and research and to analyze results for making program decisions to improve performance.

It is expected that in 1979 the combined family planning programs, including the private sector with 30,000, will have approximately 130,000 active users (or about 25% of the fertile age women) in the program. Female sterilization supported by PIEGO and AVS is just getting started in the country, however, there is considerable interest in this modality and, by project end, there should be at least 5,000 women who have chosen this procedure. International Planned Parenthood Federation (IPPF) and the Pathfinder Fund have been supporting family planning efforts for several years in Nicaragua. Their support has financed the operation of six clinics in Managua run by the Demographic Association of Nicaragua including the costs of mass media campaigns. These two organizations will continue to assist ADN in the future but with new approaches and programs such as distribution of contraceptives through parteras, training motivators and family planning promotion. Other organizations being asked for support by ADN are the Family Planning International Assistance, World Education Incorporated, and possibly Population Services International. Proposed

projects have been presented to these organizations for approval.

D. Summary Findings

This project is a vital step in the expansion of MCH-FP activities and the strengthening of the current program so that by the end of the project approximately 25-30% of the fertile age women will be active users of family planning. The GON has given priority to rural health development in the recent MOH Five-Year Plan and has stressed increasing the coverage of the rural population. The project will direct MCH-FP activities to rural areas through a low cost paramedical extension system which will improve the quality of care and maximize the utilization of traditional community midwife health services. These paramedical extension services will be supported by an improved infrastructure of MCH-FP services through the health centers.

E. Project Issues

The issues related to this project include the degree to which the community midwife can be motivated to active participation with MOH personnel, the capacity of MOH personnel to manage and evaluate the program, the degree to which the health kits can be continually resupplied, political pressures that may generate resistance to government sponsored family planning efforts and potential opposition generated by members of the professional health community, e. g. non-institutionalized distribution of medicines and contraceptives.

Abortion-Related Activities

This project is consistent with A.I.D. policies relative to abortion-related activities and with Section 114 of the Foreign Assistance Act of 1961, as amended. No funds made available under this project and subsequent funding during the life of this project will be used for the procurement or distribution of equipment for the purpose of inducing abortions as a method of family planning; for information, education, training or communication programs that seek to promote abortion as a method of family planning; for payments to women in Nicaragua to have abortions as a method of family planning; or for payments to persons to perform abortions or to solicit persons to undergo abortions.

The MOH in Nicaragua has been instructed to inform all prospective participants under this program that funds may not be utilized in this program for any training inconsistent with the policy cited above. Furthermore, the GON will not be able to use any A.I.D. funds for abortion related activities because all project agreements under this program will include a statement banning the use of such practice.

II PROJECT BACKGROUND AND DESCRIPTION

A. Background

1. Brief Background of MCH-FP Demographic-Epidemiological Situation

Nicaragua presents a typical LDC population pyramid and disease pattern for infants. Projected figures for 1975 indicate that approximately 47% (1.02 million) of the population (2.17 million) are below 15 years of age, and that women in the child bearing ages from 15-45 years constitute approximately 21% (462,900) of the population. Recent census data indicates that 52% (1.13 million) of Nicaraguans live in rural areas, but 51% (558,800) of the women and 52% (523,000) of the 0-15 age group reside in urban areas. There are approximately 84,000 live births per year. The crude birth rate is approximately 47 per 1000 population which, if unchecked, would result in a 3.4% population growth rate for the decade and a doubling of the population in 21 years.

Infant mortality figures have been estimated at approximately 120/1000, with the relative frequency of 4.1% at 0 days, 10.7% at 1-6 days, 14.4% at 7-27 days, and 70.8% at 1-11 months. This means that this age group accounts for approximately 23% of all deaths with the leading causes being the gastroenteria, perinatal, respiratory diseases and tetanus. The 1-4 age group accounts for approximately 9% of all deaths with enteritis, measles, infectious and parasitic diseases, bronchitis and malnutrition being the leading causes in this cohort group. The leading causes of morbidity closely parallel the mortality patterns indicated for the respective age groups.

INCAP studies in 1969 and 1975 indicate that malnutrition is a serious problem affecting mothers, fetus, infants and young children. The following levels of malnutrition are present:

Grade I	-	42% of children less than 5
Grade II	-	13% of children less than 5
Grade III	-	2% of children less than 5

These deficiencies no doubt contribute to the high morbidity

and mortality statistics in this age group, and to retardation of mental and physical growth. Major inadequacies exist in maternal and child diets for protein-calorie-triglycerides and vitamin A, riboflavin, thiamine, niacin, iron, and iodine being of special importance.

The maternal mortality rate of 137 per 100,000 births, according to 1970 hospital data, has been estimated by CELADE to be 280 per 100,000 live births when corrected for underreporting in rural areas. This compares with a rate of approximately 19 per 100,000 in the United States. The reported abortion rate is approximately 10% of estimated maternal deaths or 26 per 100,000.

The average number of children per family is approximately 6.1. The desired family size is approximately 3. An average of four children per family is used for calculations in the paper. It is predicted, from available data indicating high fetal loss, that the average period of gestation required for each live birth is 21.3 months in the 15-19 year age group, 14.8 months in the 20-29 age group and 17.7 months in the 30-44 age group. In normal populations approximately 10% of the women are infertile and 30% are not sexually active. Utilizing these data, it is estimated that approximately 12.9% of the fertile women (59,714) during the year 1975 were pregnant or trying to conceive, and 46.1 (213,396) of these women were sexually active but not trying to conceive. With the high rate of maternal mortality the above represents an important group in need of effective coverage.

All governmental health agencies in Nicaragua have programs labeled as Maternal Child Health (MCH) according to their organization charts or list of assigned personnel. However, none of the governmental health programs have line item budgets for maternal and child health which are directly under the control of the assigned program chief, nor is the budgeting for MCH activities decided on a programmatic basis. MCH activities account for approximately 65% of all Ministry of Health (MOH) activities and approximately 45% of all hospital admissions.

The MCH program of the MOH consists of pre and post natal control, family planning, medical and dental preventive/curative care, immunizations, nutritional education and supplementary feedings, health education, referral for child care or delivery, and home health visits. The formal goals of the program were established in 1969 and

related specifically to identify groups at risk. The "Plan de Salud, 1975" established the following goals to be reached by 1980, to increase the number of maternal visits (prenatal, postnatal, family planning, etc) from 89,746 to 744,320; increase the prenatal coverage from 16% to 60% or from approximately 20,000 to 89,400 (including hospital deliveries); to increase medical consultations from 39,300 to 357,600; to increase the coverage of the fertile age women with family planning services from 5.8% to 14% or from 25,223 to 71,680; to increase the present consultations for children by 281% from 205,284 to 781,860; to increase the coverage of the infant cohort groups from 40-6% to 70%; to increase the coverage of the pre-school groups from 72,043 to 352,300; and to maintain the coverage of the school population at 10% which would signify an increase in absolute terms from approximately 65,100 to 77,500. These goals have been set without a clear definition of their relationship to their effect on morbidity and mortality and without the fiscal or human resources required for their achievement.

The programs of the hospital system are not defined as specifically as the MCH program and are primarily dependent on the interest and enthusiasm of the individual hospital staffs. In the case of the Social Security System (INSS), a strong family planning program is in operation throughout its clinics and hospital system. Because of its stronger financial position and better personnel, INSS possesses the best obstetrical, gynecological and pediatric services of the hospital system. Each separate departmental hospital system, operated by Local Social Assistance Boards (JLAS), provides pediatric, obstetric and gynecological services. However, JLAS hospitals in rural areas often lack the equipment and trained personnel to operate effective basic survival pediatric services. The National Social Service and Assistance Boards (JNAPS) has increasingly stressed better pediatric and obstetrical procedures but there is a notable deficit in the area of rehydration and pediatric emergency intensive care.

2. Coverage of Present Services

The MOH estimates that GON health agencies presently cover approximately 23% of mothers with at least one prenatal visit, but of those seen, only 33% are seen before the 5th month. Of the 23% visiting health agencies, only 35% are from rural areas while

65% are from urban areas. Of a currently estimated 84,000 deliveries annually, approximately 383 occur in health centers and 22,000 occur in hospitals with the remainder being attended by traditional part eras or by family members. The Health Sector Assessment calculated that in 1974 approximately 37,420 children less than one year old (48.9% of the age group) were cared for by GON health agencies with 60.6% of this number living in urban areas and 39.4% in rural areas. Approximately 11.3% of all pre-school children were seen and these were distributed 58% in urban areas and 42% in rural. Only 4% of school age children were seen in 1974.

The MOH assigns some 183 physicians (1 hour daily) and some 71 nurses (2 hours daily) together with the full time assistance of some 251 variably trained auxiliaries (6 hours daily) to MCH activities. In total the MOH has some 800 PY for all types of services pertaining to preventive and curative medicine which could be mobilized at least partially for MCH services.

The Family Planning Program currently operates from approximately 80 clinics-- 64 MOH clinics, 8 INSS, 2 permanent and approximately 40 MCH-FP posts operated by the Moravian Mission along the Atlantic Coast and six urban clinics operated in Managua by the Demographic Association of Nicaragua (ADN). Standard contraceptive services for women and men are available, and some 34,000 women are currently enrolled in the various programs. The Central American Institute for Business Administration (INCAE) has concluded from a study of import and pharmaceutical records that private use of contraceptives closely parallels the use of contraceptives in the public sector and has, therefore, estimated that approximately 64,000 fertile age women are active users of family planning services. This represents only 14% of the women in the fertile age group and only 30% of the women sexually active who are not trying to conceive. These statistics approximate the findings of surveys conducted by the Health Sector Assessment team in 1975, and the Nicaraguan Central Bank in 1974.

Prior to 1975, the Family Planning Program depended entirely on the traditional delivery of family planning services; however, in 1975 two new elements-- female sterilization and community distribution of contraceptives through midwives-- were added for the first time. Six doctors were trained in laparoscope sterilization--five through the Johns Hopkins PIEGO program and one through British

assistance. The PIEGO trained doctors are just beginning to initiate their program. Based upon information provided by the first two doctors who were trained, the number of voluntary sterilization had reached approximately 100 as of December 1975. With four more doctors trained and with unmet demand for these services, especially among women 30-44 who have reached the desired family size, the number of sterilizations should increase significantly in the years ahead. Other doctors will be trained in this procedure in 1976. Available studies indicate that there is a limited demand for male sterilization.

INSS has requested financial and technical support for expanding their sterilization program. The Association for Voluntary Sterilization, Inc. is in the process of assisting the establishment of a sterilization clinic at Policlínica Central, Managua. Instructions will be given in vasectomy, minilap and laparoscopy and it is anticipated that a new laparoscope will be provided for clinic use. AVS, Inc. will also carry out further discussions with the Nicaraguan Demographic Association and the MOH to explore interest in this area.

The following are estimates of the number of procedures to be performed at different locations with non-bilateral assistance in 1977:

	<u>T e c h n i q u e</u>		
	<u>Laparoscope</u>	<u>Mini-Lap</u>	<u>Vasectomy</u>
Managua	500	100	100
Leon	100	100	
Jinotepe	75	50	
Chinandega	50	50	

Nicaragua has traditionally been conservative in its approach to the delivery of family planning services. Many people including most GON officials, have not yet grasped the implications of an unrestrained population growth rate and the deleterious effects upon the mother, children and the quality of life of the family especially among the rural poor. However, while major political or social leaders do not openly support family planning activities, neither do they interfere with the operations of family planning services, including mass media programs. To stimulate greater support for family planning activities the ADN has carried out training activities and seminars at all levels of the

society including church, governmental, industry and agricultural leaders/opinion setters.

Recently the ADN, Central Bank and A.I. D. sponsored an important study--"Family and Fertility, 1975"-- on the attitudes of women towards family planning. While there were many important outputs, perhaps the most significant was the indication that approximately 65% of the women wanted to actively control their fertility and believed that the ideal number of children per family was about 3. When asked why they wished to limit family size, the most frequent responses referred to the desire to improve the economic status and quality of life of the family and to increase educational and health care opportunities for the children. This microlevel study of the family was complemented by a macrolevel study of the economic impact of uncontrolled fertility on the social services provided to the population by the GON, which clearly indicated the cost-benefit effect of family planning services. The findings of these studies will be combined by ADN and presented in a special seminar series for GON Congressional, Cabinet and Executive level personnel. These studies should be influential in significantly raising the public awareness of the importance of family planning activities for improving the quality of life in Nicaragua.

As a result of the Health Sector Assessment for Nicaragua, the Mission has developed a strategy designed to encourage efforts by Nicaraguans to extend the coverage of health, nutrition and family planning services to the "medically indigent", primarily through the utilization and development of paramedical personnel and improving the effectiveness of existing health services. This project proposes activities during the next two years designed to sensitize national leaders to the full economic, family and personal implications of uncontrolled fertility and rapid population expansion, and to make family planning methods available to all individuals in the fertile age group through traditional institutions and trained-supervised paramedical outlets.

B. Detailed Description

This project will develop a low cost Maternal Child Health-Family Planning (MCH-FP) program for rural areas of Nicaragua that will seek to utilize the already present community midwife

(partera) while strengthening the MCH-FP services of existing and planned health centers which form the operational base for the health system in the rural areas. Rather than employing a philosophy that seeks to obtain a "trickle down" effect over time (complex-to-simple, urban-to-rural), this program rests upon a conviction that the upgrading of public health MCH-FP services will come about most rapidly and effectively by starting at the lowest level in the existing social order. It begins with the observation that those who live in and depend upon the community can most rapidly motivate changes in attitude and positive action in support of necessary change.

In implementing the "Plan de Salud 1976-1980" which was incorporated in to the recently completed Health Sector Assessment, the MOH intends to greatly amplify its health service coverage of the rural area. Approximately 52% of the population resides in geographically dispersed, sometimes isolated villages, and approximately 80% of these people are not presently reached through formal health services. This figure closely approximates the MCH-FP coverage as indicated by attended birth, well baby care, and curative women and child visits. This coverage is not likely to improve in the near future by utilizing traditional health centers and health professionals. As indicated by a recent manpower study in the Health Sector Assessment outlining the magnitude of the physician/nurse manpower deficit, even with an adjustment for the proposed increase in medical and nursing graduates the gap will not be filled (see Table I). This deficit is even more profound when reviewed from the rural urban maldistribution of health professionals (see Table 2).

Because of two decades of rapid population growth, more than one quarter of the population is composed of infants and children among whom the mortality and morbidity effects of disease and poor nutrition are most dramatically expressed (see II. A. I.). During the next decade the number of children and mothers will increase at an unprecedented rate. With this increase in numbers will come a greatly enlarged need for basic maternal and child health, and for family planning services.

Remedies for the shortcomings of existing health services are largely known. New systems must be applied through which effective care and prevention of only a few of the most prevalent health problems are made both accessible and acceptable to the rural peoples. The

TABLE I

Projected Deficit in Health Workers
Nicaragua, 1975 to 1985

Year	Health Worker Deficit	Projected Population 000 (a)	Required		Available		Deficit in person/yr (f)
			Total Person/ Years (b)	Physicians (c)	Nurses (d)	Total Person/ Years (e)	
1975		2,200	3,775	1,292	544	1,836	1,939
1980		2,560	4,393	1,500	850	2,350	2,043
1985		3,003	5,153	1,850	1,150	3,000	2,153

NOTES: Column(b) assumes 3020 preventive and curative hours per 1000 population and 1760 hours per year per worker. Columns (c), (d), and (e) project Inter-American Development Bank statistics, not considering administrative positions and non-practicing situations. Column (f) is the difference between columns (a) and (e) and does not include hours for administration, vacations, sickness, training, transportation, etc.

