



CARE Nepal

Child Survival in Kanchanpur District, Nepal

Child Survival XV

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October 1, 1999 – September 30, 2003

Detailed Implementation Plan

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List of Acronyms

ARI	Acute Respiratory Infection
AIDS	Acquired Immuno Deficiency Syndrome
ANC	Ante Natal Care
ANM	Auxiliary Nurse Midwife
BCC	Behavior Change Communication
CBW	Community Based Workers
CDD	Control of Diarrheal Disease
CHO	Community Health Officer
CHE	Community Health Extensionists
CMA	Community Medical Assistant
CS	Child Survival
CV	Curriculum Vita
DCM	Diarrhea Case Management
DDC	District Development Committee
DHO	District Health Office
DIP	Detailed Implementation Plan
DOSA	Discussion-Oriented Organization Self Assessment Program
DPHO	District Public Health Officer
EHP	Environmental Health Project
EOC	Emergency Obstetric Care
EPI	Expanded Program of Immunization
FHE	Family Health Extensionists
FCHV	Female Community Health Volunteers
FM	Local Area Radio Program
FPAN	Family Planning Association of Nepal
HA	Health Assistant
HBMC	Home Based Maternity Card
HIV	Human Immuno Deficiency Virus
HMIS	Health Management Information System
HMG	His Majesty's Government
HP	Health Post
HPMC	Health Post Management Committee
HQ	Headquarters
HS	Health Supervisor
IEC	Information, Education and Communication
IFA	Iron and Folic Acid
IMCI	Integrated Management of Childhood Illness
IMR	Infant Mortality Rate
IPPF	International Planned Parenthood Federation
IUD	Intra Uterine Devices
JJ	Jivan Jal
JSI	John Snow International
KPC	Knowledge Practice and Coverage
LCHSSP	Logistics in Child Health Support Services Project
LRSP	Long Range Strategic Plan
MCHW	Maternal and Child Health Worker
MG	Mothers Group
MMR	Maternal Mortality Rate
MNC	Maternal and Newborn Care
MOU	Memorandum of Understanding
MO	Medical Officer
MOH	Ministry of Health
NDHS	Nepal Demographic and Health Survey
NGO	Non-Governmental Organization

NNSWA	Nepal National Social Welfare Association
ORC	Outreach Clinic
ORS	Oral Rehydration Solution
PAC	Project Advisory Committee
PCM	Pneumonia Case Management
PHC	Primary Health Center
PLA	Participatory Learning & Action
PM	Project Manager
PNC	Post-Natal Care
PVO	Private Voluntary Organization
QOC	Quality of Care
R/R	Respiratory Rate
SCM	Standard Case Management
SHDK	Safe Home Delivery Kit
SHP	Sub-Health Post
SHPMC	Sub- Health Post Management Committee
STIS	Sexually Transmitted Infections
SWC	Social Welfare Council
TBA	Traditional Birth Attendant
TER	Total Fertility Rate
TT	Tetanus Toxoid
USAID	United States Agency for International Development
VDC	Village Development Committee
VHW	Village Health Worker
WHO	World Health Organization

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SECTION 1: PROGRAM DESCRIPTION

A. Field Program Summary:

PVO/Country: NEPAL

Program duration: September 30, 1999 to September 29,2003

1. ESTIMATED PROGRAM EFFORT AND USAID FUNDING BY INTERVENTION

Intervention	% of Total Effort (a)	USAID Funds in \$ (b)
Nutrition	20%	\$ 200,000
Breastfeeding Promotion	10%	\$ 100,000
Control of Diarrheal Disease	20%	\$200,000
Pneumonia Case Management	15%	\$150,000
Control of Malaria	15%	\$ 150,000
Maternal and Newborn Care	20%	\$ 200,000
Total	100%	\$ 1,000,000

2. PROGRAM SITE POPULATION: CHILDREN AND WOMEN (c)

Population Age Group	Number in Age Group
Infants (0-11 months)	10,661
12-23 Month Old Children	9,831
24-59 Month Old Children	32,814
Total 0-59 Month Olds	53,306
Women (15-49 years)	66,630

- Estimated annual number of live births in the site: 12,707
- Source of the population estimates: HMG Ministry of Population and Environment, June 1998 report

B. Program Location

The CARE NEPAL Child Survival XV project is located in the Kanchanpur district, which is in the Far Western Terai, a lowland area. The district shares its southern border with India and occupies an area from 28.33° to 29.8° north latitude and 80.3° to 80.33° east longitude. It is oval in shape and covers a land area of 1,610 square kilometers (163,377 hectares). It ranges in altitude from about 159 meters to 228 meters above sea level. The temperature can reach a high of 42° C in the summer and a low of 14.7° C in the winter. The annual mean rainfall is approximately 155 millimeters. Until fifty years ago, the area was

considered unfit for habitation due to malaria, with only an indigenous population of Tharu in the jungle environment. The malaria eradication program has opened up the area for settlement and today there are more than 343,440 people in the district.

The rural areas are divided into 19 Village Development Committees (VDCs) and a semi-urban municipality of Mahendranagar. Each VDC is further divided into nine Wards, each of which comprises a cluster of 3-4 villages/communities. There are 19 wards in the municipality. The literacy rate of Kanchanpur is 39%. Male and female literacy rates are 41% and 23% respectively. Local self-government structures are present and active from ward to the district level but are dominated by men. There is reservation for 1 women representative in the elected ward development committees but beyond that data from five VDCs show that there is not a single women VDC chairperson or vice-chairperson and even at the ward level there is only one women chairperson in 45 ward.

CULTURAL VARIATION

The population is a diverse mix of ethnic and caste groups. Tharus are the original residents of the area and the others are migrants from the hills of western Nepal or Nepalese populations formally living in Burma or India. The migrant populations began to arrive around 1961 and migration has since continued from all parts of Terai. The entire district has experienced tremendous growth in the last 15 years, with a population increase of almost 5% (compared to a national average of 2.66%) which has transformed Kanchanpur into a multi-ethnic society with rich cultural diversity. Most of the settlements are heterogeneous mix of migrants from different hill areas and original residents. Most of the settlements of Kanchanpur consist of villagers from many hill districts living in close proximity to each other and with Tharus. As a result, there are differing traditional customs and practices related to child rearing and health seeking behaviors.

According to 1999 estimates, Tharus make up 27% of the population. Tharus of the area are divided into Rana Tharus and Chaudhary tharus. The hill migrant castes include Chhetri, Thakur, Brahmin, Magar, Tamang, Newar, Kami, Damai, Sarki, while others are from the southern part of the Terai. CARE Nepal will cover the entire district population but will focus more intensely on the most disadvantaged, such as the landless Tharus, bonded laborers (Kamaiya) and those of low caste (Kami, Damai, and Sarki). Tharus commonly work as agricultural wage laborers paid either in cash or kind. They live at a subsistence level, and only work in the district 3 to 4 months a year during the peak agricultural season. During the other seasons, they migrate outside the district, and sometimes to India, as there are no other employment opportunities available.

Decision making in different cultural groups is different but the role of women (except the older women) in the household is limited. Among the hill migrants it is mainly the husband (house owner) in consultation with the mother-in-law who make the decisions.

Among *Chaudhary tharu* families (large joint families of 20-40 people) all members usually select one person to head the household. The leader of the household is a man in 90% of the cases. The leader of the household sets family norms, which are to be followed by everyone. Even in case of illness he/she decides when and whom to contact. Among *Rana tharu*, the senior most men in the family will make the decisions. Among the Brahmin and Chhetri caste, husbands, in consultation with elder men or women (*Hajur buwa and Hujur Aama*) make the decisions for the family.

There are specific people (*Bhalmansa*, in tharu dialect) at the community level, which influence community opinions. The government had appointed communicators in the community to influence decision making in Tharu areas. The project will attempt to influence these communicators in order to develop healthy community norms.

TARGET POPULATION AND BENEFICIARIES

The target population of the project is 53,306 children under five and approximately 66,630 women of reproductive age.

INTERVENTIONS	TARGET BENEFICIARIES
Maternal Nutrition/Breast Feeding, complementary feeding (women of reproductive age and children under 5)	119,934
Diarrhea Case Management	53,306
Pneumonia Case Management	53,306
Maternal & Newborn Care	66,630 women + 10,661 infants =77,291
Malaria*	119,934 *
Total	119,934

*For health education activities, all VDCs will be targeted but operational research will be undertaken in only three VDCs.

CAUSES OF DEATH AND MORBIDITY

Transportation and communication facilities in Kanchanpur are limited at best. Transportation is virtually unavailable during the rainy season when people walk or are stranded, which further compromises access to health services and leaves residents totally dependent on rural indigenous health providers.

Current health status: According to the 1996 Nepal Family Health Survey (also known as the Nepal Demographic and Health Survey [NDHS]), national figures are:

- ❖ Infant Mortality Rate (IMR): 93 per 1,000 live births nationally, but as high as 124.3/1000 in the far-western area of Nepal for the ten years prior to the survey (NFHS, p. 104).
- ❖ Under-five mortality: 139.2 per 1,000 live births nationally, but as high as 178.5/1000 in the far-western area (NFHS, p. 104).

The 1996 NDHS did not provide data at the district level, but according to the 1991 Nepal Fertility and Health Survey district level data, the IMR for Kanchanpur was 113 per 1,000 live births. The District Health Officer (DHO) confirmed the district-level data for IMR with his own estimate for Kanchanpur of 120/1000 for 1997/98.

Infant and Child Mortality Rates in Far Western Area for the Ten Year Period Preceding the NDHS Survey¹

	Neonatal Mortality	Post-Neonatal Mortality	Infant Mortality (1q0)	Child Mortality (4q1)	Under-five Mortality (5q0)
National	58.2	34.8	93.0	50.9	139.2
Terai	62.7	28.2	90.9	53.0	139.1
Far West	67.3	57.0	124.3	62.3	178.9

Diarrhea, malaria (PUO), and ARI are among the leading causes of morbidity in children. The District Health Office* reports the following diseases as the leading causes of morbidity in the district:

Disease	Number of cases
Skin diseases	16,330
Diarrheal diseases	8,630
Pyrexia of unknown origin (includes malaria)	7,587
Acute respiratory infection	6,870
Worm infestation	4,727
Gastritis	3,611

¹ Pradhan, Ajit et. al., *Nepal Family Health Survey 1996*, Family Health Division, Department of Health Services, Ministry of Health, His Majesty's Government of Nepal, New Era, Macro International, p 104.

Ear infection	3,127
Injuries	2,255
Eye infections	2,107
Abdominal ailments	2,061

(Source: DPHO Kanchanpur HMG for 1998/1999)

*According to baseline assessments about half of the population uses a range of non governmental health service providers and this table represents only those who uses governmental health services

The Maternal Mortality ratio is 539 per 100,000 live births, which is relatively high compared with worldwide figures (NFHS p. 158). Deaths directly related to maternity represent 70.5% of all deaths in women of reproductive age (HMG, DHS, FHD, 1998). Local communities, participants of the NGO federation workshop, members of the District Development Committee and the District Health Office have all mentioned that maternal mortality is a serious problem.