TABLE 2

Regional Deficit in Health Workers
Nicaragua, 1975

Area \ Health Worker Deficit	Projected Population 000 (a)	Required		Available		Deficit in person/year (f)
		Total Person/years (b)	Physicians (c)	Nurses (d)	Total Person/ Years (e)	
Pacific (Regions 1, 2 & 3)	1,310	2,248	1,086	441	1,527	721
Interior (Regions 4, 5 & 6)	720	1,235	167	60	227	1,008
Atlantic (Regions 7 & 8)	170	292	39	43	82	210
	<u>2,200</u>	<u>3,775</u>	<u>1292</u>	<u>544</u>	<u>1,836</u>	<u>1,939</u>

NOTES: Column (b) assumes 3020 preventive and curative hours per 1000 population and 1760 hours per year per worker. Columns (c), (d), and (e) are based on projections by UNASEC of traditional health professionals. Column (f) is the difference between columns (b) and (e) and does not consider loss of effectiveness for dispersed populations.

services delivered must address the most critical parameters in a highly selective manner. For example, a number of the health measures which can be taken at the least cost in training and commodities are also ones that can have perhaps the greatest epidemiological impact. These include, basic preventive health measures; the provision of family planning; the improvement of rural practices; and the treatment of infant diarrheas/intestinal parasites.

The Russell-Burke^{1/} study (February 1975) on the determinants of infant mortality, among other findings, indicated the importance of relatively simple basic MCH-FP care such as:

1. Breast feeding which is a significant factor in reducing infant mortality. For every 11 women who breastfeed, one additional infant should survive.
2. Vaccination is another vital factor for childhood survival. For every 14 children who are vaccinated, one additional child should survive.
3. Family planning practices that extend the time between delivery and conception of the next child to at least 12 months should result, on the average, in a child approximately 135 grams heavier than one from a mother not practicing family planning.
4. Prenatal visits before the fifth month and appropriate follow-up care for at risk women should result, on the average, in children from 135 grams to 200 grams heavier than those not receiving such care.
5. Children born to mothers younger than 17 years of age have less chance of survival than those older than 17 years.

The voluntary delay and spacing of pregnancies plays a most critical role in the health not only of the mother but of the child who depends upon her to a significant degree for nourishment and socialization

^{1/} Russell-Burke determinants of infant-child mortality, San Juan, Argentina, February 1975.

for many years. Recent empirical research in several countries shows clearly that the mortality and morbidity of mothers and children are a function of the age of the mother and the elapsed time between pregnancies. Intuitively, most females of reproductive age seem to understand this regardless of their level of education. This contributes to the phenomenon that whenever contraceptives are made available, active users rapidly take advantage of their availability.

In the effort to save the lives of thousands of infants and small children, it is more important to make basic MCH-FP health services readily available (adequately equipped and instructed midwives, remedies for acute diarrhea and intestinal parasites, availability of non-clinical contraceptives, and institution of simple preventive health practices) than to provide only sophisticated MCH-FP care through health facilities staffed by physicians and nurses that provide limited access to this group.

The concept of providing medicines to include oral contraceptives through paramedical personnel is a new one in Nicaragua, even though there is almost uncontrolled sale of pharmaceuticals through pharmacies, "pulperías" and other stores. Many extremely dangerous drugs, both oral and injectable, such as atropine, belladonna, chloramphenicol, diuretics and potent cardiopulmonary drugs, can be purchased locally without prescription. Oral contraceptives are also dispensed in large quantities without prescription or instruction. Current medical literature indicates that the mortality risks of pregnancy is approximately 20 times greater in a country such as Nicaragua (with an average maternal mortality of greater than 280/100,000) than taking the pill (see Table 3). This apparently favorable weighing of the statistics in favor of controlled fertility can be further improved by careful screening of patients, solely by clinical history.

To meet the great challenge of providing basic health coverage to the approximately 80% of the rural population, it is apparent that the MOH will need to enlist the assistance of paramedical personnel at the village level who can be reasonably self-supporting in an economic sense. Virtually, every village in Nicaragua has a resident midwife, or partera. There are an estimated 4,000 parteras in rural Nicaragua who, in many areas, provide the only existing health infrastructure. Among the limited alternatives (which might also include the curanderas, and the local owners of pulperías), the parteras

TABLE 3
MORTALITY Associated with Pregnancy and Contraception
In Developed and Developing Countries
(Annual Rates per 100,000 Women aged 15-44)

DEVELOPED COUNTRIES					
<u>Method of Fertility Control</u>	<u>Estimated Method Failures per 100 woman-years</u>	<u>No. of Pregnancies From Method Failure</u>	<u>No. of Deaths from pregnancy (25 per 100,000 births)</u>	<u>Estimated No. of Deaths from Method</u>	<u>Total Deaths from Pregnancy and method</u>
No contraception	0.0	60,000	15	0	15
Oral Contraception	1.0	1,000	1	3	4
IUDs	3.0	3,000	1	1	2
Condom & Diaphragm	20.0	15,000	4	0	4

DEVELOPING COUNTRIES					
<u>Method of Fertility Control</u>	<u>Estimated Method Failures per 100 woman-years</u>	<u>No. of Pregnancies From Method Failure</u>	<u>No. of Deaths from pregnancy (500 per 100,000 births)</u>	<u>Estimated No. of Deaths from Method</u>	<u>Total Deaths from Pregnancy and method</u>
No Contraception	0.0	60,000	300	0	300
Oral Contraception	2.0	2,000	10	3	13
IUDs	3.0	3,000	15	1	16
Condom & Diaphragm	20.0	15,000	75	0	75

NOTE: This table represents a model of mortality based on the estimates of method failures column one and estimates of mortality from specific methods in column four. Column one is adapted from US Food and Drug Administration estimates (189) and a similar but not identical Population Council analysis (10). Periods of lactation are excluded in this table since lactation provides some independent additional protection against pregnancy but oral contraceptives are often not given during lactation. Column four is based on estimated mortality in the United States, primarily from thromboembolism. In developing countries where thromboembolic disorders are rare, mortality associated with use of orals may be lower than in the USA. Also mortality may be lower with lower dosage pills. The differences between oral contraceptives and IUDs in column five are not statistically significant.

are those whose role is closest to the existing functions and objectives of the MCH-FP program of the MOH; and it is they who deal most often with women of fertile age and their offspring. Also they are usually the most respected health authority in each community. For these reasons they represent the most likely candidates for effective operation of a rural MCH-FP program.

The MOH-FP Division has a logistic system in place that assures timely provision of family planning commodities to include MCH supplies/ commodities (for parteras) to health centers. Commodities are warehoused in MCH-FP facility where an up-to-date record exists for the regulated flow of family planning commodities. Health Centers are provided supplies on the average of once every two months or at other designated time frames, if necessary. Requests for additional supplies from the Health Centers are received at the Central Office by phone, telegram, letter, or verbally. Action on requests takes about 3 days. Health Centers have adequate storage space for commodities. Two full-time employees have responsibility for a smooth flow of commodities to the service points and for warehousing of commodities. They receive supervision from the Administrator of the program. Commodities are delivered to the service points mainly by road. Mail service (or air shipments) is used on a limited basis as warranted. All clinics report to the Central Office on a monthly basis providing information on the number of family planning clients by method, number of contraceptives used, and other pertinent data. An up-to-date record of commodities is maintained at the Central Office. There are no regional or provincial warehouses. Health Centers in general will be required to keep a two month stock of supplies to meet their own needs at the Health Center and also to resupply the parteras' needs. Current stock levels at the health centers should be determined by weekly inventory.

LOGICAL FRAMEWORK DESCRIPTION

a. Goal Statement: Reduce the national fertility rate and improve the health levels for women and infant children primarily in the rural areas of Nicaragua. Approximately 25% of the fertile age women actively contracepting with decreased maternal and infant mortality and morbidity.

b. Measurement of Goal Achievement:

(1) Crude birth rate reduction from approximately 48/1000 to approximately 35/1000 by 1980.

(2) Total number of active users of family planning services in the program (000)

<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
36	50	75	110	132

(3) Decreased (a) infant and (b) maternal mortality
(a) per 1000 - (b) per 100,000

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
(a)	125	120	115	105	100
(b)	200	140	180	160	150

(4) Approximate number of deliveries attended by midwives yearly who will receive family planning information/motivation (000).

<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
7	80	80	80

(5) Approximate percentage of fertile age women as active users of family planning services:

<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
11%	16%	23%	27%	30%

(6) MOH-FP will have the capability to conduct studies, surveys and research on family planning activities.

(7) Approximately 720,000 people will have access to MCH-FP services delivered through midwives (parteras)

STATEMENT OF PROJECT PURPOSE

a. Project Purpose: To provide improved family planning and maternal child health services through traditional (health centers) and non-traditional (community based parteras) means.

b. End of Project Status:

1. Improved and expanded family planning and maternal child health services being provided in all government health centers on an integrated basis.

1.1 Approximately 140 health centers in the country offering family planning services - MOH 125, INSS 8, ADN-6, and MMG 2.

1.2 Health centers providing referral services for patients referred by parteras, and supervision, counselling and supply of parteras.

1.3 Approximately 60,000 active users enrolled in family planning through health centers.

1.4 In-service training-education an established function of agencies involved in family planning.

1.5 A system in place whereby all family planning delivery points are handling FP acceptors and referring complicating cases to appropriate advanced techniques/service locations.

1.6 Approximately 1,800 parteras providing MCH-FP services; approximately 40-45,000 active family planning users; approximately 50-60,000 under four children provided basic health care; approximately 80,000 pregnancies/deliveries attended by midwives.

1.7 Approximately 500 active contraceptors per average health center.

1.8 Approximately 24 active contraceptors per average partera.

c. Means of Verification

Verification will be through site inspections; records on training, staff assignments, and salary schedules; monthly, quarterly and annual statistical reports from the MCH-FP central office and/or health centers and parteras; curriculum design, and such Mission documents as Pro/Ags, PIO/Cs, etc.

STATEMENT OF OUTPUTS

a. Outputs

1. MOH incorporates the delivery of family planning services in additional health centers (64) in the country.

2. Graduates from the medical school receive training in family planning before they assume social service posts.

3. 2,000 parteras trained in MCH-FP.

4. A curriculum developed and in use for training and upgrading parteras, or other personnel, as necessary.

5. Pamphlets, films, and other materials available to train and/or motivate personnel and target groups in family planning.

6. System in place for reporting/evaluating on clinic and partera activities.

7. Clinic trained staff in place giving support to MCH-FP in clinics and to partera program.

8. Contraceptive supplies available.

b. Objectively Verifiable Indicators:

1. The Ministry will introduce family planning services in 26 additional health centers in 1977, 30 in 1978 and 8 in 1979 for a total of 64 new service points.

2. On the average, 37 graduates from the Medical School will receive training in family planning yearly.

3. The number of parteras trained each year will approximate 200 in 1976, 700 in 1977 and 1,100 in 1978 - for a total of 2000 through 1978.

4. Curriculum for initial 5-6 days training course for parteras approved and in use.

5. Education/motivational materials (pamphlets or comic book type booklets) will be produced locally or purchased from RTAC - 9 different pamphlets, 10,000 copies each.

6. Three full time employees and a secretary working in the Statistical Division to prepare and analyze statistical reports.

7. Each health center will employ at least an auxiliary nurse trained in MCH-FP. Some centers have an auxiliary nurse, a registered nurse, and a doctor, depending on location and size of clinic and population served.

8. All health centers will have at least a two months supply of contraceptives available.

c. Means of Verification:

1. Actions will be verified based on site field visits, routine administrative reports, special reports and studies, program documentation, training plans, observation of courses, consultant reports.

d. Assumptions:

1. The GON will designate appropriate resources to expand FP services as planned during the life of the project.

2. Budget for GON MCH-FP activities reflect financial resources to operate and maintain MCH-FP programs.

3. Resources from international donors or regional A. I. D. contractors, e.g. DAI, are available for training purposes in support

of program.

4. Evaluation system will operate effectively and plan an important role for program implementation.

5. Trainable people will be available as required and will be assigned commensurate responsibilities.

6. Midwives and local health center personnel will work cooperatively in support of the program.

7. Staff and clinic personnel remain stable and thereby avoid shortages.

8. That A. I. D. will provide proposed funding and have the institutional capacity to provide sufficient technical support for the project.

PROPOSED BUDGET

(\$000)

	<u>MOH</u>	<u>INSS</u>	<u>ADN</u>	<u>MMG</u>	<u>TOTAL</u>
<u>TQ -</u>					
<u>OTHER COSTS</u>					
Training	45	--	--	--	45
Base Line Studies	5	--	--	--	5
 <u>COMMODITIES</u>					
Health Kits	50	--	--	--	50
(Orals)	(30)	--	--	--	(30)
(Condoms)	(1)	--	--	--	(1)
	<hr/>				
	100	--	--	--	100
	(31)	--	--	--	(31)

FY-1977

OTHER COSTS

Salaries/Miscellaneous	181	21	--	--	202
Partera Training	60	--	--	--	60
Evaluation/Surveys/Fellow-up	40	--	--	--	40

COMMODITIES

Supplies (Health Kits)	95	--	--	--	95
{Orals)	(150)	--	--	--	(150)
(Condoms)	(50)	--	--	--	(50)
	376	21	--	--	397
<u>FY-1978</u>	(200)	--	--	--	(200)

OTHER COSTS

Salaries and Miscellaneous	122	20	--	--	142
Partera Training	48	--	--	--	48
Evaluation/Surveys	50	--	--	--	50
Participant Training	30	--	--	--	30

COMMODITIES

Supplies/Equip/Vehicles	95	--	--	--	95
(Orals)	(141)	--	--	--	(141)
(Condoms)	(149)	--	--	--	(149)
	345	20	--	--	365
	(290)	--	--	--	(290)

FY-1979

Salaries and Miscellaneous	95	--	--	--	95
(Partera and Clinic Improvement)	20	--	--	--	20
Evaluation and Studies	30	--	--	--	30
Participants					

COMMODITIES

Supplies	30	--	--	--	30
(Orals)	(200)	--	--	--	(200)
(Condoms)	(100)	--	--	--	(100)
	175	--	--	--	175
	(300)				(300)

ILLUSTRATIVE 1976 BUDGET FOR CLINIC IMPROVEMENT

	<u>GON</u>	<u>A.I.D.</u>	<u>TOTAL</u>
Director's Office	9,428	6,600	16,028
Administration	4,457	35,108	39,565
Education	10,080	11,297	21,377
Social Workers	-	21,900	21,900
Supervision	9,836	6,685	16,521
Statistics/ Eval. Department	13,200	-	13,200
Citology Laboratory	15,881	-	15,881
Clinic Personnel	81,080	95,134	176,214
Travel/ per diem (in country)	-	15,428	15,428
Gasoline/Oil	-	16,174	16,174
Vehicle/Equip. Maintenance	-	10,285	10,285
Public Service	-	2,091	2,091
Laboratory/clinic supplies (local)	-	857	857
Office Supplies/ materials	863	2,571	2,571
Non-personnel services	10,815	-	10,815
Contribution kind (facilities)	50,046	-	50,046
Contribution to Social Security	5,234	7,625	12,859
Miscellaneous	-	925	925
	210,910	232,680	442,737
Commodities	-	8,138	8,138
Total	\$ 210,910	\$ 240,815	\$ 450,875

Subsequent years clinic budgets with MOH to assume full clinical responsibilities for meeting services by 1979.

<u>YEAR</u>	<u>A.I.D.</u>	<u>M.O.H.</u>	<u>INSS</u>
1977	\$ 181,000	\$ 273,000	\$ 140,000
1978	120,000	334,000	147,000
1979	60,000	393,539	173,000
1980	-	453,745	195,000

T A B L E 4
FUNDING BROKEN DOWN BY PROGRAM
(BILATERAL AND CENTRAL)
(000)

OUTPUTS		COMMUNITY DISTRIB. (PARTERA PROGRAM)		HEALTH KITS		C L I N I C S		TRAINING AND EDUCATION		E V A L U A T.		CONTRACEPTIVES	
		GON	AID	GON	AID	GON	AID	GON	AID	GON	AID	CONDOMS	PILLS
TQ	MOH	--	45	--	50	---	---	--	--	-	5	1	30
FY	MOH	45	60	1	75	182	166	40	35	5	--	50	150
77	INSS	--	--	--	--	174	15	--	6	-	--	--	---
	MMG	--	--	--	--	---	10	--	10	-	--	--	---
	ADN	--	--	--	--	---	---	--	20	-	--	--	---
FY	MOH	62	48	10	95	227	122	35	30	-	20	149	141
78	INSS	--	--	--	--	173	15	--	5	-	--	--	---
	MMG	--	--	--	--	---	10	--	5	-	--	--	---
	ADN	--	--	--	--	---	---	--	15	-	--	--	---
FY	MOH	75	60	30	30	253	35	35	30	-	20	100	200
79	INSS	--	--	--	--	195	--	--	--	-	--	--	---
	MMG	--	--	--	--	---	--	--	--	-	--	--	---
	ADN	--	--	--	--	---	--	--	--	-	--	--	---

MOH Ministry of Public Health
 INSS Instituto Nicaraguense de Seguridad Social
 MMG Moravian Mission Group
 ADN Asociación Demográfica Nicaraguense

ILLUSTRATIVE BUDGET FOR COST OF PARTERAS HEALTH KITS

Contraceptives - AID Central Funding C: Health Kit Box A: Anticeptics Resupply Relationship AID/GON - decrease
 P: Paturition Sup. financial resupply by 1/3 yearly, as
 (23) (8) rotating fund grows

FY	DESCRIPTION	C (\$12 ea)	P (24)	E (46)	A (16)	VE (4)	TOTAL	PILLS	CONDOMS	GRAND T.	
FY 1976	Group I (700 New Kits)	8.400	16.800	16,100	5.600	46.900	(20.160)	(9.240)	(29.400)	12/76	238.000
	Group II (1300 New Kit)	15.600	31.200	29.900	10.400	87.100 134.000	(37.440)	(17.160)	(54.600) (84.000)	12/77	
I Q	Group I 2/3 resupply of 700 Kits		11.088	10.626	3.696	25.410	(20.160)	(18.480)	(38.640)	12/77 12/77	147.352
	Group I 1/3 resupply of 700 Kits TOTAL	84	7.318	7.013	2.439	16.854 42.264	(40.320)	(18.480)	(58.800) (97.440)	12/78	
FY 1977	Group II 2/3 resupply of 500 Kits		8.000	7.666	2.666	18.332	(14.400)	(13.200)	(27.600)	12/78 12/78	49.268 59.600
TY 1978	Group II 2/3 resupply of 800 Kits		12.800	12.266	4.266	29.332	(23.000)	(21.120)	(44.160)	12/78 12/78	177.472
	Group II 1/3 resupply of 1300 Kits TOTAL	208	6.864	6.578	2.290	15.940 45.272	(74.880)	(34.320)	(54.600) (98.760)	12/79	
FY 1979	Group I and II						115.200	52.800	168.000		190.000 195.000
	Group III 180 New Kits	2.500	4.400	4.150	1.450	12.500 12.500	5.200	2.400	7.600 175.600		

ILLUSTRATIVE BUDGET FOR TRAINING OF PARTERAS

AND RETRAINING ONCE A YEAR

FY-1976

June	700 Midwives (Parteras)	
	Per diem 700 Midwives x 6 days x \$35.00 per day:	
	\$147,000 or	\$ 21,000
	5 Instructors (nurses)	
	Per diem 5 Instructors x 6 days x 26 weekly	
	sessions x \$50.00: \$39,000 or	5,572
	Teaching materials/certificates	2,000
	Certificate presentation ceremonies	<u>1,428</u>
	* \$22,000 of this amount required only as rest	
	funded in the first quarter of CY-1976 *	<u>30,000</u>

FY-1977

January	800 Midwives (parteras)	
	Per diem 800 Midwives x 6 weekly sessions x	
	\$35.00 per day: \$168,000 or	24,000
	5 Instructors (nurses)	
	Per diem Instructors 5 x 6 days x 40 weekly	
	sessions x \$50.00 per day	8,575
	Teaching materials/certificates	2,400
	Certificate presentation ceremonies	<u>1,700</u>
		\$ 36,675
	Retraining 700 Midwives	
	Per diem 700 Midwives x 4 days x \$35.00:	
	\$98,000	14,000
	5 Instructors (nurses)	
	Per diem 5 x 4 x 35 weekly sessions x \$50.00:	
	\$35,000	5,000
	Teaching materials and miscellaneous	<u>1,500</u>
		\$ 20,500
		\$ 57,175

FY-1978

	500 Midwives (parteras)	
	Per diem 500 Midwives x 6 days x \$35.00 per day:	
	\$ 105,000	15,000
	5 Instructors (nurses)	
	Per diem 5 Instructors x 6 x 25 weekly sessions	
	x \$ 50.00 per day: \$37,500	5,357

Teaching materials/certificates	2,200
Certificate presentation ceremonies	<u>1,500</u>
	\$ 24,057
Retraining 800 Midwives	
Per diem 800 Midwives x 4 days x \$35.00	
per day: \$112,000	16,000
5 Instructors (nurses)	
Per diem 5 x 4 x 40 weeks x \$50.00:	
\$ 40,000	5,715
Teaching materials/miscellaneous	<u>1,700</u>
	\$ 23,415

\$ 47,472

FY-1979

Retraining:

Midwives 1,800
Per diem 1,800 Midwives x 4 days x \$35.00: \$ 252,000

Instructors 5
Per diem 5 Instructors x 4 days x 90 weeks
x \$50.00 90,000

\$ 342,000
\$ 48,857.000

Teaching materials/miscellaneous 3,000.000
51,857.000
52,000.000

* GON will train approximately 180 additional parteras in 1979 at the cost of \$8,400

III PROJECT ANALYSIS

A. Technical Analysis Including Environmental Assessment

1. Technology of Program Implementation

The technology of this project is to deliver basic MCH-FP services to geographically dispersed areas of Nicaragua through the organization of all parts of the country's formal health system. This is a task which few governmental bureaucracies, including our own, can do well. There are very few effective rural health systems which depend solely on governmental workers traveling daily from a health center base to more geographically remote areas. This project will not rely on the outreach worker from a local health center to provide maternal and child health and family planning services to the rural community but rather, will rely on improving and modifying the health care practices of those community personnel who already are recognized by the community as capable and competent in health care.

The "partera empírica" has been chosen from among the other community health practitioners (curanderos, pulperías owners, SNEM collaborators, etc.) because of her generally respected and influential position in providing "hands on" health care and her practical experience and job orientation towards fertile age women and infant children. Parteras, as a group, have already shown an interest in receiving training in MCH-FP. In September of 1975, the ADN initiated a program of community distribution of contraceptives through 30 midwives trained for this purpose to test their adaptability to participate in family planning activities. To date the results have exceeded expectations. The parteras have registered over 1,700 women in the program and have distributed approximately 5,000 cycles of orals and 15,000 condoms. This indicates that the participation and effective alternative for the extension of these activities. Also, during the past six months, the training of parteras of the Atlantic Coast of Nicaragua for performance of basic medicine and well baby care has shown promising results. There is enthusiasm among parteras to improve their skills and increase their responsibilities in the extension of health services.

The ability of the partera to handle simplified medicine and the relatively harmless drugs that are included in the health kit

is relatively assured. Although, most parteras, curanderos and other traditional village health workers have at their disposal and utilize a wide variety of pharmaceutical products which are dispensed with relatively few controls, the health kit will not contain anything considered potentially dangerous, and the parteras will be thoroughly trained and tested in the use of the medicines provided.

The training course for the partera will be based on the important epidemiological problem of the rural areas MCH-FP (morbidity-mortality associated with parturition, enteritis, dehydration, accidents, and communicable diseases). The curriculum is being refined to concentrate on those aspects of the diseases listed above, that lend themselves to simplified medical procedures, and have a high probability of significantly reducing morbidity/mortality as in the Burke-Russell findings. The parteras will be instructed by a team of three MOH nurses with the attendance of two local health center nurses. The eight hour a day classes will have between 15-20 parteras in attendance and will last for five days. The audiovisual material will be picture oriented, and will include take home administrative and health care documents.

The two health nurses in attendance will actively assist in the instruction and will provide follow-up instruction and assistance in health kit replenishment. There will be a practical test at the end of each course which will determine the sophistication of medicines and contraceptives that can be maintained in the parteras prepackaged kits.

The most obvious focus of criticism of the health kit contents will be the inclusion of oral contraceptives, despite the demonstrably lower health risk of fertility control over repeated pregnancies, (approximately 23 times more favorable as shown in Table 3). Each partera will be expected to ask an interpret the reply to a series of questions which will precede the issuance of oral pills. These questions will be related to thromboembolic disorders, impaired hepatic function, suspicion of cancer of the breast, undiagnosed abnormal genital bleeding and possibility of pregnancy. These questions have already been developed by the MOH and USAID and have been tested in the yearly clinic evaluation study.

The development of survey mechanisms to evaluate the impact of the program is well assured, as ADN, the MOH and the Central Bank have all recently demonstrated their ability to produce technically proficient surveys. The recently completed "Family and Fertility, 1975" is a demonstration of these organizations to deal with sensitive family planning data and produce an influential final report.

The necessary technology to insure program success is within the capability of the MCH-FP personnel in Nicaragua, and limited technical assistance will be provided through AID/W and the Mission to fill minor gaps; in health administration, epidemiology and maternal child health family planning implementation skills.

2. Women's Impact Statement

This program is designed and oriented to primarily assist women and children. Program management and implementation will primarily be done by women who dominate the ranks of the part-ras, nurses, MCH-FP educators and other associated personnel in the MOH. The program should significantly assist the rural poor women to improve her quality of life and that of her family by reducing maternity risk, infant deaths, and general MCH-FP related morbidity.

3. Environmental Impact Statement

Of those who oppose family planning, many point to the rural areas and claim that Nicaragua has excess land and thus is able to take care of more people. Actual conditions in the country seem to indicate that the quality of life is at or near the subsistence level for nearly 70% of the rural population and that the natural resources of the country are limited primarily to agriculture and forestry. On Nicaragua's west coast, where the population density is 61/Km², farming is mainly through large land holdings on rich volcanic soil. In the central mountains areas, smaller plots are farmed.

With increasing rural population pressures, there is a constant danger of rapidly depleting fertility with poor land use patterns which result in wide erosion during the long dry seasons. To provide more land for cultivation, whole areas of forests are

being cut down without significant concern for proper land use or erosion problems. Because of demand for meat and cotton, locally and for export, overgrazing and overcultivation is also adding to the erosion problem in many rural areas.

The problems of urban overpopulation have been well documented in the world, and they are already a fact of life in urban Managua, with its population of approximately 500,000. The total lack of environmental controls in this small urban area has polluted adjacent Lake Managua. This, coupled with inadequate garbage collection and sanitary code enforcement and the unresolved devastation of the 1972 earthquake, makes Managua relatively unhealthy and esthetically unappealing despite a geographically beautiful setting.

Thus, both urban and rural environmental and ecological balances are threatened by uncontrolled population growth which will add continued pressure to the fragile resources of a basically agriculture economy, and divert budget and economic resources from environmental controls and ecological reclamation to the social services necessary just to keep up with the population. The proposed project is a positive step, by improving the availability of MCH-FP services in the country, to relieve environmental effects of uncontrolled population growth.

B. Financial Analysis

While family planning services do not generate direct revenues for beneficiaries, the indirect economic benefits of improved MOH-FP programs are enjoyed by individual families as well as the public sector. The social benefit analysis summarized in the Economic Analysis Section of this paper indicates possible public savings in future health and education services expenditures. This section, therefore, will concentrate on future financial viability of this grant project.

The MOH has traditionally allocated funds for MCH-FP in two ways. They have assigned personnel in the central offices, regional offices and health centers to work exclusively in family planning activities, and paid for these activities directly.

Alternatively, the MOH absorbs the costs of the MCH-FP

program from general purpose operational funds. This is done by assigning MCH-FP activities to the list of general health services to be provided by the staff of each health center whose salaries are paid from the general personnel funds of the MOH. This dual system allows the MOH to focus considerable attention on family planning or any other type of health service by financing activities in a vertical manner for health services that need special emphasis.

The MOH currently expends approximately 3% of its \$7 million budget for health services on exclusively family planning activities which are vertically funded through the family planning section of the MOH. In addition, it is estimated that approximately 55% of the current budget for health services is absorbed by the various MCH-FP services offered through health clinics. The MOH intends to assume the entire costs of the current family planning clinical program and expand family planning services to an additional 50 clinics by 1979. In addition, the MOH plans to absorb the continuing costs of the partera program by the end of 1979.

These costs will be absorbed by the MOH through the methods described above. The majority of the increased costs will be absorbed by increasing the efficiency of health delivery personnel, especially the rural health centers, which on the average, according to the recent Health Sector Assessment, were operating at 40% efficiency. This would require increasing the MCH-FP responsibilities of presently underutilized MOH personnel. The other manner of funding would be a direct allocation of funds from the central budget to MCH-FP activities. The MOH currently estimates that approximately 7% of the MOH budget (in 1975 dollars) will be needed to effectively operate this program in 1979 in addition to the improved efficiency of personnel and utilization of general purpose operational funds. The MOH appears capable of meeting the financial obligations of this program through this process of direct funding and improved program efficiency.

Table 4 indicates the costs of the program by output. For the purposes of clarity, outputs 3, 4, and 5 are listed together as the improvement in the clinic system, logistical and information system are closely interrelated and depend heavily on improving and expanding the services which are currently operational. The other outputs are related to new initiatives in MCH-FP which primarily focus on the partera extension program. The final category lists the contra-

ceptive commodities that are provided through A. I. D. central funding.

1. Training and continuing education in support of the MCH-FP program through the parteras accounts for approximately 4% of program funding in 1976, 6% of funding in 1977, 5% of funding in 1978 and 6% of funding in 1979.

2. The production, stocking and resupply of the health kits in support of the MCH-FP program which will provide basic care for women and children within a population of 720,000 people should account for approximately 25% of program funding in 1976, 13% in 1977, 15% in 1978, and 6% of funding in 1979.

3,4,5 The improved health centers and clinical services to include the expansion to 50 new locations and the additional supporting services for the partera extension system will be utilizing approximately 32% of the funding in 1976, 30% in 1977, 21% in 1978, and 7% in 1979.

6. The educational and training portion of the budget which includes family planning and MCH community educational activities should approximate 12% of the funding for 1976, 10% of the budget for 1977, 7% for 1978, and 13% for 1979.

7. The evaluation of program activities will utilize approximately 2% of funds in 1976, 7% in 1977, 8% in 1978 and 5% in 1979.

8. Contraceptive funding will approximate 25% of the budget in 1976, 34% in 1977, 44% in 1978, and 63% in 1979.

The trends of funding clearly indicate that contraceptive supplies will increasingly take a larger percentage of the budget rising from 25% in 1976 to approximately 80% by 1979. These requirements seem justified by the large increase in outlets that will be provided through the partera program. The GON will provide the major portion of the funds for the manpower requirements of the MCH-FP program, while A. I. D. assistance will be needed for commodities and program innovations.

C. Social Analysis

Nicaragua is a sparsely populated country in relationship to its land area. This leads many governmental leaders to underestimate the importance of FP services as a major component of MCH-FP services. Family Planning services are generally accepted by all governmental officials, but every few are open supporters of these services. This is partially related to the influence of pressure groups and opposition party propaganda, but it also results from a lack of education and understanding of the long range implications of unrestrained population growth and of family planning activities. Officially, the Catholic Church has begun to take a more realistic view of the value of family planning services and has engaged in a dialogue with ADN affiliated organizations on the prospects of providing a full course in sex education to every couple that is to be married. Artificial contraception would be included in the course but not recommended as the birth control method of choice by the Church.

The opposition press often uses sensational or controversial news on the negative aspects of family planning to influence opposition to family planning services. However, with the recent change in unofficial tenor of the Catholic Church, the frequency of anti-family planning news has quietly subsided.

There are some misgivings among health professionals which are related primarily to the community distribution of basic medicines and contraceptives. These misgivings, however, are based primarily on the change in relationship and alteration of the jurisdictional activities that traditionally have been within the realm of the physician or health center. These misgivings tend to ignore, to the detriment of the campesino, the paucity of health care available in the rural area and the gravity of the health problems which face the rural population.

The general health situation of Nicaragua has been well documented in the "Background" section. More detailed information is available in the Nicaragua Rural Health Sector Assessment which is available in AID/W. For MCH-FP the most important factors are a maternal mortality rate above 230/100,000, and infant mortality rate above 120/1000 and the fact that approximately half of the population is below 15 years of age. In a typical rural village, fertile women by

age 44, will have experienced an average of approximately 12 pregnancies, 11 live births and will have 8.5 living children. This trend is moving downward but is still very prevalent. These statistics, however, do not convey the real problems surrounding the difficulty of life in the rural area or the ignorance of the rural population towards very basic health practices which could improve their health status.