The most common causes of maternal mortality are a result of the lack of emergency obstetric care in the area. Delay in emergency care is caused by a variety of factors, such as lack of knowledge about problem identification, lack of recognition of the seriousness of the symptoms, lack of confidence in the medical system, concern about the distance to be traveled, cost of the services, traditional beliefs and poverty/low socioeconomic conditions. (Thapa 1996)

HEALTH INSTITUTIONS/FACILITIES IN THE CS XV WORKING AREAS

Although the region has experienced massive in-migration and population growth, it has not seen a corresponding increase in health facilities. As a result, communities do not have easy access to treatment and the network of other facilities, such as pharmacies and private providers, is poor. The MOH is the primary provider of preventive health services and curative care is divided equally between the MOH and a network of trained or untrained private care providers (49% according to the baseline survey). According to the Department of Health Services, the Sub-Health Post (SHP) is the first contact point for basic health services. Each SHP is staffed by three categories of health service providers: Community Medical Assistants (CMAs), Maternal and Child Health Workers (MCHWs), and Village Health Workers (VHWs). CMAs are responsible for facility-level activities, while MCHWs and VHWs provide community-based outreach services such as primary health care and home visits. The SHP also acts as a referral center for the TBAs and FCHVs.

This referral hierarchy is designed to ensure that the majority of clients have access to public health care and minor treatment at a price they can afford (DHS, Annual Report 1997/98). The hierarchy starts with the SHP then proceeds to the HP, the PHC, the district hospital, the zonal hospital, and finally the tertiary care centers in Katmandu.

In Kanchanpur, the one zonal government hospital with 50 beds is fairly well equipped, but is grossly understaffed (67% or 64/96 of positions filled) especially in categories of medical officers. There is no obstetrician or anesthesiologist and inadequate drug supplies. Although medicines for preventive health care (deworming, IFA, Vitamin A etc) and first line antibiotics and essential obstetric drugs (cotrimoxazol, ampicillin, amoxicillin, syntocinon, ergometrine, IV fluids) are available, second line antibiotics are in short supply. There are two PHCs, with limited in-patient facilities (3 beds and no laboratory facilities or functioning X-ray equipment). Overall, in the two PHCs, 77% (10/13) of staff positions are filled.

Every VDC has either a Health Post (HP) or a Sub Health Post (SHP) covering a population of 16,000 to 22,000. There are eight HPs, eleven SHPs and two Ayurvedic hospitals. The HPs and SHPs in this district are at the same level and cover separate population jurisdictions, leaving the referral chain with less one link. A HP has five categories of staff: Health Assistant (HA), Auxiliary Health Worker/Community Medical Assistant (AHW or CMA), Auxiliary Nurse Midwife (ANM), Village Health Worker (VHW) and Peon. SHPs have four categories of staff: AHW, VHW, Maternal Child Health Worker (MCHW) and Peon. There are also Female Community Health Volunteers (FCHVs) and Traditional Birth Attendants (TBAs), who are community level volunteers. HPs and SHPs are having 94% positions filled and lack of drugs seems to be the main problem. Access to health facilities is not adequate in the district. Although

waiting time at health facilities is not excessive, travel time varies greatly. Some families in remote villages can access health facility only by foot even that maybe difficult during rainy season. Antibiotics are generally free in MOH facilities, but there are stock-outs about three-fourths of the year.

An MOH investigation found that mothers gave the following barriers to access:

- No one else in the house could assume their responsibilities while they were away from home.
- No money for treatment.
- The health facility was located too far away.
- Mothers inability to identify danger signs or recognize the seriousness of situation .

Subsequently the government focus was changed to train FCHVs and allow them to prescribe drugs

FCHVs

His Majesty's Government of Nepal, Ministry of Health initiated the Female Community Health Volunteer (FCHV) Program in 1988/89 to encourage local female volunteers to help extending primary health care services. Thus, FCHVs are mainly responsible for motivation and education of the community members particularly women on family planning, nutrition, immunization, prevention of communicable diseases, sanitation and personal hygiene. They are also expected to encourage community members for utilization of available health services.

At the beginning, one FCHV was recruited per ward. Later in 1990, it was realized that due to large populations in every ward in Terai districts they were overburdened and the strategy was revised to make it according to population size. With this, one FCHV was to be recruited for 400 population in terai districts, for 250 population in hills and for 150 population in mountain areas. At present the population-based recruitment of FCHV is operational in 28 districts which does not include Kanchanpur.

The FCHVs are selected by the Health Post/Sub Health Post by having a general meeting of mothers in the communities. Usually, married local residents, over 25 years of age and willing to do community development activities voluntarily are selected as FCHVs. Mostly FCHVs have some school education (4-5 years of school). In Kanchanpur very few would be illiterate.

The basic training of FCHVs is given for 15 days using a standard curriculum. After the basic training FCHV are given a set of FCHV manual, sign board and basic drug kit which has to be replenished locally by revolving community drug schemes. Oral Rehydration Solution Packets, Condoms and Pills are also provided.

For follow up training, the HP in charge organizes a two days FCHV Refresher/Review meeting twice a year. In the review meetings their problems and constraints are discussed and future action plan is made. However, practically speaking, this follow up meetings and supervision from VHWs is not happening as planned.

TBAAs

Ministry of Health has planned to provide training to 22,000 TBA in 75 districts. However, in some districts there is no traditional system of having TBAs. TBAs are generally old ladies (>35-40 years of age) who are married/widowed or divorced and had been traditionally providing these services in the communities. In some cases some women who do not attend deliveries have been selected for trainings and the ones actually conducting deliveries are left out. In many cases deliveries are conducted by mother- in-law or relatives and old women from neighborhood who do not normally work as TBA.

Therefore, in the field there are trained and untrained TBAs. The trained TBAs have received a 12 days training focused on the physiology of the reproductive system, development of fetus in pregnancy, infection control, antenatal/post natal care, newborn care, at risk pregnancies, screening for complicated deliveries, referrals etc. They also receive some supervision by MCHW & refresher training form the health/sub health post in every 6 months. Routinely people do not pay for their services under the misconception that they receive allowance and incentives from the government, which in fact is not true.

In general, there should be a VDC for every 4500 to 6000 residents, but in Kanchanpur the VDC serves about 15,000 to 17,000 people. Chitwan, another Terai district with roughly the same population, has twice as many VDCs and SHPs. National norms suggest there should be a community-level health volunteer for every 400 people, yet in Kanchanpur the FCHVs serve an average of 1400 people each.

The following government child survival activities are being conducted in the program area, the first two being the major outreach activities:

- ☞ Outreach clinic/Safe Motherhood (antenatal clinic and postnatal clinic)
- ☞ Immunization clinics (Expanded Program on Immunization)
- ☞ Nutrition (Growth Monitoring)
- ☞ Acute Respiratory Infection
- ☞ Diarrheal Diseases
- ☞ Family Planning
- ☞ Malaria Control Program (mainly Slide Collection)
- ☞ Tuberculosis Control Program
- ☞ Curative services

Every VDC identifies 4-5 locations for monthly outreach and immunization clinics. But these outreach clinics are not held regularly, the attendance of designated staff in them is poor, and the drug supplies are not available. Other services, such as growth monitoring, are provided only at the HP and SHP level. Services such as tuberculosis control are only available at the PHC level.

The Family Planning Association of Nepal (FPAN) and the International Planned Parenthood Federation (IPPF) affiliate have implemented an extensive family planning program in Kanchanpur. Since 1977, their volunteers have provided pills and condoms via community-based distribution. In addition, FPAN provides clinical services, such as Depo-Provera, IUDs and VSC, depending on arrangements with individual service providers.

The Nepal National Social Welfare Association (NNSWA), a local NGO, provides education and treatment of STIs and HIV. The organization is well funded and very active. Action Aid funds their activities in five VDCs for peer education, condom distribution, and a monthly clinic through the District Health Office, which offers counseling, diagnosis, and treatment of STIs. NNSWA also receives funding from the Dutch and Save the Children in two other VDCs for similar programs. They are excited about the prospect of collaborating with CARE to expand MCH services in the district. See letter of support in Appendix III.

The local Nepal Red Cross Society chapter in Kanchanpur is active, emphasizing emergency preparedness and disaster response in this earthquake, flood and drought-prone district. It operates a blood bank at their district headquarters, which is close to the hospital, and sponsors Junior Red Cross units in 36 area schools, to conduct education/extension work in environmental sanitation and personal hygiene. To improve water quality, the Red Cross installed 30 deep tube wells in the Mahendranagar municipality with money donated by the British embassy. The director noted that emergency transport for maternal and child health remains a glaring need in this area.

There are a number of private practitioners in Kanchanpur, but many are self-appointed and untrained. Villagers use their services for curative care equally as much as they use public services. The MOH is the sole provider of health promotion and preventive care services, and coverage rates are poor.

C. Baseline Assessments

The major baseline data collection activities to date are as follows:

- ☐ A baseline survey of Knowledge, Practice and Coverage (KPC) conducted in January, 2000. A complete report, including methodology and a copy of the questionnaire translated into English, is in Annex II.

- ❑ A health facility assessment survey conducted in January 2000. The data collection formats and results are reported in Annex II.
- ❑ An assessment of knowledge and availability of basic medicines/supplies at FCHV and TBA levels conducted in February. The formats and summary results are in Annex II.

In addition, 1991 population data by VDC were obtained from the Central Bureau of Statistics. The 1999 population figures were estimated using an annual population growth rate of 3.09%, as suggested by Ministry of Population and Environment (June 1998 report). Based on the projected population and DHS data, estimates were made for women of child-bearing age (15-49 years), infants (0-11 months) and young children (12-23 months and 24-59 months).

Results of the KPC baseline survey and health facility assessment survey are discussed in detail in **Section 3: Detailed Plans by Intervention**. Below are results of the KPC survey for specific indicators by intervention. Targets are set high enough to be challenging but realistically attainable. A few of the original indicators were dropped because they were peripheral to project design, difficult to collect and impossible to interpret meaningfully. Other indicators related to capacity building of community groups, local NGOs and local government, and sustainability were added in line with the changed project focus and in response to technical reviewer comments.

KPC Survey Results by Intervention

Breastfeeding/Nutrition

- ◆ All mothers (100%) said that they had breastfed their child in the past and 97 % of them were currently breastfeeding.
- ◆ 90 percent of mothers initiated breastfeeding within 8 hours of birth.
- ◆ 73 percent mothers reported that they gave the first yellow milk (colostrum) to the child, within 3 days after delivery.
- ◆ 62 percent of mothers practiced exclusive breastfeeding for at least 4 months. Similarly, 40 % of mothers exclusively breastfed their children for 6 months.
- ◆ 42% percent of mothers said that additional foods should be started at 6 months of age.
- ◆ 9 percent of mothers said that green vegetables should be given as additional food to the child. Most of the mothers (49%) mentioned that rice should be given as additional food either alone or combined with other foods such as lentils, bread, milk, etc.
- ◆ 17 percent of children of 6 to 24 months of age consumed three or more cereal based meals in addition to breastmilk, in the previous 24 hours.
- ◆ Only 4 percent of children consumed meat, fish or eggs for 7 or more times in the previous 7 days.
- ◆ Around 55 percent of children 6 to 24 months of age consumed vegetables, yellow fruits and other foods rich in Vitamin A at least 3 times a week. 35 % of children consumed green vegetables 7 or more times in the last 7 days.
- ◆ Approximately 79 percent children 6 to 24 months of age received Vitamin A supplements within the last six months.
- ◆ Nearly 8 percent of newborn babies were weighed after birth.
- ◆ Approximately, 24 percent of children are stunted (<-2 SD height for age) and among them 10% are severely stunted (<-3 SD). The problem is most serious among children 18-23 months of age (60% stunted).
- ◆ Around 16 percent of the children are wasted (<-2 SD weight for age) and among them, five percent are severely wasted (<-3 SD). The prevalence of wasting is lowest at 10 percent among children 6 months of age and it peaks at 24% among 12-18 months of age.
- ◆ Approximately, 26 percent of children are underweight (<-2 SD weight for age) and among them 9% are severely underweight (<-3 SD).
- ◆ Around 4 percent children are stunted as well as wasted and among them, less than 1% are severely wasted and stunted.
- ◆ Nearly, 46 percent of mothers are anemic (hemoglobin concentration: < 11 gm %) and among them 4% are severely anemic (< 4 gm % hemoglobin concentration).

- ◆ 22 percent of mothers are malnourished based on mid-upper arm circumference measurements (<22 cm).

Control of Diarrheal Diseases

- ◆ Over 28 percent of children had diarrhea within the last two weeks.
- ◆ Only 2.3 percent of mothers said that they used Oral Rehydration Solution to treat the diarrhea.
- ◆ Approximately 80% of children who had diarrhea in the past two weeks were given same amount or more breastmilk than usual.
- ◆ Only 34 percent of mothers reported that they provided same amount or more of fluid to the child suffering from diarrhea.
- ◆ Approximately 52 percent of children suffering from diarrhea were given the same amount or more solid and semi-solid foods during the diarrheal episode.
- ◆ Around 50 percent of mothers said that they sought advice when the child was suffering from diarrhea. Of those, 37 percent went to private pharmacies and only around 23 percent went to the government health facilities.
- ◆ Nearly 26 percent of mothers knew two signs of severe diarrhea. Similarly, around 10 percent of mothers knew two signs of dehydration.
- ◆ Approximately, 39 percent of mothers claimed to know how to prepare Jeevan Jal (Oral Rehydration Solution). Among them only 11% could demonstrated the preparation of Jeevan Jal correctly.
- ◆ Around 17 percent households had latrines.
- ◆ Only 3 percent of children received deworming medicines regularly at six-month interval.

Pneumonia Case Management

- ◆ Nearly 31 percent of mothers reported that their children had had attacks of acute respiratory infection during the last two weeks.
- ◆ Around 66 percent of the mothers sought treatment when their children suffered from acute respiratory infection. Of those, 26 percent had consulted with private clinics and 25 percent were taken to government health facilities.
- ◆ Around 47 percent of mothers knew two signs of pneumonia.
- ◆ Approximately 41 percent of mothers said that they would take their child to the hospital/doctor first to treat while suffering from pneumonia. For the second treatment, again 40 percent said that they would take the child to the hospital/doctor.

Maternal and Newborn Care

- ◆ Nearly 6% of mothers had maternal health cards with them.
- ◆ Based on maternal health cards, only 3 percent of mothers had taken two or more doses of Tetanus Toxoid injection.
- ◆ Based on verbal recall, around 39 percent mothers claimed that they had taken two or more doses of Tetanus Toxoid injection.
- ◆ Thirty nine percent of mothers said that they had at least one antenatal check up during the last pregnancy. Based on the available maternal health cards, only four percent of mothers had antenatal check ups and nearly half of them had three or more check ups in the last pregnancy.
- ◆ Of those who had antenatal check ups in last pregnancy, 54 percent consulted nurses, 27 percent consulted doctors and around 8 percent consulted with the Traditional Birth Attendant.
- ◆ Only about 20 percent of mothers took iron folic acid tablets during their last pregnancy. Amongst them about 10 percent took them for only one month and 6 percent took them for more than 3 months.
- ◆ Only 10 percent of mothers knew two danger signs in pregnancy.
- ◆ Around 91 percent of mothers delivered the last baby at home. Only 5 percent delivered at the hospital. One percent delivered at a Health Post.

- ◆ Around 28 percent of mothers had some form of birth planning. Of those, around 31 percent discussed seeking advice and help from a Traditional Birth Attendant (TBA) and around 30 percent discussed where to go in an emergency or a difficult birth with their family members prior to the delivery.
- ◆ The most frequently mentioned source of assistance in delivery was an untrained TBA (32 percent). The next most common source of assistance mentioned was mothers-in-law (28 percent). Around 16 percent had their last deliveries attended by a trained provider.
- ◆ Around 35 percent of mothers said that they themselves had cut the umbilical cord after delivery. Another 30 percent mentioned that it was done by an untrained TBA.
- ◆ Approximately 63 percent of mothers said that the umbilical cord was cut using a new razor blade. Another 19 percent said that a sickle was used.
- ◆ Around 16 percent of mothers used a Safer Home Delivery Kit (SHDK) during the last delivery. Of the mothers who said they used SHDK, 33 percent got it from a grocery shop and 14 percent got it from TBAs.
- ◆ Around seven percent of mothers said that a nurse provided newborn care after delivery. About 29 percent reported that untrained TBAs provided the newborn care after delivery.
- ◆ Only around 6 percent of mothers got a check up after delivery by a trained health service provider.
- ◆ Around 7 percent of mothers knew at least two danger signs after delivery that would require help or treatment.
- ◆ More than 36 percent of mothers did not know any sign or symptoms of neonatal sickness. Around 32 percent of mothers said that inability to suckle breastmilk properly is the sign of neonatal illness. Another 10 percent stated rapid/fast breathing was the sign of neonatal illness.
- ◆ Around 25 percent of mothers reported that they had consumed high potency “Vitamin A” capsules within 45 days after delivery.

Malaria

- ◆ Around 14 percent of children had fever during the last two weeks. Of those, 28 percent had shaking fever with sweating and cold.
- ◆ Approximately 75 percent of households have bed-nets. Around 41 percent of mothers said that they used bed-nets. Around 38 percent of mothers said that their children used the bed-nets. Similarly, around 32 percent of mothers reported that their husbands used the bed-nets.
(Note: There is no comparable data on the net use from other sources and observation suggests that the actual net use might be less than reported.)

Health Facility Assessment

Since type and quality of health facilities and service providers play the most important role, a health facility assessment survey of governmental facilities was carried out in January 2000. The survey questionnaire was taken from standard WHO questionnaire for IMCI and it was translated into Nepali.

In close coordination with the DPHO, the project staff conducted the survey in five HPs, seven SHPs and one PHC. The instruments included:

1. Equipment and Supplies Checklist (12 HP/SH)
2. Health Workers' Interview (39)
3. Exit Interview with the mothers of sick children under 5 years attending health care facilities (116) (see Annex II).

1. Equipment and Supplies Checklist (12 HP/SH)

Supplies	Health facility
Potable water and sanitation facilities (latrines)	58%
Functional Oral Rehydration Therapy corner	25%
Functional weighing equipment	66%
Thermometer	88%
Refrigerator	8%

Cold box	100%
Cotrimoxazole	83%
Vitamin A	100%
IV fluids	75%
Fetoscope	75%
Deworming drugs	92%

2. Health Workers Interview (39)

Health workers were interviewed about sources of medicine, supervision, transportation, immunization, and examination of pregnant mothers.

- About two thirds knew the source of supplies.
- Lack of supplies/stock was identified by 79% of staff as their most difficult problem, and 53% mentioned lack of training as one of the main problems.
- The survey showed that 58 % received some supervision and about 53% of staff received visits from supervisors two or more times in the last six months.
- 79% received some child health related training in the last twelve months; 33% received training in Pneumonia Case Management, 8% in control of diarrheal diseases, and 5% in Vitamin A deficiency disorders.
- The average number of patients seen per day was 14. The average number of children ages 0-4 years seen in the last month was 43.

3. Exit Interviews – Sick Child (116)

Health care providers' communication is key to helping mothers take proper care of sick children. Mothers were randomly interviewed after visiting health facilities, to determine the quality of information received about availability of medicines, immunization, dosage of medications, and home management of disease.

- About 52 % (60/116) of the mothers did not know about the quantity (doses) of the medicine that should be given to the child at home.
- 77% (89/116) of mothers did not receive any health education on home care of sick children.
- 50% of children had not been immunized and the same percentage of women were not vaccinated for TT.
- 51% of mothers were aware of possible side effects after immunization.
- 69% of mothers were told about signs for recognizing worsening of children's condition at home with regard to diarrhea and pneumonia when help should be sought.

FCHVs' and TBAs' Knowledge, Skills and Supplies Assessment

Female Community Health Volunteers (FCHV) and Traditional Birth Attendants (TBA) are the health agents working closest to the community. Currently, there are 171 FCHVs and 172 TBAs in Kanchanpur district, roughly one in every ward. In order to build capacity for provision of quality services, 38 FCHVs and 39 TBAs were randomly selected and interviewed to assess their knowledge, skills, and resources (ORS, Cotrimoxazole, SDKs, protocols etc). See detailed results in Annex II.

1. FCHV Interview Results

- 87% have Vitamin A, 65% have ORS, and 55% have recording cards.
- 8% have Safe Home Delivery Kits and only one had iron and folic acid.
- 71% knew how to prepare ORS correctly.
- None had Cotrimoxazole or anti-malaria drugs.
- About 84% have received basic training and 14% FCHV have not received any training. Nobody had received refresher training on CDD or ARI. The national curriculum for 15 days of basic training is hardly followed.
- Most FCHVs had been trained five years ago.
- Leaflets of Vitamin A and ARI national protocols are available, but they don't have health education materials i.e., flip charts and flash cards.