The rural population is generally Mestizo in origin and as a result practices a mixture of Indian and colonial-Spanish medicine. The literacy levels achieved through two years of elementary school are limited and some 700,000 rural dwellers are estimated to have per capita annual incomes below \$120/year with commensurately low levels in the quality of life they lead.

Over 56% of all children suffer from measurable degrees of malnutrition and the mothers of these children often suffer from protein/calorie, iodine and iron deficiencies. In conjunction with practical education relating to the health benefits of child spacing and nutritional requirements, the promotion of family planning and the hydration of seriously dehydrated children, as proposed in this partera program, responds to a very real and critical demand. Furthermore, rural women have a real interest in the spacing of their children and have accomplished this, in part, by prolonged nursing and, often, by seeking abortion. Complications of abortion (bleeding, infection and uterine perforation) are among the leading causes of hospitalization in Nicaragua, and exact their prices in human suffering and high costs of medical care.

Parteras will be in intimate contact with the most rural of all Nicaraguans, and their understanding and sympathies toward the mythical beliefs and practices of women are vital to the success of any MCH/FP program. A more detailed account of the Nicaraguan social structure is provided in Annex A.

D. Economic Analysis

The \$21.5 million MOH budget for 1975, including health services and environmental sanitation, represents approximately 8% of the total GON budget. The MOH budget has fluctuated over the past 10 years but on the average has increased by about 14%

annually. In terms of real disposal investment potential, the increase is somewhat lower given population growth and inflation, although the latter was not a problem before 1972, since public health expenditures during the preceding period ran between 1% and 2% of the national income.

The benefit cost ratio of improved MCH-FP programs has been well documented in economic and demographic literature. For Nicaragua, a benefit-cost study has just been completed which demonstrates the importance of family planning activities at the macro-economic level. The following statistics are a summary of that document which was jointly prepared by U.S. and Nicaraguan Bureau of Census personnel in November 1975.

1.	Population predominantly dependent	51%
	a. Less than 15 years	48.1%
	b. Greater than 65 years	3.0%
	c. Dependency rate	1.045
2.	Average age of the population	21.28 years
3.	Population Growth Rate(1970-1980)	3.388%
4.	Populating doubling	21 years

5. Average savings in education and health services attributable to family planning (The following output represents medium schedule; others were high and low schedule of investment).

	<u>1976</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>2000</u> ^{1/}
F. P. Investment	1.05 *	1.77	2.11	2.34	2.08
Savings realized in health and education only	3.3	13.1	27.4	45.0	108
Benefit-Cost	3.1	7.1	12.9	19.3	38.8

* Figures in millions of dollars

^{1/} Source: "Savings to Nicaragua from Family Planning 1970-2000" by Roger Even Bove.

The above figures clearly indicate the economic benefits of family planning on the macrolevel. The benefits at the micro or family level were made obvious at least for the urban population in the "Family and Fertility, 1975". Approximately 55% of those women wanting to limit their family size (approximately 49% of the total responding) stated that they wished to do so because of economic reasons.

It is apparent from the above analysis that the GON stands to gain considerable economic benefit from limiting population growth and that a significant number of families perceive economic and social benefits from fertility control, besides the obvious advantages of improved child health, in terms of family expenditures and loss of parent productive hours. The effective implementation of this program will provide considerable economic advantages for the GON and the individual family.

IV. IMPLEMENTATION PLANNING

A. Administrative Arrangements

The MOH is the implementing agent for the project. Its internal administration for this project will utilize a full-time project director and staff which includes an administrator, accountant, MCH-FP educator, social worker director, medical supervisor, three regional MCH-FP educators, and eight regional social workers-promoters. These workers will be assisted by the chief nursing supervisor, a training team of nurses, and the nurses of the rural health centers. The resupply will be done through the presently established family planning supply channels which have sufficient capacity to assume this additional responsibility.

USAID will coordinate this program through its Health and Family Planning Division and assign a full-time specialist in family planning activities to work with the MOH. Consultant assistance using centrally funded Population Office personnel will be utilized in administration, epidemiology and MCH-FP training techniques to improve the quality of the program.

With the help of the proposed technical assistance and personnel assigned to monitor the project, the MOH should be capable of adequate program implementation and evaluation.

B. Implementation Plan

Implementation of the "partera" phase of this project will concentrate on identification and selection of parteras, training, supervision, logistic support, reporting and evaluation.

Identification of parteras started in early January 1976, when the family planning office of the Ministry of Health sent messages to all health centers, municipalities, INSS officials, and other branches of government in rural areas asking their cooperation in taking a "partera" census. This will be the first census of parteras and should be completed by the end of March 1976. Close to 1,500 parteras have already been identified. The partera census will identify the location, the person, and the expressed interest of the partera in participating in the program. Upon completion of the census those parteras selected to participate in the program will be notified and scheduled for training. Planning of the course content of the parteras' training program was started about the same time as the census. The course will be kept as simple as possible and still convey the information to adequately carry out the MCH-FP health care activities. Its content is now being revised and refined by the group selected for this phase of the work. The course of study planned will rely heavily on practical work and demonstrations. Teachers will gear the course to the pace of the parteras, many of whom may have a very low level of education. Instruction will be related to all medications in the health kit and the distribution of orals after identification of contra-indications. Audio-visual materials have already been selected and refinement of the course content will be a continuous process. The possibility of one trial course is being explored to determine weaknesses and revise course content or methods before courses are started officially.

The schedule calls for the parteras' course to start in June 1976 in five different locations or regions. Twenty parteras a month will be trained in each region or 100 a month. Courses will be taught by three nurses especially selected and trained for this task. No more than one course per month will be offered because the nurses must also attend to their regular work when not engaged in teaching the course. Two additional nurses will be assigned to each course location for observation and practice teaching purposes so that they can relieve the regular teachers and be responsible for the continuing

education of parteras in their area as appropriate. Courses will be staggered so that supervisors and resource people can attend several courses monthly to review progress.

Upon completion of the course, the parteras will be awarded certificates verifying satisfactory completion of the course and each partera will be given a health kit with an estimated 12 month supply of materials. As her supplies are depleted, new supplies will be obtained from the health centers or other immediate contact point from which replenishment supplies are available. Plans call for the parteras to report to the health centers at least once every two months through pre-addressed reporting format or in person to report on their activities and problems. Through these contacts at the health center it will be possible to determine the immediate needs of the parteras and how effective the training course was and what modifications will be necessary in a future course. Health center personnel will be able to identify parteras who have special problems and take care of them on the spot or refer their problem to a supervisor, educator, etc. who will assist the partera in obtaining the proper support.

The reporting system for the parteras is now under preparation. It will be picture oriented so that even personnel with minimal education can use it. It will be tested before the courses start so that the reporting system can be discussed and included as part of the course. Basically, the report should provide information on the type of contraception being used, number of contraceptives distributed, the number of children treated and for what, the number of babies delivered, and basic epidemiological data. Maps and symbols will probably be the basis for this system.

Supervision and backstopping for the parteras will be a crucial part of the program. Personnel from the Family Planning Division assisted by all appropriate branches of the Ministry of Health will have the responsibility to see that all parteras have enough supplies at all times. To ensure this, an administrative warning system will be developed to force supervisory contact with a partera who has not reported or requested supplies within a four-month period. Supervisors of the partera program from the family planning office will maintain a schedule for checking with and visiting health centers regularly. The statistical department, which will design the report for the parteras and health centers, will review reports from the field

for signs of weaknesses and take steps to rectify these weaknesses as necessary.

Plans call for in-service training of parteras at least once a year. Content and length of the retraining courses will be adjusted to meet the needs of the program as identified during the first year of service by the parteras. If a certain number of parteras are identified who could benefit from much more advanced training a special course will be designed for them. Those who undergo further training and who are selected for greater involvement in the provision of health care will be given additional medications.

C. Evaluation Plan

Evaluation of the partera program will be carried on at regular intervals. The first studies will be conducted in 1976 to establish base line information.

These will consist of a sample survey of households (750 interviews) in the target area to identify basic epidemiological statistics, knowledge of basic MCH-FP and nutritional practices and perceived attitudes of the population towards the service of the partera. These will be conducted by a local university and the MOH, and under the supervision of a trained local sociologist with specialization in sampling and survey methods. The survey evaluation will concentrate on a pre and post-program sample of the target population to observe the perceived difference in selected MCH disease prevalence (deaths associated with diarrhea, maternal deaths, fetal deaths, selected gynecological problems, other selected pediatric problems); the attitude of mothers towards the partera, the services provided and general health practices associated with MCH-FP. The evaluation of the simplified record system will provide MCH-FP epidemiological information for comparison with the survey, information on supply and costs of activities, and information on the participation of the midwife in the formal public health system, e.g., referral and assistance of local health centers, health education activities, immunization participation, malaria program participation, etc. The survey will be repeated in two years to identify significant changes in adoption of MCH-FP practices, especially related to pre and post-partum care, infant care and family planning.

Continuous program evaluation will occur through the utilization of the basic reporting system which will be included in each partera's kit. These reporting forms, maps and symbols will provide the minimum amount of information on the epidemiological nature of the environs and the supply status of the kits. This information, which will be compiled by the statistical section of the MOH and integrated with logistical health center referral information and program financial data, will be utilized by MCH-FP section in coordination with the Technical Council of the MOH and the National Health Council to set policy, coordinate internal intra-agency programs and to modify the program activities.

ANNEX A

SOCIAL ANALYSIS

Housing consists primarily of adobe or thatched palm construction divided into two rooms-- one equipped with straw mats and mosquito netting for sleeping and another equipped for daily activities with a wooden bench, water storage, jugs, hanging shelves and lofts for food and a wooden chest for clothes. Daily attire consists of simple cotton home-made clothing for adults and older children and sometimes sandals for footwear. Children under two rarely wear clothes and virtually never wear shoes.

The working day consists of cultivating, by all capable family members, an average of six acres of generally poor agricultural land with crude hand tools and occasionally oxen. The principal cash crops are corn and beans, occasionally supplemented by sorghum, cotton, or vegetables. The campesino experiences a constant battle of trying to accumulate capital for agricultural or dwelling improvement, and few governmental credit agencies prior to the current INVIERNO program have attempted to conscientiously remedy the situation.

The preparation of food and the procurement of adequate water is a time-consuming venture which usually totally absorbs the woman's day. The preparation of tortillas, the gathering of firewood, and the procurement of foods not produced on the farm also adds to this burden. Child rearing is an integral part of the daily activities and usually involves the children accompanying the mother throughout her daily chores. The usually naked children play on the floor of the house or outside in the dirt while the mother goes about her many chores.

The Indo-Hispanic health beliefs are complex and powerful determinants of health practices. The concepts of "hot and cold", bad air, and the evil eye dominate these beliefs. Of the three, the evil eye pertains mostly to infants and requires a ritual of activities to protect the child from sweaty-worked up persons, drunk persons, or malintentioned or malformed strangers.

A recent socioanthropological study of MCH-FP practices in rural Nicaragua by C.G. Strachan revealed many beliefs and practices of pregnancy, child care, menstruation and birth control. The following description of activities were observed in a small rural village of Nicaragua.

Beliefs and Practices Related to Various Aspects of Life:

There is a considerable lore connected with pregnancy and childbirth. Some of the more frequently encountered concepts and practices will be mentioned.

Beliefs and Practices in the Antepartal Period:

The normal daily activities of a woman were little curtailed by her pregnancy. In general, she continued her domestic activities of housecleaning, cooking, washing, etc. Normal activities were believed to be important exercise for both mother and fetus. Limitations were placed only on excessive labor such as lifting heavy items or working long hours in the fields. Discomfort in the latter months of pregnancy likewise limited activities. These practices were scientifically sound, for normal activity maintains muscle tone, good circulation and promotes a sense of well-being.

Caution to avoid accidents such as falling or slipping was also the responsibility of the pregnant woman. Riding a horse was permitted so long as a mother felt comfortable. An ox-cart, on the other hand, was felt to induce labor if ridden during the last couple of months of pregnancy.

Edema, or swelling of hands and feet during pregnancy was recognized by some women to be harmful. These women recognized the need to limit excessive standing and walking, as well as the need to restrict their salt intake. This information had been learned by mothers attending a maternal-child clinic two hours distance from Tonala. Other mothers felt ankle edema was a natural symptom of a good pregnancy.

Scientifically, edema of feet and ankles is not a normal sign of pregnancy, but occurs due to venous stasis quite frequently at seven months to term in pregnant women, especially if legs stay in one position very long pendulous or crossed. Edema on arising and of tibia, face or hands, or persistent edema may be a sign of toxemia. Salt restriction, more rest, and increased diureses with fluids can all help reduce hazards from edema.

Miscarriages were a frequent occurrence and a fearful experience. Ten of 23 mothers interviewed had experienced at least one miscarriage; two mothers as many as four. Miscarriages were believed to result when a pregnant mother was debilitated, or lifted heavy items or underwent a strong emotional experience. An example of the latter was susto, or fright, from one's home burning or a close relative dying. Recurrent miscarriages were believed to be caused by a slippery uterus (caída elisado, no hay fomentación).

Special attention was given to a woman with a history of recurrent

miscarriages. If finances were available she was given injections of iron, vitamins and calcium by a curandero (lay healer). These medicines were most frequently obtained over the counter at a pharmacy and then taken to the curandero for his administration. Care was taken to rest more frequently and to avoid lifting heavy things.

The hygiene of the pregnant woman was considered important. Women reported bathing more frequently; at least once a day, to maintain themselves clean and fresh. Pregnancy was considered to be a hot condition and thus in this case, the Hippocratic principle of opposites prevailed-- freshness or coolness was desirable.

Nutrition was theoretically important for the pregnant woman and fetus. Women usually stated that ideally a pregnant woman should eat meats, vegetables, fruits and milk. However, in practice, these women stated they ate only what was seasonally and economically available. For most, this meant a diet primarily of corn or rice, with meat perhaps twice a week and fruits and vegetables three times a week. Cuajada was the principal source of calcium, as milk was rarely consumed by adults.

There were some foods which were believed to cause side effects and were frequently limited in quantity during pregnancy. Foods which caused gas or colic were believed to be beans, rice, yuca, bananas, plantains, and guineos. All of these were very commonly eaten foods and were often the more easily-obtainable foods. Foods which caused acidity and burning were believed not only to irritate the stomach but also, by some women, to cause a thinning and weakening of the blood. Nausea was sometimes believed to be caused by eating eggs. In general, these foods were limited only when they were felt to be responsible for a discomfort.

Because pregnancy was considered a hot condition, some women believed very hot foods were harmful. On the other hand, cold or fresh foods were considered especially good; for example, fruits and vegetables. Inconsistent with this belief was the belief that fresh fruits, if eaten in excess, might cause the fetus to acquire a cold illness, such as a respiratory infection.

Antepartally, sexual relationships were believed to be good. One father stated that sexual relations throughout pregnancy helped keep the glands lubricated, "like keeping a motor oiled", and therefore, he and his wife had sexual relations until delivery unless the discomfort was too great for his wife.

At five months of pregnancy a number of women would start to see a sobadora (massager) who positioned the fetus for delivery. The sobadora was

a lay person who specialized in massaging. She not only positioned the fetus for delivery, but also treated persons with broken bones and unusual swellings.

Labor and Delivery:

Labor and delivery were likewise characterized by numerous beliefs and practices. Approximately 90% of the babies were born at home. Most frequently a mother or mother-in-law or a midwife assisted; men were usually excluded from the birth process. Clean rags and clothing were prepared ahead of time; and during labor, prior to delivery, the woman would take a thorough bath. This practice probably helped the excretory function of the skin and reduced bacterial sources in labor. Natural childbirth took place in a true sense, and acceptance rather than fear of pain was the prevalent attitude.