2. TBA Interview Results

- 100% have received training as per government curriculum; 79% were trained within the last year.
- TBA kits were distributed to everyone during the training, but there is no mechanism to replenish the stock.
- Only 15 % had SHDKs.
- Only 44% knew that the newborns should be fed immediately after delivery.
- Most were aware of some danger signs/symptoms during the antenatal, perinatal and postnatal period, but their knowledge was inadequate.
 1. The most common danger signs identified for referral during the antenatal period were excessive weakness (23%) or vomiting (10%).
 2. The most common danger signs identified for referral during the delivery period were severe bleeding (59%) and abnormal presentations (44%).
 3. The most common danger signs identified for referral during the postnatal period were severe bleeding (49%), retained placenta and fever (20.5%)
- The most common preparations made for pregnancy were deciding about place of delivery (59%), organizing for thread and blade (44%) or SHDK (41%), and clean clothes (41%).

D. Program Goals and Objectives

Goal:

To reduce maternal and child mortality in Kanchanpur district.

Objectives: By the end of September 2003:

- ❖ **Behavioral:** Caregivers of children below five years of age, particularly mothers, will be practicing healthy behaviors and seeking medical care from trained sources when needed.
- ❖ **Increased access to services and supplies:** Families will have increased sustainable access to health education, quality care, and essential medicines.
- ❖ **Institutional:** Local and community-based institutions and local NGOs with capacity to support child survival activities on a sustainable basis will be developed or strengthened.
- ❖ **Quality of Care:** MOH personnel, FCHVs, TBAs and other service providers will be practicing appropriate case management of diarrhea, pneumonia, malnutrition, and maternal and newborn care.

Goal: TO REDUCE MATERNAL AND CHILD MORBIDITY AND MORTALITY IN KANCHANPUR DISTRICT OF NEPAL

Decrease the % of malnourished children below two years (<-2 SDs) in the project area by:

- Weight for height from 16.4% to 14%
- Weight for age 26.5% to 24%
- Height for age from 24.4% to 21%

Decrease the % of children under 2 who have had diarrhea in the past two weeks from 28% to 20%

Decrease the % of children under 2 who have had signs of pneumonia (rapid or difficult breathing, or chest in-drawing) in the past two weeks from 31% to 20%

Goals	Indicators	Measurement Method	Major Activities
<p>Behavioral: Caregivers of children below 5 years, particularly mothers, and pregnant women practicing healthy behaviour and seeking medical care from trained source when needed</p>	<p>Nutrition:</p> <ol style="list-style-type: none"> 1. Increase the % of mothers who initiated breastfeeding within 8 hours of birth from 90% to 95% 2. Increase the % of mothers practicing exclusive breastfeeding for at least six months from 40% to 60% 3. Increase the % of mothers introducing complementary foods at six months from 42% to 60% 4. Increase the % of children 6-24 months who consume vegetables, fruits and foods rich in vitamin A from 55% TO 75% <p>Control of Diarrheal Disease:</p> <ol style="list-style-type: none"> 5. Increase the % of under 2 children (who had diarrhea in the past two weeks) who were given the same or more: <ol style="list-style-type: none"> a. Breastfeeding from 80% to 90% b. Liquids from 34% to 75% c. solid/semi solid food from 52% to 75% 6. Increase the % of children under 2 who had diarrhea in the past two weeks who were treated with ORS from 2% to 50% 7. Increase % of mothers who can correctly demonstrate how to prepare ORS from 11% to 50% <p>Maternal and Newborn Care:</p> <ol style="list-style-type: none"> 8. Increase % of mothers from 6% to 40% who consumed iron folic acid supplements for at least 3 months in last pregnancy 9. Increase % of families having a birth plan* from 28% to 75% 	<ol style="list-style-type: none"> 1. KPC baseline and final 2. KPC baseline and final 3. KPC baseline and final 4. KPC baseline and final 5. KPC baseline and final 6. KPC baseline and final 7. KPC baseline and final 8. KPC baseline and final 9. KPC baseline and final 	<ol style="list-style-type: none"> 1. Training of TBAs/mothers on importance of breastfeeding soon after birth 2. Training of TBAs/mothers/FCHVs on importance of exclusive breastfeeding for six months 3. Training of mothers/FCHVs on supplementation/weaning practices 4. Training of mothers/FCHVs on supplementation/weaning practices 5. Training to FCHVs, HP and SHP post staff and private sector service providers on diarrheal case management 6. As per #5 7. As per #5 8. Education/counsel FCHVs/mothers/TBAs on increased need for iron folic acid

Goals	Indicators	Measurement Method	Major Activities
	<p>10. Increase % of mothers having used a Safer Home Delivery Kit (commercial or home made) for last delivery from 16% to 30%</p> <p>Pneumonia Case Management:</p> <p>11. Increase % of mothers who seek medical care from a qualified, trained provider (HP, SHP, hospital, PHC, trained FCHVs) from 38% to 75% when their child has signs of pneumonia (fast or difficult breathing)</p> <p>Malaria:**</p> <p>12. Increase the % household having bednets and using them for all household members from ... to ... in the operations research area</p>	<p>10. KPC baseline and final</p> <p>11. KPC baseline and final</p> <p>12. EHP baseline and KPC final</p>	<p>during pregnancy.</p> <p>9. Counsel TBAs/FCHVs/pregnant women and family decision-makers on birth planning, including use of SHDK</p> <p>10. See #9</p> <p>11. Train mothers/FCHVs/HP and SHP staff/druggists on appropriate pneumonia case management.</p> <p>12. Promotion of malaria prevention (including bednets) through community volunteers, local leaders and local media</p>
<p>Increased access to services and supplies: Families have increased sustainable access to health education, quality care and essential medicines</p>	<p>Nutrition:</p> <p>1. Increase % of children 6-24 months receiving vitamin A supplement every six months from 79% to 90%</p> <p>2. Increase the % of women receiving vitamin A supplements within 45 days after delivery from 25% to 75%</p> <p>CDD:</p> <p>3. Increase % of FCHVs from 65% to 95% who have ORS for distribution with them</p> <p>4. Maternal and Newborn Care:</p> <p>5. Increase % of mothers who have had 2TT during their last pregnancy based on home-based maternity cards from 3% to 25%</p> <p>Pneumonia Case Management:</p> <p>6. Increase % of communities from 0 to 50% who have Cotrimoxazole access (through FCHV or drug schemes)</p> <p>Malaria:</p> <p>7. Increase the % of communities (through FCHVs or drug schemes) where anti-malarial drugs are available throughout the year from 0 to 75%</p> <p>General:</p> <p>7. Increase in % of wards where ORS, clean birth kits, IFA and cotrim are available year round to 80%</p>	<p>1. KPC baseline and final; LQAS during mid-term</p> <p>2. KPC baseline and final; MoH records</p> <p>3. FCHV interviews at baseline, midterm and final</p> <p>4. KPC baseline and final</p> <p>5. Rapid assessments, community managed data</p> <p>6. Rapid assessments, community managed data</p> <p>7. Rapid assessments, community managed data</p>	<p>1. Educate/counsel mothers/caretakers on GLVs, fruits and Vitamin A rich foods and requirements of Vitamin A supplementation and promote their participation in National Vitamin A campaigns</p> <p>2. See #1</p> <p>3. Training of FCHVs and promote for ward level drug schemes</p> <p>4. Educate/counsel mothers about the importance of TT, support for static immunization centers and campaigns</p> <p>5. Promote community revolving drug schemes and facilitate linkages in the community among FCHVs, mothers group, VDC and HP/SHP</p> <p>6. See #5</p> <p>7. See #5</p>

Goals	Indicators	Measurement Method	Major Activities
<p>Quality of CARE: MoH personnel, FCHVs, TBAs and other service providers practicing appropriate case management of diarrhea, pneumonia, malnutrition and maternal and newborn care</p>	<p>CDD:</p> <ol style="list-style-type: none"> 1. Increase the % of children with diarrhea who receive appropriate case management in the health facility from 12 to 50% 2. Increase the % of FCHVs who can correctly demonstrate preparation of ORS from 71% to 95% and those who practice proper standard case management of diarrhea according to MoH protocol to 85 % 3. Increase the % of private health care providers & pharmacists who practice standard case management of diarrhea according to MOH protocol to 50% <p>Maternal and Newborn Care:</p> <ol style="list-style-type: none"> 4. Increase the % of women who have had at least two prenatal visits during their last pregnancy from 19% to 40%(based on recall) & from 3% to 25% (based on cards) 5. Increase the % of mothers who had their last delivery attended by a trained provider from 19% to 30%. 6. Increase % of TBAs providing neonatal care as per protocol 7. 85% of MCHW and VHW are trained & practice protocol for antenatal delivery and post natal care 8. 85% of TBAs practicing obstetric first aid and making appropriate referrals for complications <p>Pneumonia Case Management</p> <ol style="list-style-type: none"> 9. Increase % of FCHVs, health post/sub-health post staff private health care providers and pharmacists who correctly diagnose and manage pneumonia cases according to protocol to 50% <p>Malaria:**</p> <ol style="list-style-type: none"> 10. Increase the % of FCHVs and health post/sub-health post staff (VHW) who correctly diagnose high, low or no risk of malaria and manage according to protocols <p>General</p> <ol style="list-style-type: none"> 11. 85%of community level MoH staff (VHW and MCHW) and volunteers (FCHV and TBAs) receive at least one supervisory visit in the last quarter 	<ol style="list-style-type: none"> 1. Health facility assessment 2. Quality of Care assessments 3. Quality of Care assessments 4. KPC baseline and final; community-managed data 5. KPC baseline and final; community-managed data 6. Quality of care assessments 7. Health worker skill assessment 8. Community-managed data 9. Health facility assessment, quality of care assessments 10. Health facility assessment, quality of care assessment 11. Health facility assessment 	<ol style="list-style-type: none"> 1. Training of Health Post/Sub health post staff on diarrhea case management, promote supportive supervision 2. Training of FCHVs and supportive supervision 3. Training and follow up of druggists 4. Educate/counsel FCHVs/TBAs, mothers and other family members about the danger signs and importance of antenatal care and birth plan 5. Educate/counsel TBAs, FCHVs, mothers, family members on safer motherhood, basic newborn care and birth planning 6. Training of TBAs on neonatal care and safer motherhood 7. See #6 and supportive supervision to TBAs 8. Training of FCHVs, druggists, health post/sub health post staff on pneumonia case management and supportive supervision 9. Training of FCHVs, druggists, health post/sub health post staff on malaria case identification and management and supportive supervision