Some of the practices believed to help speed delivery once labor was in progress were the following:

1. To drink blood of a cock's comb.
2. To place a cord around the mother's pregnant belly.
3. To drink a potion made of whiskey, honey, and common dill herb (eneldo). One disadvantage they mentioned about this potion was that if it was given too early or in too great a quantity, the pregnant woman could get drunk and sleepy, and thus could not help with the labor process.
4. To drink a potion of coriander (culantro) a herb whose action is carminative. This potion probably stimulates intestinal peristalsis, which in turn stimulates uterine contractions.
5. To place a hot place wrapped in a cloth on the mother's abdomen.

Any of these practices was carried out primarily when labor was slow.

There were also numerous practices initiated if at birth the placenta was not spontaneously expelled.

1. To massage the abdomen lightly with fine oil.
2. To place a small amount of salt in each of the mother's palms and instruct her to squeeze her fists tightly.
3. To bring strands of the mother's hair across her face and have her bite them with all her strength.

4. To take a feather (from any species of bird and have the pregnant woman tickle inside her mouth to stimulate the desire to vomit.
5. To have the pregnant woman squat on a basin on top of her cot, and at the same time continue using a feather to simulate vomiting.
6. Another practice to help expel the placenta was to invert the half - burnt wood on the fire (a magical belief).

After delivery of the child, there were numerous remedies recommended for the mother, primarily to clean out the womb or uterus. Some of these preparations were:

1) A combination of honey and fine oil (Five tablespoons of honey and four oz. of fine oil). If the mother had a fever, an aspirin was often added. Or if the mother complained of much uterine pain, a relaxant pill (saridón) was given.

2) Skins of a red avocado or hñoquabo rojo were combined with honey in a potion. This preparation was taken orally every two hours the day of delivery and also was believed to be helpful taken once a day throughout the forty postpartum days. The skins were believed to purify and increase one's blood. The skins of these fruits were red, and this preparation was equated to drinking a cup of blood.

3) Roble, a seed or flowered herb, was also made into a drink and was used to stop vaginal hemorrhaging from childbirth or menstruation.

About half the herbs recommended by Spanish authorities of 500 years ago are believed to be cultivated and used in Latin America today. An analysis of herbal remedies would add much light as to the scientific basis for many of these potions. But because of lack of substantial knowledge about the various remedies, one cannot determine either good or bad effects. However, modern medicines were accepted in conjunction with herbal remedies; for example, the aspirin and the honey and fine oil preparation above.

CHILD CARE

Care of the child at delivery likewise involved numerous beliefs and practices. As previously mentioned, when a baby was born, it was believed that initially he was unable to breathe because his fontanelle (mollera) was pressing on his nose. Thus, the attendant or mother would place her thumb inside the baby's mouth and push on his upper palate; then she would turn him upside down and spank him on his feet. Thus, although the belief was not scientifically sound, the practice perhaps was helpful in getting the newborn to breathe. By pressing the infant's palate the midwife would clear its mouth

of mucus, and would cause him to cry and expand his lungs.

Special care of the mollera, or fontanelle, was taken until the infant was about a year old. Thus when a baby was bathed care was taken not to scrub over the fontanelle area. For this reason, this area in infants was often black and scaly.

At birth an infant was usually left attached to the placenta until the placenta ceased to pulsate. It was then usually cut with scissors which the midwife had soaking in alcohol or by a sharp knife or machete which had been carefully cleaned with soap or ashes and water. A small piece of camphor or lard from livestock (cebo) was then placed on the stump of the cord, and the cord was burned with a match. Camibar, and acid, were also used to burn the cord and were believed to be especially useful in preventing tetanus. Tincture of iodine, mercurochrome, or most frequently fine oil was then applied to the stump, and then it was wrapped with small clean strips of rags. 70% of the infants who died in the neonatal period were reported to die of tetanus. Thus, the technique employed in caring for the umbilical cord is hazardous to the lives of the newborns.

Usually for at least 24 hours postpartally the infant was not put to breast. Instead, the infant was given a mixture of honey and fine oil on a rag or rubber nipple. A little garlic was sometimes added to the honey and oil to "heal the umbilical cord and prevent tetanus." Some mothers also gave their infants an ounce or two of water. This water was usually not boiled, but simply warmed.

Although practices in caring for the newborn did vary within the colony, the practice of feeding honey and oil and warmed water was fairly common. Both of these are obviously possible sources of infant infection- contamination from the water, or contamination from dirty rags and nipples or the high sugar intake from the water, or contamination from dirty rags and nipples at the high sugar intake from the honey are all possible sources of infant diarrhea.

Some mothers put their infants to breast immediately after birth, and this practice should be encouraged. It not only provides a safer source of food for the infant but likewise stimulates further uterine contractions and the production of breast milk.

Hygiene practices in respect to the newborn after delivery varied, but the most common practice was a sponge bath to remove blood and mucus. A sponge bath was given daily for seven days, with warm water and fine oil. Sometimes immediately after birth the baby was given a complete bath in

crude oil or raw water, which was neutral in temperature--neither hot nor cold. The practice of sponge bathing allowed for the umbilical cord to heal and fall off.

BELIEFS AND PRACTICES OF THE POSTPARTUM PERIOD

The cuarentena, or first 40 postpartal days, were a period characterized by beliefs and practices, practiced to varying degrees by mothers.

Activities of daily living were definitely curtailed for most mothers after delivery. Almost no housework was allowed. Because of this limitation frequently the pregnant woman was delivered in her mother's or mother-in-law's home, or her mother or mother-in-law would come to her home to visit. Extended families almost always provided the needed assistance, and, if this was not possible, a neighbor invariably assisted.

Many beliefs provided reasons for limiting activities after childbirth. No sweeping was allowed for fear that it would introduce a "bad air" or cause hemorrhaging. Cooking was prohibited because heat and smoke from the fire were believed to stain a mother's face. Washing of clothes was prohibited because a cold air might enter the vaginal canal and settle in the ovaries, causing pain and infection. No ironing or heavy work was allowed, because postpartally it was believed that one's blood was weak and thin.

Thus the delivered woman remained in bed the first three postpartum days and then progressed to normal activities slowly throughout the cuarentena. Most mothers, although up and about, strictly limited their household activities for at least seven days, and when possible for all 40 days.

Normal hygiene was likewise curtailed postpartially. For the first seven days frequent spong baths were taken, using warm water perfumed with romero or lemon leaves. The eighth day was an especially celebrated day as both mother and infant took their first complete bath.

The postpartal diet consisted of three things: tibio, a corn drink consisting of corn, cinnamon and water, cuajada, a milk cheese, and tortillas, a pancake libre bread made of corn.

Postpartally a woman was considered to be in an operated condition, and thus was to avoid extremes of cold or hot. Therefore, the only three foods allowed in the diet were either of a hot or cold quality. Thus, once

again, we see the similarities to the Hippocratic medical beliefs.

Aside from a basic elimination of most foods because of their inherent hot and cold qualities, there were also other reasons for avoiding various foods. Foods which were believed to corrode or poison the blood, causing it to have a fetid rotten smell, were eggs, pork, beans, rice and lard. Cold foods such as pork, young chicken (pollo) and sea foods, were believed to cause pain the ovaries and uterus. Beans and cow's milk, if ingested by the mother, might cause bad breast milk or again might corrode a mother's blood. Bad breast milk in turn was believed to cause the infant to be (enfadado) troubled, or fretful, and colicky.

Other foods believed the cause diarrhea in infants were eggs, meats, and avocados. Cold foods were also believed to cause infant diarrhea.

Sugar and sweets, except for honey, were prohibited. Sweets were believed to prevent the umbilical cord from healing. This was the reason sugar was not added to the "tibio" which a mother drinks. Avoidance of sweets was also believed to prevent gusanillo or monilial infections in the infant's mouths.

Beliefs and practices of the postpartum period can readily be seen to affect both a mother and her child's nutritional status. The postpartum diet revealed an inadequate caloric intake, a multiple nutrient deficiency. Not only was the postpartum diet of the women inadequate, but the many beliefs fostering this diet excluded numerous other nutritional possibilities available to them.

The depth and tenaciousness of the beliefs for the postpartum diet practices were well demonstrated by the following incident: For a couple of weeks, the author, a nurse, had been giving Francisca, "a curandera" in the community, classes relating to numerous health problems of the community; for example prevention and treatment of diarrhea, malaria, and other communicable diseases. Francisca was eager to learn and had requested these classes. One of the classes had been a discussion of nutrition for the pregnant and the lactating woman, and the common postpartum diet had been one area of discussion. About a week later, Francisca's younger sister, Rosario, a 23-year-old mother, delivered her seventh child. The following morning, unknown to the author, Francisca sent her sister a pot of chicken soup. Francisca had made the soup from gallina, a laying hen, as opposed to pollo, a young hen. The former is considered to be a hot meat, and the latter a cold meat. Pollo, a cold meat, believed to be extremely dangerous for the postpartum mother, but gallina, diluted in soup should be less hot than straight roasted or fried

gallina, and thus might possibly be acceptable nourishment for her sister.

Later on that day, the author and Francisca visited Rosario. Rosario not only had refused the soup, but broke into tears as she related her fear of eating the chicken soup. Not even her own sister, a respected "curandera" in the community, could unseat this firmly-held belief and practice.

Sexual relations postpartally were generally prohibited throughout the "cuarentena". The reasons given were to prevent infection, hemorrhage, and flor blanca, a vaginal monilial infection.

BIRTH CONTROL

Almost every adult had heard of the concept of family planning or of measures to prevent pregnancies. However, aside from breast feeding women use a scientific method. In general, discussion of sexual matters and birth control were taboo, especially for women. Information was more easily obtained from men, and perhaps being a nurse, giving medical services, made these discussions more acceptable.

A few women reticently admitted to trying non-scientific methods. 90% of the women approved of the idea and were interested and eager to learn more but wanted this learning to be of a private confidential nature. Men were generally more vocal in their fears and disapproval but seemed more informed about both scientific as well as scientific fears and disapproval but seemed more informed about both scientific as well as scientific methods of birth control. The concept of machismo, or male virility and potency, is a very strong cultural value which influences their ideas and children are the affirmation of a man's potency. Perhaps the fact that scientific methods were most frequently utilized by women was seen as a threat to the male's machismo. As one man stated, "it is better that the man use the form of prevention, because then if there is a child he can be certain it is not this. Thus, he can control the fidelity of his woman and also enjoy greater sexual freedom.

By the time a woman is 34, she can count on having had eight pregnancies. The extreme poverty in this rural area, and the great difficulty in obtaining food made most women and even men desirous of limiting their families. Thus, many unscientific methods to prevent conception were practiced. Some of these were:

1. Various oral potions made from herbs, roots, and leaves.

2. Residual water left on the limestone after sharpening one's machete (agua de molejón) is taken orally.
3. Tubes or probes (sondas) placed in the uterus or vagina.
4. Bullets or BB's taken orally.
5. Black banana soup taken orally
6. Camphor pills taken orally.
7. Aspirin (mejoral) taken orally.
8. Aspirin (mejoral) or other pills inserted into the vagina.
9. Intramuscular injections (unknown name).
10. Swallowing a small piece of lead.

Some of the more scientifically-based methods used were:

1. Condoms
2. Breast-feeding
3. Abstinence
4. The pill
5. Intrauterine devices
6. Coitus interruptus

Menstruation:

Menstruation was likewise enveloped in the belief of hot and cold. In general, activity during menstruation was not greatly curtailed, although it was recommended that one not lift heavy objects or do very hard labor during this time.

Bathing was believed to be harmful, especially in a river or spring. The condl from the water if absorbed into the vagina, was believed to cause pain in the ovaries. Bathing was allowed the first day of menstruation, but not in a river or stream, and thereafter, only sponge bath was acceptable. Small pieces of cloth were worn during menstruation and re-used after washing.

Diet was also somewhat restricted during menstruation. In general, cold foods and acid foods were to be avoided. Cold foods such as pineapple, oranges, lemons were believed to cause ovarian pain. Acid foods or spicy foods were also believed by some to interfere with menstruation by either cutting it short or changing its normal cycle. Foods such as beans, beef, eggs and avocados were believed to cause corrosion of the blood, fetid odors, and gas.

Sexual relations were also prohibited during menstruation, for it was believed that sexual relations caused flor blanca, a vagina monilial infection. Flor blanca was also believed to occur if one bathes during menstruation.

The extremely bleak realities of life in the rural areas and the relatively few options available for the rural family to improve their health status make the extension of MCH-FP services through the partera a vital step by the government in providing much needed assistance in improving the quality of life of the rural population. If there are initial pressures and misgivings about the scope of the program, a logical and determined presentation of the problems faced by the rural poor should quickly diminish significant opposition. The real misgivings should be on limiting the scope and the support of the activities to be undertaken in the MCH-FP/partera program.



AÑO INTERNACIONAL DE LA MUJER

MAR 18 1976

MINISTERIO DE SALUD PUBLICA
MANAGUA, D. N.

Dirección Cablegráfica: SALUBRIDAD

Nº.....

Marzo 16 de 1976
LOG No. 862041

ACTION: HSD
INFO: 0 DIR

Sr. Emerson J. Melaven
Director (a.i.) de AID.
PRESENTE.

D/DIR
DVP
CONT
CHRON

Estimado Sr. Director:

Por este medio me es muy grato dirigirme a Ud. en atención a su comunicación del 8 del corriente, referente a la clarificación de la responsabilidad de éste Ministerio en el presupuesto del Programa Pro-Bienestar de la Familia para los próximos años.

Como es de su conocimiento éste Ministerio inició sus actividades de Planificación Familiar en el año de 1967, con un presupuesto bipartito; donde el mayor porcentaje era producto de la donación de AID, en el transcurso de los años la contrapartida de éste Ministerio se ha ido incrementando sensiblemente, hasta el momento actual con la inclusión del personal del Laboratorio de Citología Vaginal y de Estadística y Evaluación lo que representa un 46.9% del presupuesto total del Programa para el año de 1976.

Consideramos asimismo que el incremento del aporte del Ministerio continuará en los próximos años, ya que la política de ésta institución es la de ampliar la cobertura de los servicios de Salud Materno-Infantil Integral, estableciendo los servicios de Planificación Familiar en un número estimado de 50 clínicas para el año de 1978. Esta política será factible basado en el hecho de que el Servicio Médico Social Obligatorio ha sido ampliado de seis meses a un año; otro factor importante será el servicio otorgado por las enfermeras que serán adiestradas en "Cuidados Especiales de la Salud de la Mujer", lo cual permitirá que el proyecto de "Adiestramiento de Parteras Empíricas" cumpla los objetivos trazados.

Me permito señalarle que de acuerdo a los Convenios firmados entre su Agencia y éste Ministerio, AID. continuará asumiendo la responsabilidad del costo de los materiales anticonceptivos, al igual que nuevos Inyectivos y adiestramientos, como el "Proyecto de Parteras Empíricas", por lo tanto al estar implícito no ha sido incluido en las proyecciones presupuestarias.

P A S A N.....

V I E N E N.....

Sr. Emerson J. Melaven
Director (a.i.) de AID
Pág. #2

0957

En base a las consideraciones anteriores presento a Ud. el siguiente plan de absorción de presupuesto ampliado hasta el año de 1979, tomando como punto de partida la proyección del presupuesto de 1976, estimado en US\$ 453.745 en el que a AID corresponde el 53.1%; como Ud. puede apreciar el aporte de AID tiene un decremento anual del 25%.

FINANCIAMIENTO PPBF. SEGUN ORGANISMOS 1976-1980

FUENTE DE FINANCIAMIENTO

<u>AÑOS</u>	<u>COSTO TOTAL</u>	<u>AID</u>	<u>MSP</u>	<u>%DEL M.S.P.</u>	<u>%DE INCREMENTO MSP.</u>
1976	\$ 453.745	\$ 240.823	\$ 212.922	46.9 %	
1977	453.745	180.618	273.127	60.2	28.3
1978	453.745	120.412	333.333	73.5	22
1979	453.745	60.206	393.539	86.7	18.1
1980	453.745		453.745	100	15.3

No omito manifestarle que el esfuerzo de éste Ministerio considerando las limitaciones presupuestarias es el reflejo de la prioridad dada a éste Programa, por lo cual estimo Uds. estarán de acuerdo con el presente plan.

Sin más a qué referirme quedo de Ud.