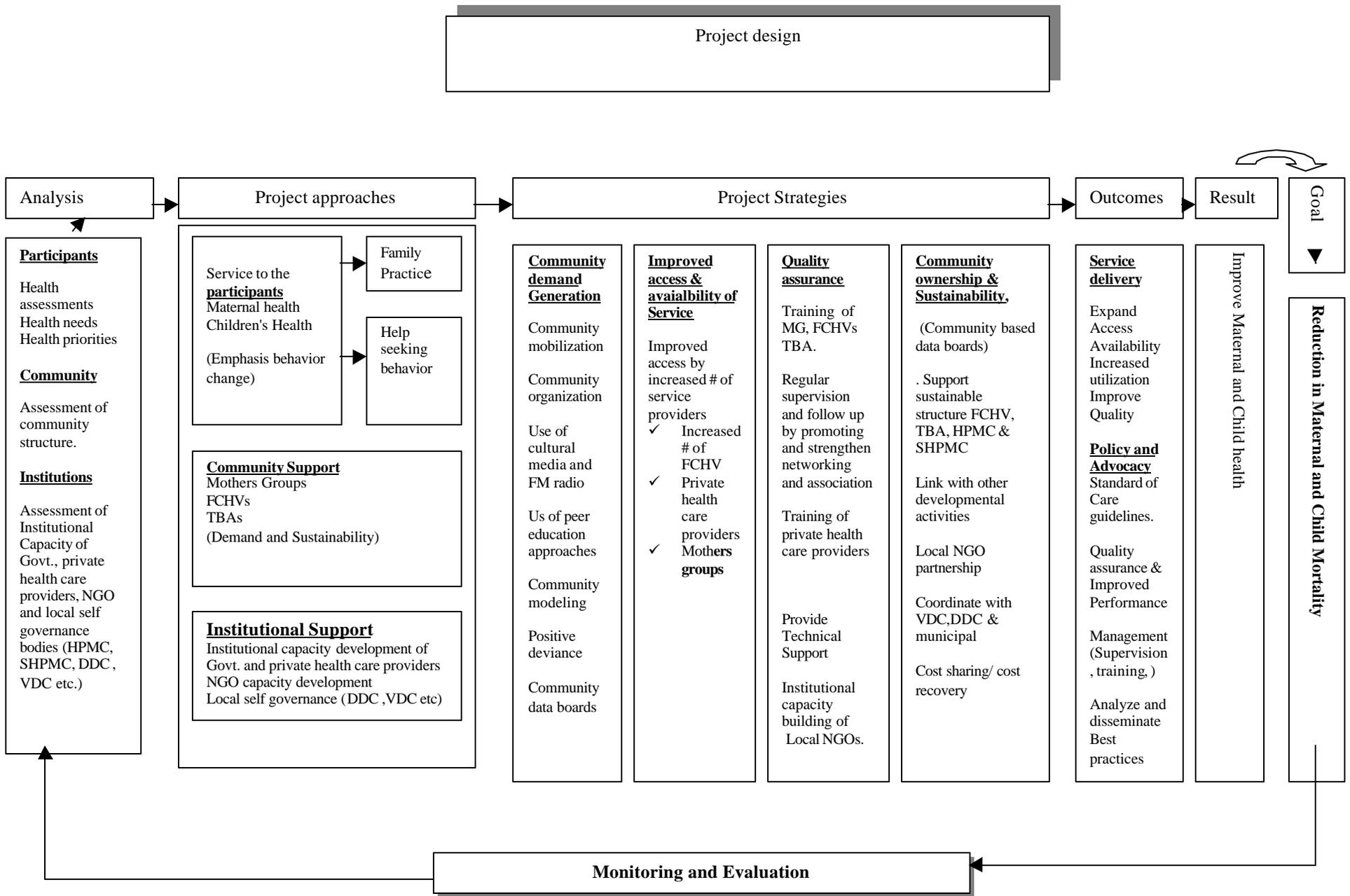
Goals	Indicators	Measurement Method	Major Activities
Institutional: Local and community-based institutions and local NGOs developed/strengthened which have capability to support child survival activities on a sustainable basis	<ol style="list-style-type: none"> 1. 90% of wards have at least one Mothers Group with demonstrated history of health promotion activities and plans for future IEC activities 2. 80% of wards have at least 3 operational Mothers Groups 3. 50% of Mothers Groups are able to plan and monitor (through analysis of community level data) local health activities 4. 50% of Mothers Groups are linked with other development resources and skills 5. 30% of wards (through MGs, FCHVs or other mechanisms) have established functional community health funds (for EOC and possibly other purposes) and mechanisms for cost-recovery for SHDKs, ORS and Cotrimoxazole 6. 75% of FCHVs are involved in health education and community mobilization efforts 7. FCHV associations supporting their members with strong links to the VDCs and MoH health facilities are established and operational in 60% of VDCs 8. All NGO partners (2-3) have project planning processes and a monitoring plan in place. 9. 90% of VDCs commit some financial support to CS activities at the community level 10. 50% of health post and sub-health posts have revolving drug scheme in place 	<ol style="list-style-type: none"> 1. Community-managed data, rapid assessments 2. Community managed data, rapid assessments 3. Review of community managed data, rapid assessments 4. Rapid assessments 5. Rapid assessments 6. Quality of care assessments 7. Rapid assessments 8. NGO reports and visits 9. Review of VDC budget allocations 10. Health facility assessments 	<ol style="list-style-type: none"> 1. Mothers groups reformed/formed, trained and supported 2. See #1 3. Training on data management 4. Support for developing functional linkages with VDC, NGOs and other agencies/schemes 5. Community education of need for emergency health funds and support for establishing the community health funds/cost recovery mechanisms 6. Training of FCHVs and supporting supervision 7. Support FCHVs to be united to form FCHV Association and promote supportive supervision from HP/SHP and linkages with VDCs 8. Training of NGOs on planning processes and monitoring/evaluation 9. See #5 and support Health Post and Sub Health Post Management Committees to establish drug schemes

* birth plan definition can be found on page # 80

** Malaria indicators will be finalized after the EHP baseline is complete.

E. Program Design

The project design assumes that if families and communities are shown that healthy home-based practices and care-seeking behaviors reduce morbidity and mortality, they will adopt the healthy behaviors. However, adoption of behaviors in such situation is dependent on availability and accessibility of affordable quality services, as well as a supportive community environment. Based on these assumptions, four strategies have been incorporated: community demand generation, improving access and availability of services, ensuring quality and developing mechanisms to sustain these services.



1. Generating community demand

This strategy will focus on improving capacity of communities for making informed choices at the individual and household level. Particular emphasis will be put on good maternal and newborn health practices, nutrition, health service-seeking behaviors, identification and treatment of pneumonia and diarrhea. The project will focus on understanding the prevalent practices in the communities with focus on the positive practices of individual mothers & households .By creating demand for services , the activities will generate lasting behavior change within the household.

The major activities will be:

- ❖ Awareness creation in the community using local traditional folk media
- ❖ Use of mass media through a local FM radio station
- ❖ Community modeling for positive health practices
- ❖ Sensitization of decision makers at the community and household level
- ❖ Training of service providers
- ❖ Peer education methods that promote learning from experience sharing with one another

Members of mothers groups will act as peer educators to stimulate critical thinking and behavior change among other mothers. The project will also facilitate the establishment of volunteer associations (FCHV) whereby a forum for self-monitoring and supervision, and peer learning and support will be established. The volunteers will serve as change agents and act as first contact service providers. CARE and the MOH will also engage members of the Village Development Committees (VDCs) and the health management committees (HPMCs/SHPMCs) into a critical analysis of community health needs to enlist their support. Local leaderships active involvement in project activities will ensure a supportive environment for the community to take control of their health status and will eventually facilitate changes in the communities' normative practices.

The FCHVs will use participatory learning methodologies to stimulate mothers group members to critically analyze nutritional practices of pregnant and lactating women and mothers of children under five, and to encourage families to provide home treatment for CDD and ARI. They will also train mothers to recognize when children are too sick for home treatment and need to be referred to health services. This will enable the communities to think about the need for availability and accessibility of quality services, which will increase community demand for appropriate health care. This strategy is strongly endorsed by the MOH and CARE has already had success in other districts. Local folk media will create awareness and FM radio will reinforce health behavior messages.

CARE will use positive deviance to promote maternal and child nutrition practices and local cultural media will disseminate the need for positive health practices on a wider scale. Both approaches will create an environment for improved survival.

2. Improving access and availability of health services

Increased demand without improved supply, both in quality and quantity, is unlikely to generate significant improvements in health status. The baseline survey indicated that, although preventive care and health promotion remain the domain of government workers and community volunteers, the use of private health care providers and pharmacists to treat sick children is common. Recruiting and training additional FCHVs and capacity building of private health care providers, pharmacists, and traditional healers will be the strategies to increase availability and accessibility of services. Capacity building of members of mothers groups will ensure availability of health education services regarding home care and when to seek medical help at all times to communities.

The FCHVs will be the principal change agents for the provision of services. Their role will include community education and health promotion, detection and referral of high-risk cases, monitoring community mortality, distribution of Vitamin A and IFA, and providing first-line treatment for diarrhea and pneumonia. Supplement distribution and the provision of first-line treatments will enhance the credibility and profile of the FCHVs within the community. See Annex VI for their roles and responsibilities.

Within the first year, the project will work with the existing FCHVs to develop their associations for providing peer support and continued motivation for the volunteers. In the second year their capacity will be built for self-supervision and supportive monitoring of peer activities. In the subsequent years, the project proposes to gradually increase the number of FCHVs from 171 to 500 to improve availability and accessibility of quality services in a sustainable manner. The initial expenses related to the training and other support for the additional FCHVs will be borne by the project. The local DDC is committed to providing continued support for refresher training and other activities beyond the life of the project. See Annex VII A.

The FCHVs will be trained in collaboration with the MOH, and initially supplied and supervised by the project Health Extensionists, VHVs, and MCHWs. Supervision will be gradually phased over to FCHV associations & the management committees of the Health Posts and Sub Posts. The support of project health extensionists initially and FCHV associations and HPMCs for supervision will help in addressing the issues of lack of support for these FCHVs.

For antenatal check-ups, 66% of the population used government health services. About 92% of deliveries took place at home using untrained family members (29%) or TBAs (32%). The project will focus on capacity building of the families and the untrained TBAs in addition to existing MOH staff and trained TBAs to expand and improve the quality of services during the prenatal, delivery, and postpartum periods. The project will promote safe motherhood practices for mothers through peer education. Emphasis will be on hygienic deliveries, recognition of danger signs, prompt referral, and promotion of SHDKs, TT, and prenatal care. FCHVs, Mothers groups, will encourage mothers and older women in families to use clean birthing practices, in cases where family members themselves conduct deliveries. TBAs capacities will be built to provide maternal and newborn care as well as home-based delivery services

Since the proposal was written, governmental staffing has improved. At the HP/SHP/PHC level, 94% of the staff positions are now filled. There are vacancies at the zonal level hospitals and only 6 of 20 medical officer positions are filled. The project will place particular emphasis on strengthening the community level MOH staff (such as MCHWs and VHVs) through training and supervision, in collaboration with the Department of Health Child Health Division and JSI. JSI is implementing the national level Logistics and Child Health Support project and they have validated a new strategy of diagnosis and treatment of pneumonia and diarrhea at the community level.

To improve access to essential pharmaceuticals, CARE will work with HPMCs or SHPMCs and VDCs to decide on the best sustainable drug supply system. The VDCs have their own budgets with 25% earmarked for social welfare activities, of which drug supply systems are only a small part, so the project will also network with other SHPMCs to administer a revolving drug supply system. At the ward level, such schemes will be set up with the mothers groups and FCHVs. Lessons learned from previous community drug scheme experiences in Nepal will be used to refine these schemes.

3. Improvement in quality of health services

The project will encourage the DDCs and the VDCs to lobby the DHO for improvements in health services. These committee members are elected and accountable to their constituents, and can exert a great deal of influence on the DHO and the local HPs and SHPs. The CARE health supervisors will educate the VDCs about what they can expect and how to get what they want in terms of health services. In other successful CARE projects, the VDCs and the HP or SHP staffs have often become great allies in getting supplies and other services from the DHOs. CARE has extensive experience in capacity development of local governments in a variety of settings and programs including health.

Other major activities to be undertaken for improving quality of services will include:

- ◆ Capacity building of community-level health care providers and volunteers in technical interventions and communication skills
- ◆ Training for private health care providers and pharmacists in rational management of ARI, diarrhea, and malaria
- ◆ Quality assurance training for health facility staff, volunteers and private health care providers
- ◆ Periodic health facility assessments for quality of services as a part of IMCI implementation and improvement of DPHO

- ◆ Regular on-the-job support and supervision for field level functionaries
- ◆ Monitoring of quality of care at health facility level by members of HPMC
- ◆ Introduction of quality checklists

4. Strengthening sustainability

To maximize the project's impact, systems to generate demand and ensure supply must be able to continue (and preferably expand) beyond the life of the project. The project will focus on identifying and developing the capacity of local institutions to implement and sustain the activities, systems, and structures.

The project will also strengthen the technical and managerial services of the health care system and communities. At the health care system level, improvements for case management and community outreach will be targeted. CARE will work with the MCHWs and VHWs, who are at the periphery of health care services and, as such, closest to the clientele. The project will also work with other HP/SHP staff to improve their capacity to supervise and support the MCHWs and VHWs.

To improve community surveillance mechanisms, the project will develop community-based associations at four different levels:

Level	Association	Function	Coordination
District	Project Advisory Committee Federation of FCHV association	<ul style="list-style-type: none"> ▪ Overall project supervision ▪ Selection/monitoring of NGO ✓ Support to VDC level associations ✓ Supportive supervision to new recruits 	DDC rep/govt. representative Selected representatives
VDC	FCHV association HPMC/SHPMC	Peer support and self supervision Managing supplies and systems.	Senior FCHV VDC representative
Ward	Ward level coordination committee	Support to 3-4 mothers groups developed in the area	Ward coordinator
Village	Mothers group	Mothers education Management of community-based data boards	FCHV

District level activity

By the end of the first year, a Project Advisory Committee (PAC) will be formed at the district level involving the District Administration, DPHO, representatives of the NGO Federation, the DDC chairman and the Project Manager. The PAC will help with overall direction and monitoring of project. This body will also support associations of FCHVs, HPMCs and SHPMCs.

In the recently concluded LRSP for 1999-2004, CARE Nepal identified partnering and capacity building of local NGOs as strategies to increase the reach of the program and develop sustainable local institutions. The Government of Nepal's Social Welfare Council has also identified the promotion of partnerships between local and international NGOs as a key strategy. The PAC will select 2 or 3 local NGOs for partnership using objective partnership criteria and tools (see Annex VIII). This partnering will develop local capability to sustain such initiatives and will assist the selected NGOs to develop necessary skills in promoting behavioural changes and project development and management.

VDC level activities

◆ FCHV Associations

The project will assist the FCHVs to organize their own associations. It will begin with nine established members and expand when the number of FCHVs increases. Experienced FCHVs will supervise and give moral support to newer volunteers. The VDC-level associations will be federated at the district level and the resulting larger memberships will make it possible to generate funds by raffles, charging for social events etc.

these funds will be used for supplies and follow-on training. The associations will be closely linked to the MOH and local self-governing bodies. The local government will motivate the volunteers and support their work insofar as possible. The project will also work to include members of these associations into the HPMCs so they can be effectively involved in the overall management of community health in their respective areas.

◆ Health Management Committees

Each VDC receives 500,000 rupees annually through the rural self-help Development Fund. They are obligated to spend part of this on health or return it. Unfortunately, the VDCs often lack the skills to make decisions and some have lost the money. Others are simply using it to build Sub-Health Posts, even though there are funds from the World Bank for such construction. This project aims to help the VDCs better understand the health needs of their area, prioritize those needs, and make decisions based on gathered information.

The government requires management committees for these health facilities (HMCs). The HMC represents the community, helps track the logistic supplies, and maintains links between the communities and the S/HP level staff. It often suggests services required by the community. The HMC consists of 6 or 7 members, chaired by the VDC chairman and with the head of the SHP/HP as the member-cum secretary. The majority of HMCs are nonfunctional and the proposed project will strengthen and develop them through management training. The project will also try for inclusion of representatives from ward coordinators and FCHV associations in these committees.

Ward level activities

The Kanchanpur DDC has decided to assign the elected Woman Ward Member from each VDC as the Ward Coordinator for health activities. However the health-related technical knowledge and leadership skills of these women is very limited. The project will enhance the capabilities of Ward Coordinators through Leadership Development and Participatory Planning and Management training organized with the assistance of experienced local and national NGOs.

HP staff, FCHVs and TBAs will be in the forefront of community mobilization and organization. All project activities will be carried out through local government and non-governmental staff, with project staff acting as a catalyst. The project will form and strengthen mothers groups, which will meet monthly and be responsible for project activities at the community level. They will be trained in CS interventions as well as action planning, data collection, and analysis skills. Every member will support 4-5 project participants. At monthly meetings, mothers groups will collate and analyze the community level data, and use it for action planning.

Initially, one mothers group will be formed in every ward. After the first groups are stronger, they will develop other groups with the help of FCHVs, ward coordinators, and other project staff. By the end of the project, there should be 3-4 mothers groups in every ward, each consisting of 15-20 mothers. Once three to four mothers groups become functional in a ward, a ward-level coordination committee will be formed.

Previous development projects implemented in Nepal have had problems maintaining the interest of the mothers groups and have experienced resistance to participate in activities. It is assumed that their interest will be sustained by the demonstrated improvements in the health and survival of their children. Additionally the project will support the groups by providing linkages with other development activities and schemes, initiation of non-monetary motivational incentives etc. The project will encourage the groups to select activities which have direct link with child survival like community health financing schemes and revolving drug schemes but the group will be free to pursue any activities as per the needs and interests of their members.

Presently revolving drug schemes exist only at the health facility level. The project will field test this strategy in a few wards with established active mothers groups. Based on the lessons learned, the revolving drug scheme strategy maybe scaled up.

Participation process

It is estimated that 20% of the mothers will be active members of the mothers groups and will participate regularly in monthly health education meetings and other services. Each of the members of these groups will be encouraged to take responsibility for peer education and behaviors of 4-5 mothers in the neighborhood. They will also be asked to report back significant happenings from these households to the mothers group.

MOH health care facilities provide all five of the project interventions, as well as general health care. At all times and at all facilities, the interventions will be integrated within this existing framework. FCHVs will be trained in all project interventions. TBAs will be trained only in maternal and newborn care interventions but will be given a brief orientation on the other interventions. Private health care providers will be trained in appropriate management of CDD and ARI. Home based maternal cards (HBMCs) will also provide an entry point for the project.

New approaches

Due to personnel, time and resource constraints, the MOH provides almost no supervision to the FCHVs. In addition, training resources are insufficient, even though the government highly values the FCHVs as an integral part of the MOH work force (albeit unpaid). CARE will provide the funds for initial training, but more importantly, it will implement a strategy for self-supervision and management of the FCHVs, leading ultimately to the sustainability of these services.

CARE has developed an effective approach to organizing Community Health Volunteers (CHVs) in other development programs and has seen them assume responsibility for their own supervision, negotiate support from their communities and the MOH, and generate funds to cover the costs of refresher training, transportation, and basic supplies. The resulting associations encompass approximately 100 volunteers in a defined geographical area that corresponds to a specific health facility. Association officers serve as a direct link to the MOH staff, conveying information, reports, supplies, and requests from the volunteers. Experienced members serve as supervisors or mentors of newer volunteers. In some cases, these members receive specialized training from the MOH, and then train the other members. While association activities take extra time, evaluations have shown that being a CHV actually increases commitment and dropout rates are low.

This approach will be employed to enhance the performance and sustainability of the FCHVs. To assess the effectiveness of the approach, CARE will monitor the FCHVs satisfaction through periodic interviews and focus groups, track desertion rates, and document associations outputs in terms of supervision, fund-raising, and MOH relations.

Other innovative approaches will include

- Operational research in three VDCs to assess community willingness to use "community birthing centers".
- Possibility of feasibility study & social marketing of impregnated bednets will be explored in three VDCs based on EHP baseline results.
- Project will experiment with a positive deviance approach in 2-3 VDCs for addressing maternal and childhood nutrition issues.
- Project will explore in 2-3 VDC feasibility of use of MUAC by interested and active FCHVs for community level growth monitoring.

In-country partners

(A) The USAID Mission

CARE has a strong, long-standing relationship with the local USAID mission, which has funded various CARE projects. CARE has increased its technical competence and program capacity as a result of this collaboration. Close communication will be maintained throughout the implementation of this Child Survival project.

The USAID Nepal mission has three strategic objectives (SOs):

1. Increase production and sale of forest and high value agricultural products on a sustainable basis

2. Reduce fertility and improve maternal and child health
3. Empowerment of women

Strategic Objective 2 (SO2) has three targets:

- Reduce Total Fertility Rate (TFR) from 4.6 in 1996 to 4.0 by 2002
- Reduce U5 mortality from 118 (1996) to 85 by 2002
- Increase condom use by persons with high-risk behaviors in the target areas.

A new Intermediate Result, “Strengthened capacity and programs to control selected infectious diseases” has been added. The expected results for this IR includes “Increased use of selected maternal and child health services.” The indicators for this IR are:

- Children receive Vitamin A supplementation on a regular basis.
- Children with pneumonia are appropriately treated in intervention districts.
- Use of oral rehydration therapy in recent diarrheal episode.

From the above indicators and goals, it is clear that CARE’s CS program is consistent with USAID’s objectives, policies, and priorities and does not duplicate the efforts of other institutions working in the district. In addition, this project will specifically address the USAID SO2 target of “Reduction in under-five mortality to < 85 by the year 2002.” It will also address the indicators associated with Intermediate Result #3: “Increased use of selected maternal child health services.”

(B) Ministry of Health

CARE also has a productive and long-standing relationship with HMG’s Ministry of Health, Child Health Division. CARE has worked to strengthen the capacity of the MOH in other health projects in many districts. Currently, CARE is collaborating with the MOH to implement the IMCI program in the Bajura District. CARE has taken an active role in working directly with national level MOH initiatives, and is a member of the national advisory committee on HIV/AIDS and nutrition.