Atentamente,

Adán Cujum
Ministro de Salud Pública



AC/mj.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

ANNEX C

ANNEX C

Life of Project:
From FY 70 to FY 1979
Total U.S. Funding 1,858
Date Prepared May 27, 1976

Project Title & Number: FAMILY PLANNING SERVICES 524-0139

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																																											
<p>Sector Goal:</p> <p>a) Reduce the national fertility rate and improve the health level for women and infant children primarily in the rural areas of Nicaragua.</p> <p>b) Approximately 25% of the fertile age women actively contracepting with decreased maternal and infant mortality & morbidity.</p>	<p>Measures of Goal Achievement:</p> <p>1) Crude birth rate reduction from approximately 45/1000 to approximately 35/1000 by 1980.</p> <p>2) Total number of active users of family planning services in the organized program (000):</p> <table border="1"> <tr><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td></tr> <tr><td>36</td><td>50</td><td>75</td><td>110</td><td>132</td></tr> </table> <p>3) Decreased (a) infant and (b) maternal mortality ((a) per 1000 (b) per 100,000):</p> <table border="1"> <tr><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td></tr> <tr><td>125</td><td>120</td><td>115</td><td>105</td><td>100</td></tr> <tr><td>200</td><td>190</td><td>180</td><td>160</td><td>150</td></tr> </table> <p>4) Approximate number of deliveries attended by midwives yearly who will receive family planning information/motivation (000 a):</p> <table border="1"> <tr><td>1976</td><td>1977</td><td>1978</td><td>1978</td></tr> <tr><td>7</td><td>80</td><td>80</td><td>80</td></tr> </table> <p>5) Approximately percentage of fertile age women as active users of family planning services:</p> <table border="1"> <tr><td>1976</td><td>1977</td><td>1978</td><td>1979</td><td>1980</td></tr> <tr><td>11</td><td>16</td><td>23</td><td>27</td><td>30</td></tr> </table> <p>6) MOH/FP will have the capability to conduct studies, surveys, and research on family planning activities.</p> <p>7) Approximately 720,000 people will have access to MCH/FP services delivered through midwives (parteras).</p>	75	76	77	78	79	36	50	75	110	132	75	76	77	78	79	125	120	115	105	100	200	190	180	160	150	1976	1977	1978	1978	7	80	80	80	1976	1977	1978	1979	1980	11	16	23	27	30	<p>1) Census information</p> <p>2) National/sample surveys and studies</p> <p>3) Extrapolation from contraceptives use data</p> <p>4) Compare population projection data from various sources with data from MOH and other agencies providing MCH/FP services. Special sample if results unclear or unsatisfactory.</p> <p>5) Special study on private sector users.</p>	<p>Assumptions for achieving goal targets:</p> <p>1) The GON will continue to place emphasis in its development programs to rural health problems, including MCH/FP (activities).</p> <p>2) Rural Nicaraguans can be motivated to seek MCH/FP services.</p> <p>3) Resources from Pathfinder, IPPF, FPIA, other donor agencies are available to carry out proposed and on-going family planning activities which complement direct funded programs.</p> <p>4) Private sector usage continues to increase or at least maintained at present estimated level of 30,000 acceptors.</p>
75	76	77	78	79																																										
36	50	75	110	132																																										
75	76	77	78	79																																										
125	120	115	105	100																																										
200	190	180	160	150																																										
1976	1977	1978	1978																																											
7	80	80	80																																											
1976	1977	1978	1979	1980																																										
11	16	23	27	30																																										

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PROJECT DESIGN SURVEY
LOGICAL FRAMEWORK

ANNEX C

ANNEX C

Project Title & Number: FAMILY PLANNING SERVICES 524-0139

Life of Project: _____
From FY TQ to FY 1979
Total U.S. Funding 1,858
Date Prepared May 27, 1976

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Purpose:</p> <p>To provide improved family planning & maternal child health services through traditional (health centers) and non-traditional (community based parteras) means.</p>	<p>Conditions that will indicate purpose has been achieved: End-of-Project status</p> <ol style="list-style-type: none"> 1) Improved & expanded family planning & maternal child health services being provided in all government health centers on an integrated basis. 1.1 Approximately 140 health centers in the country offering family planning services - MOH 125, INSS-8, ADN-6, and HMG-2. 1.2 Health centers providing referral services for patients referred by parteras, and supervision counselling & supply of parteras. 1.3 Approximately 60,000 active users enrolled in family planning through health centers. 1.4 In-service training/education an established function of agencies involved in family planning. 1.5 A system in place, at all family planning delivery points handling referrals of F.P. acceptors, to appropriate advanced techniques/services. 1.6 Approximately 1,800 parteras providing MCH/FP services; approximately 43,000 active F.P. users; approximately 50-60,000 under four children provided basic health care; attended by midwives. 1.7 Approximately 500 active contraceptors per average health center. 	<ol style="list-style-type: none"> 1) Site visits 2) Staff assignment records & salary schedule 3) Training records 4) Annual, quarterly, and monthly statistical reports reflecting parteras, clinic, and total program activities. 5) Curriculum, lesson plans 6) Project documentation - Pro-Age PIO/C, etc. 	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> 1) Family planning services will be introduced to 64 additional clinics. 2) That up to 2000 parteras agree to participate in the program & the dropout rate is no more than 200. 3) Agencies involved in family planning continue support for promotional activities. 4) Approximately 15 doctors trained in advanced techniques of fertility control through AVS for development of low cost to patient of surgical contraception in 11 hospitals & performing approximately 500 female surgical services yearly. 5) Vasectomy accepted as a means of contraception and approximately 100 surgical services performed yearly. 6) Contraceptives services/supplies available on a low or no cash basis to acceptors 7) Staff & client dropouts have been anticipated in projected training need computations so that shortages are avoided. 8) Parteras recognize value of FP services offered through this MCH/FP clinic program. 9) Rural population will utilize services of parteras in MCH/FP 10) MOH will give appropriate support to parteras segment of program permitting distribution of orals without initial prescription or medical examinations.

- 00 -
PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

ANNEX C

ANNEX C

Life of Project:
From FY TQ to FY 1979
Total U.S. Funding 1,858
Date Prepared May 27, 1976

Project Title & Number: FAMILY PLANNING SERVICES 524-0139

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Project Outputs:</p> <ol style="list-style-type: none"> 1) MOH incorporates family planning services in additional health centers through the country. 2) Graduates from Medical School receive family planning training. 3) Up to 2000 parteras trained in MCH/FP. 4) Curriculum established and in use to train and up grade parteras and other personnel. 5) IEC materials available for training and promotion of family planning. 6) System in place for reporting and evaluation of clinic and partera activities. 7) Contraceptive supplies available. 	<p>Magnitude of Outputs:</p> <ol style="list-style-type: none"> 1) Ministry of Health will introduce FP services to 26 additional Health Centers in 1977, 30 in 1978 & 8 in 1979 for a total of 64 new service points. 2) On the average, 3 graduates from the Medical School will receive training in family planning yearly. 3) The number of parteras trained each year will approximate 200 in 1976, 700 in 1977, & 1100 in 1978 for a total of 2000 through 1978. 4) Curriculum for initial 5-6 days training course for parteras approved & in use. 5) Education/motivational material (pamphlets or comic-book type booklets) will be produced locally or purchased from RIAC: 9 different type messages, 10,000 copies each. 6) Three full time employees & a secretary in operation at the Statistical Division to prepare and analyze statistical reports. 7) Each Health Center will employ at least an auxiliary nurse trained in MCH/FP. Some Centers have an auxiliary nurse, a registered nurse & a physician, depending on the location & size of clinic, & the population served. 8) All Health Centers will have at least a two months supply of contraceptives available. 	<p>Actions will be verified based on site field visits, routine administrative reports, special reports & studies, program documentation, training plans, observation of courses and consultant reports.</p>	<p>Assumptions for achieving outputs:</p> <ol style="list-style-type: none"> 1) The GON will designate approximate resources to expand F.P. services as planned during the life of the project. 2) Budget for GON MCH/FP activities reflect financial resources to operate & maintain MCH/FP programs. 3) Resources from international donors or regional AID contractors e.g. DAI, are available for training purposes in support of the program. 4) Evaluation systems will operate effectively & play an important role for program implementation. 5) Trainable people available as required & will be assigned commensurate responsibilities & salary. 6) Midwives & local health center personnel will work cooperatively in support of the program. 7) Staff & clinic personnel remain stable & thereby avoid shortages. 8) That AID will provide the proposed funding & have the institutional capacity to provide sufficient technical support for the project. 9) Political stability will prevail in the country side.

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

ANNEX C

ANNEX C

Life of Project: _____
From FY TQ to FY 1979
Total U.S. Funding 1,858
Date Prepared May 27, 1976

Project Title & Number FAMILY PLANNING SERVICES 524-0139

NARRATIVE SUMMARY							
Project Inputs:							
A.1) AID Bilateral	A.1) Bilateral	TQ	T1	T8	T2	TOTAL	
Commodities	Commodities for health	50	95	95	30	270	
Local Training	Centers and Operation						
Salaries	Central Office						
Other Costs	Training (in-service-doctors, nurses, parteras, etc.)	45	60	78	30	213	
	Salaries for Central Office & Regional Staff & Other Costs	--	202	142	95	439	
	Evaluation/Surveys	5	40	50	20	115	
		100	397	365	175	1,037	
A.2) AID/W Contraceptives	A.2) Orals	30	150	141	200	521	
	Condoms	1	50	149	109	309	
		31	200	290	300	821	
A.3) Intermediaries	A.3)						
1. International Planned Parenthood Federation	1 IPPF-Assistance to Nicaraguan Demographic Association for contraceptives, medical & surgical supplies, audio-visual equipment, office equipments & training of empirical midwives, who do community base distribution. Amount for future involvement to be negotiated regarding community base distribution.						
2. Pathfinder Fund	2 Pathfinder-Assistance in the past for operational costs of five clinic in Managua. Future involvement to be negotiated.						
3. Family Planning International Assistance (FPIA)	3 FPIA-Possibility of joint effort to promote F.P., motivate the public, and distribution of contraceptives - to be negotiated.						
4. World Education Inc. (WEI)	4 WEI-Possibility of joint effort to promote F.P., motivate the public, and distribution of contraceptives -to be negotiated.						
5. Association for Voluntary Sterilization (AVS)	5 AVS-Plans to assist one clinic to expand/improve sterilization in Managua. Possibility of assistance to other sterilization Centers.						
6. PIEGO	6 BUCEN/CDC-Assistance on TDY basis related to statistical reports, surveys, etc.						
7. BUCEN/CDC							
B. CON/MOH	B. CON *	T2	T6	T1	T8	T2	80
1. Personnel & Other Costs	1 Salaries	110	128	206	267	327	386
	2 Contribution in-kind	52	67	67	67	67	67
	* Increase CON contribution is for the clinic based F.P. program and reflects yearly increased assumption of salary and other costs for the program. This figure does not include contributions in-kind & personnel for approximately 64 clinics scheduled to be involved in providing F.P. by the end of the project.						

additional

FIRST DRAFT

CLASS PLAN FOR EMPIRICAL
MIDWIVES TRAINING PROGRAM

TOPICS	EDUCATIONAL OBJECTIVE	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES
					TEACHER'S	STUDENT'S		
1. The midwife as an important member in the community, and her coordination with the health services.	Midwife must be able to point out steps for coordination with health resources. <i>(should be very simple, just the basic answer about the time)</i>	1.1 Information on the community health services. 1.2 Midwife ways of orienting the community as to the adequate use of this resource. 1.3 Ways of identifying their health problems and their timely report to corresponding officials. 1.4 Midwife's responsibilities of maintaining a health domestic and comunal environment. Personal habits & social behavior.	Talks Group discussions	Flipchart containing community's health resources. Blackboard Film on comunal development.	Planning the classes. Preparation of didactic. Watch the movie before its projection. Motivation Class Development. Timely use of materials. To promote group participation Obtain conclusions	-To listen -Make notations, and questions	2 hours	-Nurse -Inspector -Auxiliary -Educator
2. Reproductive system basic anatomy & physiology.	Midwife must be to describe reproductive organs' functions. <i>Mostly a very basic introduction.</i>	2.1 Masculine & femenine reproductive organs. 2.2 Simple description of male & female reproductive organs.	Dialogue	Visual aids Pelvis Film Slides	To plan the class Prepare material Watch movie before projection. Inquire about knowledge on subject.	Point out visual aids Ask questions	2 hours	

TOPICS-	EDUCATIONAL OBJECTIVE	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES TEACHER'S	STUDENT'S	TOTAL OF HOURS	TECHNICAL RESOURCE:
		2,3 The way a woman becomes pregnant.			To complete ideas and bring forth new ones. Make the students point out female reproductive organs.			
3. Pregnant woman's care.	<p>To identify pregnancy's normal levels, and measures that should be taken in complicated cases.</p> <p><i>Concentrate on basic demonstrations using IV sets.</i></p>	<p>3.1 Notions on pregnancy symptoms & signs of pregnancy. Growth of child in womb. 3.2 Hygiene during pregnancy. Importance of medical control on nursing and laboratory. Hygiene habits; food; recreation; corporal cleanliness alcoholic beverages, smoking. 3.3 Ways of detecting symptoms and signs of complications during pregnancy. Edema, migraine, blurry vision, persistent vomiting. Vaginal hemorrhages and abnormal secretions. 3.4 Midwife responsibilities in high risk cases; menorrhoeas in 20year old primiparity (first pregnancy) multiparity; pregnancies or deliveries with pathological history.</p>	<p>Dialogued Talks</p> <p>Dialogued Talks</p>	<p>Atlas</p> <p>Family group poster Presentation of food basic group Food, etc... "Reproducción Humana Film"</p>	<p>Recap. on how a woman got pregnant. Visual Aids adequate use. Explanation on films. Post film discussion. Questions about experiences on pregnant women attention.</p>	<p>To make notations. To ask questions. Narrative on experienced. To conclude on film. Answer questions.</p>	2.30 hrs.	<p>Nurse</p> <p>Nurse</p>

TOPICS	EDUCATIONAL OBJECTIVE	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES
					TEACHER'S	STUDENT'S		
4. Work during childbirth, and attention required in each phase.	Midwife to be able to describe steps to be followed in each one of childbirth phases, importance of hygiene and cleanliness, umbilical cord, correct ligature, and care.	4.1 Childbirth phases <u>1st. Phase</u> Signs and symptoms indicating working childbirth.	Dialogued Talk	Pelvis	Questions on what they know on signs and symptoms about childbirth.	To participate in dialogues.	4 hours	Nurse
	<i>Demonstration . . .</i>	4.2 Environment preparation. - Room - Domestic equipment - Mother and infant clothing. - Emotional support - Bed disposition 4.3 Preparation of midwife equipment. 4.4 Hand washing 4.5 Kit contents and how to use them. - Paper or plastic bag - Paper chamber pot <u>2nd. Phase</u> 4.6 2nd. Phase signs 4.7 Procedure to be observed by midwife in this phase. 4.8 Mother preparation for childbirth	Talk Demonstration Dialogued Talk	Minimum equipment for mother and child. Water and soap Hand brush Equipped kit News papers or plastic bag Pelvis	Complete and amplify concepts. Practice hand washing. Practice on how to order equipment. Make bag and chamber. Ask group on their knowledge of 2nd. phase signs. Point pelvis in childbirth mechanism.	Answer questions. Make notations.	5 hours	
		4.9 Childbirth attention Newborn immediate care.	Demonstration. Demonstrate how to make child breath Mucous aspiration. Cutting and ligation of umbilical cord.					