The highest priorities in the government’s Ninth five-year Plan (July 1998-2003) are maternal and child health, including nutrition, adolescent health, and prevention of communicable diseases. The following targets have been identified:

- Total Fertility: The total fertility rate will be reduced to 4.00 from the 1996/1997 estimate of 4.51.
- Contraceptive Prevalence: The contraceptive prevalence rate (CPR) will be increased to 36.6 percent from the 1996/1997 estimate of 30.1 percent.
- Child Mortality: The mortality rate of children below five years will be reduced to 102.3 per thousand from the 1996/1997 estimate of 120.5.
- Infant Mortality: The infant mortality rate will be reduced to 61.5 per thousand from the 1996/1997 estimate of 79.

This CS Project addresses the government priority to reduce child and infant mortality rates. By working with the MOH over the years, CARE has significant expertise in the inner workings of HMG. CARE’s close collaboration with HMG in Mahottri, Bajura, as well as the Solukhumber project, provide two excellent examples of its ability to work effectively with government officials in the local context.

(C) USAID collaborating agencies

CARE-Nepal is a member of the Non-Government Organization Coordination Committee (NGOCC), which includes Plan International, Save the Children US, ADRA, Nepal Red Cross and others. This interagency working group meets regularly and provides a forum for review and exchange of strategies, technical information, and resources. United Nations agencies such as WHO, UNICEF, UNDP, UNFPA also participate. These meetings represent a concerted effort by the members to complement existing inputs and ensure consistency of information.

1. John Snow International

At the national level, John Snow International (JSI) is implementing the Logistics in Child Health Support Services Project (LCHSSP) through a bilateral agreement with USAID/Nepal. The LCHSSP supports the MOH by improving logistics and supplies to assure a year-round supply of contraceptives and essential drugs, through the sub-district level. The organization strengthens the FCHV program and provides technical support to improve child health services, particularly those related to CDD and pneumonia. Future plans include treatment of diarrhea and pneumonia and expansion of the national Vitamin A supplementation program. Both of these objectives coincide with CARE's proposed activities and CARE will continue close cooperation with JSI, specifically in training the DHO, HP, and SHP staff, and FCHVs in the management of pneumonia and diarrhea. The CARE project area will greatly benefit from the new community-based strategy developed by JSI and the MOH, and JSI will benefit from working with CARE by having a means through which to apply their strategy on a large-scale basis.

2. PLAN International

The PLAN and CARE child survival projects continually share ideas in a well-established mutually beneficial relationship. The CS project manager for CARE recently participated in the mid-term review of PLAN's CS project. Representatives from PLAN were also involved in the formulation of CARE's DIP and both organizations will continue to collaborate in the future. The proposed project will greatly expand CARE's capability to partner with other international NGOs to share lessons learned. This collaboration is a pragmatic strategy for achieving sustainability and can be easily employed. Continued collaboration with PLAN presents an opportunity for CARE to learn and evaluate the effectiveness of a variety of PLAN's programs, including their community drug schemes and their community birthing centers.

3. Environmental Health Project (EHP)

The Environmental Health Project is a USAID-funded project aimed at vector-borne disease control and antimicrobial resistance in Nepal. The project is being implemented in close collaboration with the MOH Epidemiology Division. It focuses on malaria, kalazar, and Japanese encephalitis. The project does not have a service delivery component, but includes capacity building for the national vector-borne disease research and training center located in Hetauda. The project is also developing a surveillance system for vector-borne diseases, creating comprehensive baseline assessments, and designing intervention programs in collaboration with the government, NGOs, and India.

The CS project will collaborate with EHP to conduct a comprehensive baseline survey with a focus on the socio-behavioral aspects of malaria within the area. This report will be used to select an area for the project, and design and implement the community-based intervention program. EHP will provide technical assistance and training.

4. Linkages

Linkages has a project on complementary feeding practices and breast feeding in a surrounding area with a similar cultural context. The project is being implemented in the VDCs and is based on extensive formative research. The CS project will collaborate with Linkages by exchanging databases, sharing strategies, and using mutual learning to design an appropriate communication strategy.

5. Path

Path (Program for Appropriate Technology in Health) is a private, non-profit international health organization whose primary mission is to improve the health of women and children. Emphasis is placed on improving the quality of reproductive health services and preventing, and reducing the impact of widespread communicable diseases. In Nepal, Path has provided technical assistance to the MOH on HIV/AIDS prevention and IEC strategies. Path also designed and developed the Safe Home Delivery Kit for Save the Children. Path will collaborate with CARE to conduct follow-up qualitative research on traditional delivery practices, cord care and the actual use of the SHDK. (See Annex II for TOR.)

6. Other NGOs

There are no major international PVOs working in child survival in Kanchanpur, but CARE will coordinate with NGOs that have health-related activities, such as the Red Cross, the Nepal National Social Welfare Association, and the FPAN. There are also 76 small local NGOs operating in the project area. The PAC

will closely evaluate the situation and partner with suitable NGOs to build sustainable local institutional capacity.

Involvement of Stakeholders and Community in the Design of the Program

In developing the proposal (August 1999), four CARE Nepal health staff visited the district and conducted an assessment of the existing health services. They met with district health officials (some of whom had worked with CARE in other regions), FPAN, NNSWA, Red Cross, and representatives of the DDCs and VDCs. They exchanged ideas on inputs and recommended strategies and interventions to clarify policies and priority regions. They also conducted informal interviews with community members and FCHVs and TBAs. Using this input, CARE developed the project design while continuing dialog with the MOH. In addition, CARE Nepal conducted a series of meetings with the MOH and the local USAID mission.

District Orientation: A DDC orientation meeting included all of the key district level participants. The meeting was successful in identifying useful strategies for implementing the project. It also helped to develop ownership of the project and design a monitoring and supervision plan.

VDC Orientation: The VDC orientation meetings involved 30-45 community members from each VDC. The meetings communicated useful information regarding the award of the Child Survival project and collected information on the community's priority interests. They also allowed CARE to evaluate a variety of ideas and elicit commitments from the members for project support.

Ward Orientation: The project organized 108 ward-level orientation meetings with more than 3500 community members. The participants represented a cross section of communities and about 50% were women. Participants discussed how to prioritize, plan, implement, maintain, and evaluate interventions responsive to the community's needs.

DIP Design Workshop: A DIP design workshop was organized in Kanchanpur from 8-11 February 2000 in which most of the stakeholders were present. Participants from HMG included representatives from the child health division, social welfare council, regional health directorate, medical superintendent, and the DPHO from the local district. Representation from other national and international NGOs included a district NGO coordination committee, Plan International, JSI, Red Cross, Family Planning Association, and NNSWA. Elected representatives of local self-governance, DDC, and municipality and project staff were all actively involved. The DIP design workshop was followed by the actual writing of the DIP, which was again presented to stakeholders to get suggestions for further modifications.

F. Strengthening of Local Partner Organizations

The Social Welfare Council (SWC) is the national coordinating counterpart for all international NGOs, including CARE in Nepal. It is an independent body created by Government of Nepal to regulate and monitor activities of all INGO/NGO in Nepal.

For this project, CARE has both government and non-government partners. The government partners are the Child Health Division in the Ministry of Health at the national level and the District Public Health Office at the district level.

The project will work for development of technical, managerial and supervisory capability of the health care delivery system. Since health care services at the outreach level are dependent on village level health workers and community volunteers (FCHVs and TBAs), the project will focus on developing their technical capabilities and developing FCHV associations at VDC and DDC levels. Federating FCHVs at different levels will provide a community-based structure to support sustainability beyond the stipulated life of the project.

The project advisory committee will also identify two or three local NGOs as local partners in collaboration with SWC. Objectives for this partnership will be institutional development for local NGOs to improve

their capabilities for implementation of child survival activities on a sustainable basis. Local NGOs will be strengthened for overall implementation of the project in designated geographical areas. Their responsibilities will include all or some of following actions:

- ✓ Community mobilization and social sanction for project activities from community leaders
- ✓ Formation and strengthening of mothers groups
- ✓ IEC activities at the ward, VDC and municipality level
- ✓ Training of Female Community Health Volunteers (FCHVs), TBAs and other private health care providers
- ✓ Community-based data management
- ✓ Project monitoring and supportive supervision

Building Capacities of Ministry of Health and Other Health Service Providers

According to the organizational structure of the Ministry of Health the Sub Health Post (SHP) functions as the first contact point for basic health services such as immunizations, antenatal check ups, and first-line management of basic ailments. But in reality, the SHP provides these services only to the communities living in the ward in which it is located. For other wards, the SHP acts as a first referral center and basic health care services are provided by village-based volunteers (FCHV/TBA), private health service providers and traditional healers. The referral hierarchy goes from the SHP to the Health Post, the Primary Health Centers, Zonal Hospital, Regional Hospitals and finally to the specialty tertiary care centers in Katmandu. This structure is designed to ensure that the majority of public health and minor health problems receive attention in an accessible place at an affordable price.

HUMAN RESOURCE BASE OF GOVERNMENT IN KANCHANPUR

Institution	Sanctioned	Filled
Zonal Hospital (1)	96	64
Dist. Public Health Office (1)	31	27
Primary Health Center (2)	26	20
Health Posts (8)	56	50
Sub Health Posts (11)	44	44

In Kanchanpur district, the Department of Health Services provides preventive, promotional and curative health services through one Zonal Hospital (fifty beds), one District Public Health Office, two Primary Health Care Centers, eight Health Posts (HP) and eleven Sub Health Posts (SHP). The District Public Health Office manages all the HPs, SHPs and Primary Health Centers (PHC) in the district. The Zonal Hospital has an annual budget of around US\$84,000. Similarly, the annual budget of the DPHO, including PHC, HPs and SHPs, is around US\$53,000. The budgets for medicine for each PHC, HP and SHP are around US\$700, US\$400 and US\$200 respectively.

Health Posts and Sub Health Posts are managed by Health Management Committees comprising six members each, including the VDC Chair, the person in charge of the facility (Member Secretary), one headmaster of a local school, the nearest Ward Chair, a social worker and a politician.

The District Public Health Office implements activities related to child health (immunization, nutrition, control of diarrheal diseases, acute respiratory infection), reproductive health (family planning, safer motherhood,) and disease control (malaria, tuberculosis, leprosy, HIV/AIDS) through PHC, HPs and SHPs. About 94% of the total sanctioned positions of Health Posts and Sub Health Posts are filled.

There are 171 trained Female Community Health Volunteers (FCHVs) in the area and half are estimated to be active by DPHO and other sources. There are 172 trained TBAs in the district actively conducting safer home deliveries and provision of other maternal and neonatal health care services, but the services are of very poor quality. The functional relationship between different levels is not clearly defined e.g., DPHO

with PHC, PHC with HP/SHP, HP with SHP. The supervision and monitoring mechanisms, especially at community health facilities (TBA, FCHV and HP/SHP), are very poor.