TOPICS	EDUCATIONAL OBJECTIVE	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES	
					TEACHER'S	STUDENT'S			
4.1 Mother and newborn care, immediate to labor's 3rd. phase	Midwife must be able to describe steps for mother and infant care, immediate to labor's 3rd. phase. <i>Demonstrations . . .</i>	3rd. Phase							
		4.10 Required care by mother on this phase.	Dialogue	Ask what care she gives woman during this phase.	Reinforce cases not clear to midwife.	Make questions	1 hour		
		4.11 Subsequent care after placenta has gone out.	Talk						
		4.1.1 Infant care, ways of applying eye prophylactic.	Demonstration	Plastic baby Eye care and temperature equipment.	Necessary and logical steps for infant and mother care.		2 hours		
		How to clean the body; weigh him; and take rectal temperature.	Talk		Group motivation assurance that what has been taught has been learned.	Repeat demonstration.			
		Observation of abnormalities.		Baby's clothing	Ask for return demonstration.				
		How to dress, cover and breast-feed infant.			Ask on abnormal symptoms known to her.				
		4.1.2 Mother's vigilance symptoms requiring immediate medical attention	Talk		Reinforce and develop knowledge.				
		What must be done before physicians arrival.							
		4.1.3 Midwife's equipment further care.	Demonstration	Equipped kit					
		4.1.4 Instructions to mother, and person taking care of her.	Talk						

TOPICS	EDUCATIONAL OBJECTIVES	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES
					TEACHER'S	STUDENT'S		
5. Mother and infant care during puerperium.	Midwife must be able to describe mother and newborn hygiene and timely reference of both to Health Center.	4.1.4 How, when, where childbirth must be reported.	Demonstration	Report			1 hour	
		Baby's registration 5.1 Post natal vigilance - Mother's hygiene - Normal puerperium - Bed bath - Perineal hygiene - Food - Breast check - Uterus size and hardness. - Signs and symptoms of complications during puerperium.	Demonstration	Mother's bath equipment.	Description of logical steps in each procedure.			
6. Premature newborn and his needs.	Midwife to establish difference between a premature infant, and a normal one, and steps to be followed in premature cases.	5.2 Newborn vigilance - Bath - Breast feeding fomentation. - Mouth, nose and body revision.	Talk		Presentation of equipment.		1.30 hrs.	
		5.3 Signs and symptoms indicating complications in newborn. 5.4 Mother and newborn referral to health center 6.1 Premature features Improvization of premature unit. Minimum care. 6.2 Conduct by midwife with a premature child.	Demonstration	Plastic baby newborn bath equipment.				
			Talk	Formulario	Questions			
			Demonstration	Minimum equipment to improvise unit.				

TOPICS	EDUCATIONAL OBJECTIVES	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES
					TEACHER'S	STUDENT'S		
		6.3 How, when and where to report premature child cases.	Demonstration.	Reference pgs.				
7. Midwife participation in FP program	Midwife must be able to inform and motivate on the FP pointing out the different methods description and use of pills and condoms.	<p>7.1 FP and its advantages in the family health.</p> <ul style="list-style-type: none"> - Paternal responsibility. - Infant rights - Information on use of pills, IUD, foams, condoms, laparoscope and other methods. Requirements for the use of the already mentioned methods. - Detection of women wishing to plan their families. - Motivate and visit program absentees Woman's orientation on undesirable pill & IUD symptoms Clinics accessible to FP services. - Midwife coordination with clinics for contraceptive methods supplies, pills and condoms for subsequent users, new cases referral, and control to local H.C. 	<p>Dialogued Talks</p> <p>Demonstration.</p>	<p>Visual Aids</p> <p>Pamphlet</p> <p>Posters</p> <p>Comics</p> <p>Movies</p> <p>"Familia Plana"</p> <p>Talks</p> <p>"Que pasó con el otro centavo"</p> <p>"Anillo de compromiso"</p>	<p>Motivate</p> <p>Questions about contraceptive knowledge.</p> <p>Clarify doubts.</p> <p>Reinforce & give new ideas.</p> <p>Interpretation of films.</p> <p>Contraceptive method display</p>	<p>Reserve</p> <p>Participate</p> <p>To cover all methods</p> <p>Notations</p>	7 hours	

TOPICS	EDUCATIONAL OBJECTIVES	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES
					TEACHER'S	STUDENT'S		
8.1 Midwife's minimum functions as community Health Promoter.	Identification of communicable diseases having significance on communal health.	8.1 Recognition of some communicable diseases - Diarrhea - Bronchitis - Intestinal parasites - Malaria - Venereal diseases - T.B. - Preventive measures - Simple medical supplies in cases such as: diarrhea, fever, (malaria), parasites, cough. Timely referral of cases and controls to H.C.	Dialogued Talk	Posters Pamphlets on parasites.	Questions on what they know about subject. Complete & reinforce knowledge	Answer questions. Point out notations.	2 hours	Nurse Inspector
8.2 Motivation on usage of community alimentary resources.		8.2 Aid in forming good nourishing habits in accordance with available resources. - Sewing - Harvest and consumption of domestic orchards. Seeds obtention and distribution in the community. Referral of undernourished children to H.C.	Dialogued Talk Demonstrat.	Cartels Seeds	To present food basic groups.	Questions	1/2 hrs.	
8.3 To orient midwife on what must in first aid cases.		8.3 First aid in cases such as: animal bites Simple fractures Burus Wounds	Dialogued Talk	Healing equipment. Soap and water Simple bandage equipment	To show a normal child & an undernourished one. Ask about their knowledge on theme. Clarify doubt	Answer questions.	2 hours	Nurse Inspector

PPT FORM

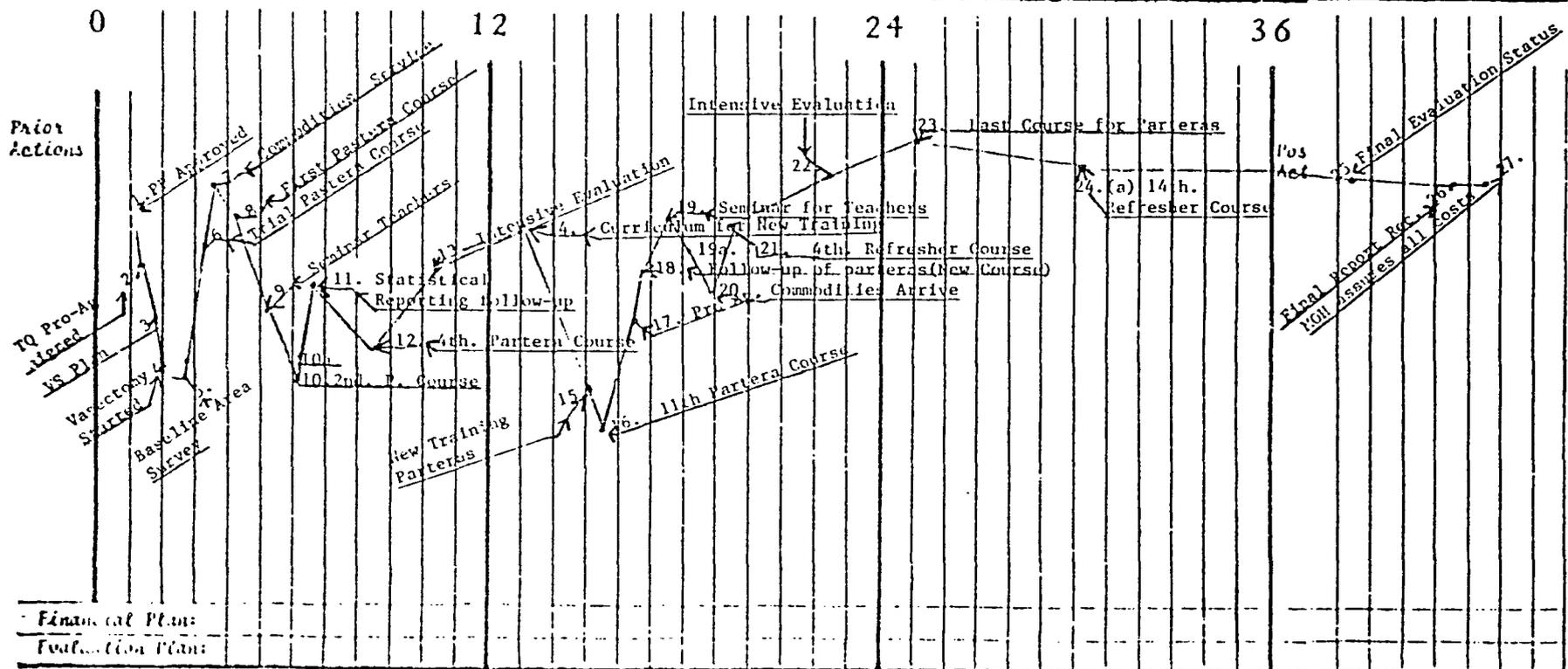
Country:	Project No:	Project Title:	Date:	/ x/ Original / / Revision #	Apprvd:
NICARAGUA	524-0139	FAMILY PLANNING SERVICES	7/1/76		
<u>CPI DESCRIPTION</u>					
<ol style="list-style-type: none"> 1. July 30, 1976 2. July 30, 1976 3. August 15, 1976 4. September 1, 1976 5. October 4, 1976 5a. 6. October 11, 1976 7. November 1, 1976 7a. November 1976 8. November 8, 1976 9. December 1, 1976 10. January 17, 1977 10a. January 1977 11. January 30, 1977 12. March 14, 1977 13. May 9, 1977 14. August 1, 1977 15. October 1, 1977 16. October 10, 1977 17. November 15, 1977 18. November 20, 1977 	<p>PP Approved by AID/W TQ. Pro-Ag Signed Long-range Plans for Voluntary Sterilization Vasectomy Services started (INSS) Baseline area probability (Statistical sample) surveys begin. Trial partera course (20) Commodities arrive Pro-Ag Signed First Partera Course <u>1/</u> 5 locations x 20 =100 Seminar for teachers, Supervisors(partera training) 2nd. Partera Course Ministry assumes greater share of FP costs (\$60,000). Statistical personnel check on clinic and partera reporting system. 4th. Partera Course Intensive Evaluation Curriculum to provide additional training completed. New Training of Pasteras/ replacements 11th. Pastera Course Pro-Ags signed. Follow-up of Particas completing refresher course.</p>	<ol style="list-style-type: none"> 19. December 1977 19a. January 1978 20. January 1978 21. February 1978 22. May 1978 23. August 1978 24. January 1980 24a. January 1980 25. September 1979 26. December 1979 27. January 1980 	<p>Seminar for teachers, supervisors of refresher course. MOH integrates FP in approximately 30 Health Care assume additional cost of prog. Commodities arrive. 4th. Refresher Course 2nd. Intensive Evaluation Last-Course for Parteras (2,000 trained) 14th. Refresher Course MOH integrated 30 additional H.C. and assume another \$60,000 of program costs. Final Evaluation starts Final Report/Recommendation MOH assumes complete costs of project.</p>		

1/ Not all Pastera courses are listed on this CPI due to space limitations.

TOPICS	EDUCATIONAL OBJECTIVES	CONTENT	METHOD	DIDACTIC MATERIAL	ACTIVITIES		TOTAL OF HOURS	TECHNICAL RESOURCES
					TEACHER'S	STUDENT S		
		<ul style="list-style-type: none">- Hemorrhages- What should be done, in cases of bites caused by dogs suspicious of having hydrophobia, with animal & patient.- Referral of complicated cases.		Equipment for burns & small hemorrhages treatment.				

Country: NICARAGUA	Project No: 524-0139	Project Title: FAMILY PLANNING SERVICES	Date: 7/1/76	/ x / Original / / Revision #	PPT appr
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or FY: ← TQ →	FY'77		78		79		86		
CY ← 76 →	77		78		79		86		
Month:	J	A	S	O	N	D	J	F	M



PROJECT PERFORMANCE NETWORK



Department of State **TELEGRAM**

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ORIGIN AID-20

INFO OCT-01 DES-06 /027 R

DRAFTED BY PHA/POP/LA:LREICHER:RP
APPROVED BY A/AID:JEMURPHY
PHA/POP/D:WHBOYNTON (DRAFT)
PHA/POP/LA:CNJOHNSON (DRAFT)
PHA/PRS:CDMCHAKIN
PHA/POP/D:ERBACKLUND (DRAFT)
AA/PHA:FOPINKHAM
AA/LA:HKLEINE
LA/CEN:AMDIÁZ
PPC:JWELTY

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AIDAC, FROM MURPHY TO CULBERTSON

E.O. 11652: N/A

TAGS:

SUBJECT: NICARAGUA FAMILY PLANNING 072

REFS: MANAGUA 2193, STATE 76421

1. DURING FY 76, AID/W HAS APPROVED TWO PROP EXTENSIONS TO THE FAMILY PLANNING PROGRAM SO THAT FY 76 FUNDS COULD COVER ON-GOING EXPENSES THROUGH MAY 31, 1976. THESE FUNDING AUTHORIZATIONS WERE GRANTED BY AID/W IN ORDER TO PERMIT USAID TO PREPARE A NEW PROJECT PAPER REFLECTING STRATEGY DEVELOPED IN RECENT HEALTH SECTOR ASSESSMENT AND DESIRE OF PHA/POP THAT MONEY SPENT ON SALARY AND ADMINISTRATIVE SUPPORT BE SHARPLY REDUCED OVER LIFE OF NEW PP.

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2. PRELIMINARY REVIEW OF PROPOSED PP BY PHA/POP ON MAY 3 INDICATED NEED FOR REVISIONS AND USAID WAS REQUESTED TO RESUBMIT PP. AID/W HAS RECEIVED REVISED PP.

3. AID/W IS SENSITIVE TO THE MANY POTENTIAL PROGRAM AND POLITICAL CONSIDERATIONS WHICH MIGHT ENSUE SHOULD FUNDING BE ALLOWED TO TERMINATE WHILE PP UNDERGOING AID/W REVIEW.

4. AID/W THEREFORE AGREES TO AUTHORIZE EXTENSION TO PROP TO COVER REMAINDER OF CY 1976 ACTIVITIES. AID/W IS SENDING REMAINDER OF FY 1976 OYB ALLOTMENT VIA SEPTTEL BUT ONLY AT A TOTAL FY 76 NET FIGURE OF DOLS 340,000 TO COVER PROGRAM ACTIVITIES THROUGH DECEMBER 31, 1976. THIS ALLOTMENT BASED ON FOLLOWING CONDITIONS:

(A) USAID AND GON MUST TAKE IMMEDIATE STEPS TO REDUCE MONTHLY EXPENDITURE RATE FROM DOLS 33,000 TO DOLS 25,000 FROM JUNE 1 - DECEMBER 31, 1976;

(B) REDUCTIONS SHOULD BE REFLECTED PRIMARILY IN SALARY AND OTHER ADMINISTRATIVE COSTS, WITH SPECIAL EMPHASIS ON CUTS IN MORAVIA MISSION AND ADN COMPONENTS;

(C) USAID SHOULD FORMALLY ADVISE GON THAT AID CONTRIBUTION TO F.P. PROGRAM WILL CONTINUE TO DECLINE AT ACCELERATED RATE, THUS NECESSITATING AN INCREASED FUNDING EFFORT ON PART OF GON; AND

(D) FORMALLY ADVISE GON THAT FUTURE AID FUNDING DEPENDENT ON APPROVAL OF PP AND DEVELOPMENT BY USAID AND GON OF PLAN TO INTEGRATE CURRENT VERTICAL FAMILY PLANNING PROGRAM INTO MDM ON ACCELERATED BASIS.

5. ALLOTMENT FOLLOWS VIA SEPTTEL. ROBINSON

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UNITED STATES GOVERNMENT

Memorandum

TO : PHA/POP/LA, L. R. Eicher
PHA/POP/LA, C. N. Johnson

DATE: June 29, 1976

FROM : PHA/POP/R, C. G. Merritt *GM*

SUBJECT: Expanding Availability of Modern Contraceptives to Traditional Rural Peoples in Latin America; Can Parteras Empiricas Provide Community Distribution?

REF : USAID/Managua Project Paper, #524-11-580-072

SUMMARY

The Project Paper recently submitted by USAID/Managua describes a very novel "integrated" health and family planning delivery program which could greatly expand the availability of modern non-clinical methods of contraception to Nicaragua's rural population. The PP displays a readiness by the Mission and by the GON, MOH to greatly modify the national family planning program emphasis away from a conventional, costly, clinic-based arrangement towards increasing availabilities within rural communities. Further, the PP reflects a commitment to enhance the delivery and acceptance of simple and inexpensive health services, some of which could well have a measurable impact on maternal/child health in that country. That the system proposed might be able to reach much of a population presently without any health or contraceptive services and do so with superior cost-efficiency should greatly strengthen its acceptability to the GON and to AID/W. POP/R strongly endorses this project.

DISCUSSION

Endorsement, however, does not carry with it the conviction that the project is bound to succeed. Indeed, the entire undertaking is highly experimental in several ways. The PP proposes to carefully build a network of non-salaried, traditional midwives--the parteras empiricas--as agents for a quasi-commercial distribution of contraceptives. The centers of these networks are to be the local rural clinics. Services also include diarrhea treatment, somewhat improved obstetrical techniques, and little else. There are several aspects of the program that could fail conspicuously. The chief unknowns all concern the parteras:

- 1) whether they--as representatives of tradition--will typically undertake to promote "modern" birth limitation in the village communities,
- 2) whether the communities will typically accept the parteras in a more general health role, and

- 3) whether the professional and urban-oriented Ministry of Health will be able to engender and sustain the respect and allegiance of these usually illiterate, old, and frequently determined conventionalists of the folk culture.

The main reasons AID/W should support this project in spite of the uncertainties of success (and even promote more like it elsewhere) include:

- 1) the low overall costs, mainly because training and sustaining this system of agents should be quite inexpensive,
- 2) review of the social anthropology and informal wisdom in Latin America concerning what alternatives there are (or, are not) to beginning a system based upon parteras, as opposed to other roles (e.g., curanderas, injectionistas, or pulperia [store] operators) or starting from scratch in the selection of agents,
- 3) a wholesome appreciation for the extent to which a class of antagonistic traditional birth attenders can retard any system for distribution of contraceptives,
- 4) the fact that the proposal has entailed and obtained a specific change in the oral contraceptive prescription policy of the Ministry of Health--a decision which we must unequivocally reinforce in Latin America, and
- 5) the fact that the leading alternative strategy in Nicaragua (as I understand it) is to more or less shut down all AID family planning assistance.

In short, though the uncertainties of outcome are admittedly large in this project, the risks are quite low (both in money and in bureaucratic commitments) and the possible gains in contraceptive utilization and infant mortality/morbidity are very large. Lastly, the project provides AID/W an opportunity to obtain valuable operational research with which to compliment its current spate of world-wide studies on optimizing cost-efficiency of family planning and health delivery.

POP/R interests in the combined delivery of contraceptives and other simple health commodities stem from several motives. Perhaps most important, we must acknowledge that the growing world-wide needs of rural poor for simple health and family planning services may best be met in many instances by an "integrated," low-cost delivery system. During the next decade the allocation of public resources in most developing countries probably cannot exceed \$2.00-\$4.00 per capita annually for all health services. Since most of this average expenditure already is committed to existing urban health systems that reach about 20 percent of the population, the prospects for extending delivery to the majority

on the financial margin are discouraging at best. Few countries can (or will) realistically program those services if they cost anywhere near as much money as do urban programs.

We have been looking at the prospects for developing a very "lean" package for delivery of contraceptives and health medicaments. As most are aware, AID has generally had only moderate success with "integrated," clinic-based delivery of fertility regulation methods. Demands at the clinic for curative services usually overwhelm the best intentions regarding preventive health (including especially family planning), and medical personnel are also, of course, in very limited supply in the campo. Nevertheless, we think it possible that a very simple system of delivery, supported at least in part by consumers, has some chance to break through the organizational obstacles presented by conventional clinical delivery patterns.

Another reason we are interested in testing combined primary health/family planning delivery rests upon the notion that community distributors of contraceptives may be more efficient and effective if they are offering a few useful services in addition to contraceptives. This idea has had many expressions in the debate about "integration" of health and family planning; it may be that consumers feel less awkward about social encounters with providers of mixed services than with providers of contraceptives only. And the providers (community health workers) should have a better opportunity to promote contraceptives among non-user clients, while also obtaining better income supplementation. The Nicaragua project reflects these interests and concepts.

On Using Indigenous Midwives for Family Planning

The reason I stressed above that there are considerable uncertainties in this project and that the major one concerns the parteras is that 1) for the Western Hemisphere, specifically Central America, we simply have no prior research or program experience in family planning delivery based upon use of "unprofessionalized" midwives, and 2) their past and current utilization for family planning in India, Pakistan, Malaysia, Indonesia, Thailand, and The Philippines has by no means been uniformly successful.

An extensive review of published and unpublished documents on the role of traditional birth attenders (TBAs) fails to turn up any material on Latin America. Rogers and Solomon (Traditional Midwives as Family Planning Communicators in Asia [1975]) describe a current program in Mexico but provide no solid data about its performance. Informal evidence from the Population Council (H. Elkins) suggests that an evaluation is pending but that the program is sufficiently different from that proposed in the Nicaragua FP as to limit comparisons. There have also been an increasing number of pilot programs in Latin America (and in North America) in recent years based on use of sophisticated nurse-midwives and/or auxiliary-midwives. Again the data from Latin America

are not yet in on these but all indications are that these people function very well--usually better than physicians--in IUD and oral contraceptive delivery programs. These "midwives," however, are very different from those parteras described in the Nicaragua PP and we should in no way confuse these roles; the nurses cannot form the corps of actual distributors, only the supervision and medical back-up.

Recent experience with the use of these TBAs in several Asian countries suggests that while there is some real potential for expanding the knowledge and use of non-clinical methods of contraception in rural populations by utilizing these indigenous midwives, there are some formidable obstacles. A review of the literature here suggests to the critical reader ample grounds for scepticism about the probable success of a community-based initiative which rests totally or mainly on the TBA.

A Note on the Failure of the "Dai" System in Pakistan (and in India)

Most observers and participants in discussions about the feasibility of using traditional midwives for delivering family planning point with concern to the failure of the Pakistan program during the years 1965-1970. Indeed, that program appears to have been sorely beset by problems, many of which can be attributed to selection of the dai as the main agent for diffusion of family planning. That program was scrapped in 1970-1971 in favor of a system of salaried full-time, quasi-professional field workers, a system which now appears to provide an even more conspicuous and costly failure. A word is in order about the etiology of the Pakistan failure because several useful generalizations emerge and because too much attention has been focused on the failures, obscuring some of the actual successes of the program.

As Everett Rogers has pointed out, only in Pakistan have TBAs been singled out as the main type of agent for promotion of family planning in a national program.¹ How was the decision made which resulted in employment of 37,000 dais by 1970 and principally upon them as delivery agents? So far as we can now determine there were very scanty data in the early 1960s about TBAs as a social group in South Asia, let alone their suitability as family planning agents. One pilot project in a rural thana of East Pakistan had, by 1964, provided some very exciting and promising results which indicated that local midwives with training, regular supervision, and a low remuneration could be quite effective in

1. See two excellent reviews of the Pakistan program by Everett K. Rogers, in Communication Strategies for Family Planning (pp. 108-118), and in Traditional Midwives as Family Planning Communicators in Asia (pp. 24-30).

in delivery of condoms and foams.² Referred to as the "Comilla experiment" in publications, this project began with six (6) villages in 1961 and expanded to twenty-two (22) or more by 1964. Fairly careful quantitative scrutiny by the sponsoring organization, the Pakistan Academy for Rural Development, provided the following results:

- a) family planning adoption by 22 percent of the fertile married women after two years. [Indeed, in one Population Council publication it was reported that "(by 1963) the total participation had risen to 375 couples (out of a total possible of about 871), of whom fewer than 10 percent, had dropped out for one reason or another."³]
- b) an estimated decline in the birth rates of about 18 percent over a five-year period.⁴

The Government of Pakistan very hastily put together a national program in 1965 based largely upon this single trial among a small group of rural Bengali villages. In the full-blown Pakistan government version, several important aspects of the successful pilot were not replicated,

- a) whereas the dais in Comilla were distributing foaming contraceptive tablets and condoms, with some referral to clinics for IUDs, in the national program great emphasis was placed upon IUD referral and little or none on the conventional methods;
- b) whereas the dais in Comilla were provided monthly supervision at the clinic or by a visiting paramedic, in the national program supervision was irregular, reported to be frequently unsympathetic or even punishing;
- c) in Comilla, the dais were allowed to provide some medicines and health delivery, in the national program they were not;
- d) in Comilla, the dais were paid 45 rupees per month, the government later paid them 15 per month;

2. See Khan and Choldin in Berelson, et al., Family Planning and Population Programs, 1966 (pp. 477-485).

3. See Stoeckel and Choudhury in Studies in Family Planning #39, March, 1969 (pp. 14-16); and Khan, in Studies . . ., #3, April, 1964 (pp. 9-11).

4. Stoeckel and Choudhury, in Demography, 4 (1967), (pp. 569-575).

- e) though we cannot be certain about this, it appears that among the Bengali--while certainly not of high caste--the dai nonetheless occupies a position of greater respect in her community than is the case among the Punjabi (where they typically come from the lowest caste, the sweepers).
- f) female supervisors were used in Comilla; the government used males.

There were other reasons why the Pakistan program failed, but the above suffice to make the point: even in South Asia where traditional birth attendants occupy a lower social position in their communities than is the case in most developing countries, they may be utilized effectively as agents for distribution of family planning. Whether their utilization is effective or not depends explicitly upon the quality of their training, the role they are permitted to play in the larger health system, the degree to which incentives are present, whether or not there is regular non-monetary reinforcement (supervision by female, e.g.), and upon the reliability of the logistic system (a pervasive problem in the national program in Pakistan).

In 1971, when the Comilla project was revisited, it was reported to be "still going strong" (Rogers, 1975). This is perhaps the strongest testimony to the proposition that TBAs have been and can be effective agents for diffusion of family planning in rural developing country contexts.

Generating and Sustaining Adequate Performance

The preponderant experience in Asia and in Mexico suggests that TBA/CHWs must be able to expect tangible rewards for work. Programs which have failed to provide remuneration have failed in general. It is not enough to provide the workers with a kit and a badge at the end of the training and expect them to return to their communities as effective health and/or family planning agents. The reason the program in Nicaragua is designed with consumer payments to the worker is that this pattern "goes with the grain of the culture" in the sense that this is typically how rural health commodities and services are currently organized (through the parteras, compradores, etc.) and this presumably can be readily understood by all participants.

An alternative, of course, is to provide the workers with a salary as has usually been the case, but this would undermine or even negate one of the most important principles at stake in the project: that the communities in some way support most costs of the delivery. The MOH probably is not able or willing to reapportion sufficient funds from the (preponderantly) urban, conventional clinical system to maintain salaries in this new rural system, at least not in the beginning. Furthermore,

in initiating a novel program such as this, it is best to begin with a reward structure which can be modified most easily. That is, it will be easier for the MOH to subsequently change its system from one of "commission" to one of "salary" than to go about it in the contrary manner. There is considerable behavioral science evidence to suggest that during periods of acquiring new skills humans (like other species) are most apt to direct behavior towards small, fixed ratios of reinforcement than towards longer (e.g., monthly), fixed intervals of reinforcement. Obviously, in the presence of considerable social rewards and punishments the fixed interval of monetary reward (salary) may be superior. The CHWs, however, will not enjoy this degree of professionalization in training. The social rewards and punishments (supervision) from agents of the larger system will be very "lean" in all senses, the training is to be brief (five days), the groups in training will be large (e.g., 20-25) & the CHWs will initially be linked to the system largely through monthly visits to the nearest rural health clinic (resupply, reinforcement, etc.). Making a profit on the movement of commodities and/or a fee on the provision of services is a natural way to proceed.

Recommended Modifications or Additions to Plan of Action

1. Identification and selection and training of potential community health workers

While all communities allegedly have someone in the role of partera, it is unlikely that the MOH will be able to identify a partera in every community who will be able or willing to perform the simplified, quasi-commercial health and family planning role intended by this program. The parteras are the most likely candidates, but the selection of agents ought not be restricted to parteras only.

In support of this proposition, it should be mentioned that including non-parteras in the training will have the effect of lessening the curricular emphasis on obstetrical skills and increasing the emphasis on the family planning, enteric treatment skills, and household nutritional improvement. In fact, the obstetrical portion of the curriculum could be restricted to the last day or two, or--better--add two days more just for the parteras, while holding joint classes during the early portion of the training.

The program should perhaps be referred to as a rural community health worker (CHW) program rather than a "partera program" while realizing that the proponderant background of participants will be that of traditional birth attendant.

This modification will surely provide for somewhat better population coverage. It will also permit some uncontrolled

comparison of the effectiveness of different kinds of agents. Most important, in the event that parteras do not turn out to be effective (insufficiently aggressive or energetic), the program would not have all its eggs in one basket; such flexibility is prophylaxis against failure.

2. Provision for household canvassing and the CHW "helper"

The training of the community health workers should somehow emphasize the importance of making complete household canvasses of their communities. This is not a typical feature of "professional" health delivery systems but, I think the actual delivery of commodities--achieving the true availability we seek and generating the volume demand for services upon which the economic incentives in this system rest--will be greatly enhanced by this simple, powerful technique for initiating delivery in the community.

A number of models now exist for community distribution of contraceptives only, and the more successful include the house-to-house feature (Egypt, Taiwan, South Korea, Bangladesh). There is no reason to believe that the combined commodity system proposed here will be any different. How this initial household canvass can best be done is a matter for the MOH to decide. I recommend consideration be given to encouraging the health worker to identify a young couple (perhaps from the family or from a previous delivery) as allies in this initial round of house-to-house calls.

The initial visit can introduce the community to the new services available from the worker. It can include a free gift of something like a packet of garden seeds (e.g., the high-protein gandul pea). A rough map of the community should be made. The worker could actually be paid for the completion of the map and the canvass it entailed whenever she returns them to the local clinic. This map will later be useful in a number of ways. The "helpers" will certainly also be helpful over time to many of the older community health workers; they can help during illness and infirmity; they may provide the means for replacement; their inclusion in the "system" should have a statistically significant aggregate effect on utilization rates and performance of the workers. Inclusion of such an element to the system ought to be explicit; names of these "helpers" should be kept at the local clinic along with the roster of CHW names.

CONCLUSION

By some credible estimates, traditional midwives deliver two-thirds of

the babies in the world today (e.g., Rogers, 1975). Conventional systems of family planning delivery, based upon distribution of contraceptives through clinics, now clearly appear unable to provide the motivation or the means for family planning among the largely rural, village peoples of the developing countries. For this reason, attention in recent years has turned toward non-clinical systems of community-based distribution. One of the most important questions regarding the future of community-based distribution in Latin America concerns whether or not TBAs can be utilized. No published or unpublished reports are currently available to provide guideposts for this objective in Latin America. A few reports are available for similar undertakings in Asia which point to certain pitfalls but which suggest that TBAs can be used (Comilla, Malaysia, e.g.).

The argument is advanced in this memo that there exists in most rural areas of Latin America a community role of specialist in birth attendance, the partera; that most of these roles are filled by females of middle-age or older, of low income, who are illiterate but perceived by most members of the communities as being credible, responsible sources of information about fertility regulation, baby care, and sexual behavior. These parteras tend to be of the same socio-economic status and life-style as their neighbors but are accorded perhaps more prestige than most in their communities due to their advanced age, their typical religiosity, and the special skills entailed in birth attendance.

Further, the argument is made that whether or not they are likely to be effective agents for direct distribution of fertility regulation methods, they are quite likely to provide obstacles to such distribution in rural areas if they are not brought into the general movement towards population availability and acceptance of contraceptives. If the latter be true, the underlying question then is whether the effects of engaging parteras in distribution is to have an immediate or a longer-term expression in utilization rates in the rural areas, but that in either event, the undertaking is worthwhile.

Assuming that the parteras can be adequately identified, that they are willing to become allied with the Ministry of Health or other professional agencies of logistic support, that they can be taught the preventive health value of fertility regulation, that they are willing to undertake a few additional health functions, and that commodities are provided in such a way as to permit them to supplement their incomes, this writer believes that the prospects are good that many will become effective distributors of contraceptives themselves and that most of the remainder will at least not provide obstacles to the acceptance and use of contraceptives distributed through other channels (commercially, clinically).

The reader of the Nicaragua Project Paper should also study the consultative report by Dr. James Heiby and Mr. Richard Monteith of the

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Center for Disease Control. They worked with MOH, USAID, and AID/W officials in late March, 1976 on the strategy of the partera project; their conclusions and recommendations further underscore the rationale for supporting this project.

cc: J. Davis, TA/H
J. Brackett, PHA/POP/DEA
J. Sarn, USAID/Managua
J. Heiby/R. Monteith, CDC

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