The Zonal Hospital provides out and in-patient clinical services and maternal and child health services. It has 18 sanctioned positions for medical doctors, but only six are currently filled. Similarly, out of the 27 sanctioned nursing positions, only 10 are presently filled.

Government health services are generally poor in terms of quality and coverage. Although each of the five project interventions are addressed at each level, the coverage rates and utilisation is abysmal due to poor quality of services, poorly-trained and unmotivated staff, lack of effective supervision, and insufficient supplies and drugs. Due to systemic and structural problems, the nature and scope of the services depend on the motivation of the individual providers. In addition, retention of trained staff is a problem, especially at the district level. The project will advocate with central, regional and district authorities for recruitment, training and posting of local staff, in the belief that they are more likely to remain in the area. An agreement will be sought from local authorities that staff will not be transferred during the life of the project or for at least two years, except in extraordinary circumstances.

Building capacities of local NGOs

This project will assist two or three local NGOs to develop the necessary skills in promoting behavioral changes for improved child survival and developing sustainable systems at VDC and Municipality level. These NGOs will mobilise community structures for improved community surveillance mechanisms to bring accountability in government health services. Bringing increased community awareness about child survival issues can help in mobilisation of additional community resources (VDC fund and savings generated by mothers' groups) that government does not control.

The PAC will select two or three local NGOs for partnership, using CARE Nepal's partnership guidelines (see Annex VIII). The partnership manager based in CO will also participate in the selection process. Steps followed will include

- ✓ Development of specific selection criteria for this project
- ✓ Call for letter of interest
- ✓ Preliminary screening of the organisations
- ✓ Request for proposals from the selected organisations
- ✓ Review by the PAC
- ✓ Final selection.

Capacity of the selected organizations (participatory decision making, mission and vision of the NGO, gender policy, transparency in fund management, planning, implementation and management skills of the staff etc) will be assessed.

There are 360 registered local NGOs in the district but only 19% are actively involved in developmental activities. A large number are involved in non-formal education. Six are also involved in reproductive health, HIV/AIDS education, nutrition and health education activities related to child survival objectives. . These NGOs are uniquely placed to provide efficient and sustainable services. However, these organisations are new and hence lack analytical problem solving skills and project management and accounting experiences, in spite of strong commitments to developmental causes. CARE will provide institutional developmental support to these NGO to develop into strong, sustainable community-based institutions over time.

The project will closely co-ordinate with NNSWA, FPAN and the Nepal Red Cross for improved access to clinical services.

Capacity Building of Local Self-governance Bodies and Community-based Associations

With passing of new laws related to local government (Village Development Committees, District Development Committees and Municipality) in mid-1999, these bodies have greater authority, resources

and responsibilities and are in a better position to address community needs. The VDCs are also responsible for managing village level health centers, health post and sub health posts through the Health Management Committees. There is a lack of a sense of ownership of health services at local government level as the local government bodies (VDC, DDC) are not properly oriented in the management of HP and SHP. In addition, at present they lack the capacity to adequately manage and do not fully appreciate their roles, responsibilities and authority. The project will work with the DDC and VDCs to develop their capacity in health planning, decision-making, management, monitoring and evaluation.

Kanchanpur District Development Committee has decided to assign the elected Woman Ward Member in each VDC as the Ward Coordinator for health activities. However, health-related technical knowledge and leadership skills of those women are very limited. With the assistance of experience local and national NGOs, the project will enhance the capabilities of Ward Coordinator through Leadership Development and Participatory Planning and Management training. The project will also help the Ward Coordinator establish linkages among FCHVs, the FCHV Association, mothers groups and Ward Level Coordinators.

The VDC's funding comes from the annual Rs. 500,000 received from HMG for rural development, and receivables from local charges, levies, rents and fines. The main financial sources of the Municipality are land taxes, service fees, charges, duties and grants from the government.

The project will assist the FCHVs to organize their own associations at the VDC level. The project will support the FCHV Association in developing an institutional development plan and motivate the DPHO, Health Post/Sub Health Post and VDC to support the FCHV Association. The project will provide support to implement the institutional development plan of FCHV Association.

G. Strengthening the PVO

This first Child Survival Project of CARE Nepal will increase CARE's own capacity to implement child health activities partnering with various other development agencies (DPHO, VDC and local NGOs). The lessons learned will enhance other ongoing health projects and help with designing sustainable child health projects in future. In addition, the professional technical and managerial skills of CARE staff and organizational systems will be improved, both in headquarters and at the country office level.

Over the past two years, CARE has participated with several other PVOs in the Discussion-oriented Organization Self-Assessment program (DOSA) developed by the Education Development Center, Inc. This tool allows the organization to draw a profile of itself in six core capacity areas (External Relations, Financial Resource Management, Human Resource Management, Organizational Learning, Service Delivery, and Strategic Management) and thirteen sub-capacity areas (e.g. external communications, fundraising diversification, program quality, staff development, and sustainability). The organization is now using the findings from this profile to develop a strategic capacity-building plan.

As a part of the USAID BHR/PVC Child Survival Program, headquarters staff will set complementary goals and develop a strategy to assist the organization in achieving those goals. Areas of concentration will include:

- *Human resource management:* staff development through annual workshops, in-country training during visits, mentoring, creating opportunities for training and advancement for national staff, and providing support to publicize work through professional meetings.
- *Service delivery:* project sustainability - learning from other organizations, applying models, local ownership, strategic partnering, and resource leveraging

Local partners will apply strategies from this project to their other programs. The project will increase service delivery through the specific proposed activities, and will create sustainability by developing partners' long-range commitment to maintaining these activities, and by improving the community's ability to make decisions about health issues.

The project contributes to BHR/PVC's Intermediate Results:

- ❑ *Operational and Technical Capacity of U.S. PVOs Improved:* The proposed project will greatly expand CARE's capability to partner with local government to achieve sustainability. It will also help CARE to implement and evaluate a variety of community drug supply schemes to assess their effectiveness in improving community access.
- ❑ *Strengthened Partnership between USAID and U.S. PVOs:* CARE has a strong relationship with the local USAID mission, which has funded various CARE projects and will maintain close communication during implementation.
- ❑ *Strengthened U.S. PVO and NGO Partnership:* CARE will work to form and enhance the capabilities of community-based organizations such as the mothers groups and the FCHV associations. There are no NGOs, as such, working in child survival in Kanchanpur, but CARE will coordinate with those that have health-related activities such as Red Cross, Nepal National Social Welfare Association, and FPAN.
- ❑ *Improved Mobilization of Resources by PVC's PVO Partners:* CARE will match CS XV funds with its own funds, seeking another major donor or drawing from a pool of individual donations.
- ❑ *Public Awareness Raised:* CARE-USA has an external relations department which raises public awareness for development works, as well as funds for CARE's activities.
- ❑ *Enhance Advocacy Initiatives:* CARE's media specialists at HQ and in country offices disseminate information through television, radio and print media to raise public awareness of program results in developing countries. HPU staff make presentations on child survival issues at international conferences, colleges and universities, publish the outcomes of child survival projects, and participate in the Global Children's Health Forum. CARE is expanding its advocacy efforts to target individual legislators and legislative groups in the areas they represent in order to more effectively communicate information related to child survival and other issues of importance in the developing world. A critical link to advocacy is building the capacity of field staff in policy formulation to advocate for the citizens of their assigned nations.

H. Sustainability

CARE defines sustainability as lasting and sustained change in behaviors of project participants, capable supportive institutions, and financial resources (predominantly internal/community resources) that have a positive effect on child survival status. It implies enabling individuals, communities, and institutions such as MOH, and local NGO are created and/or strengthened to continue the process of positive change, and to adopt behaviors and systems that endure. CARE and others have found sustainability to be correlated with the following principles, which are built into every health and population field project: 1) participation, 2) cost-effectiveness, 3) integration, 4) local cost-recovery and self-financing for direct service delivery, 5) partnerships, and 6) institutional capacity building. In this proposal, institutional capacities will be built within the MOH, the VDCs, SHPMCs, mothers groups, ward coordinators and FCHV associations. The DDC, VDCs, FCHV associations, and MOH will all be involved in assuring financial sustainability.

Different NGOs including CARE have successfully implemented programs based on capacity building of MOH, Local NGOs and active involvement of the community through mothers groups, FCHVs, TBAs, and management committees. Implementing these programs in close collaboration with local self-government bodies have the potential for sustaining them long after the project ends.

Behavioral Sustainability

Project strategies are designed to motivate and sustain the practice of health behaviors that reduce the risk of disease and death among women and children. The strategies are based on the premise that people sustain behaviors that clearly reduce deaths, so long as they have access to quality services and resources that make the behavior possible. For example, mothers of children under five years old will continue to use ORS without health education and promotion once the practice is associated with reduced diarrheal deaths

and ORS packets are accessible. The strategy of using mobilized mothers groups and community change agents such as FCHVs and TBAs assumes that peers influence behavior. Different models of behavior change such as the health belief model, positive deviance, etc. will be used in the project.

Sustainable behavior change is only possible if backed up with provision of related services and supplies. Hence the project will do capacity building and supportive follow up of MOH staff as well as the private health care providers for provision of quality services. The project will develop revolving drug schemes at various levels to ensure uninterrupted quality supplies.

Institutional Sustainability

Sustained behavior change may not be achieved in a single four-year period. Strong, organized communities are better able to sustain and expand upon processes that are catalyzed by development projects. Community development is sustainable only when the community itself takes charge of the development process. In health this means demanding, advocating and utilizing appropriate services.

At the community level, the main objective is to empower communities to assume responsibility for their own health, which means enabling them to prioritize, plan, implement, maintain and evaluate local interventions through transfer of organizational and managerial skills, technical knowledge, and resource generation and mobilization techniques. For this reason active community participation in all stages of project interventions is essential. Capable community-based institutions will be developed or strengthened by the project for promoting lasting changes in positive health behavior. Community based institutional sustainability issues will be addressed at various levels:

- ❖ Mothers groups
- ❖ Ward coordination committees
- ❖ FCHV associations
- ❖ Health post and sub health post management committees
- ❖ Local NGO partners
- ❖ VDC, municipality and DDC

At the first four levels, efforts will focus on creating community demand and improving supplies by collective action and community participation. At the level of elected representatives, the project will attempt to strengthen community surveillance mechanisms.

Since the MOH will be the principal partner, the project will focus on developing its capacities for service delivery, supportive monitoring of FCHVs and TBAs, managing supplies and HMIS. Plans will be developed for phasing out, so that activities can be continued beyond the project life. The project will also focus on building capacity of the private health care providers, and the surveillance and supportive role of local self-governance bodies.

The first year will be spent mobilizing, training and reactivating FCHVs and TBAs, forming mothers groups, and building capacity of MOH, local NGO and private health care providers. Activities will be phased in 19 VDC and the municipality. These critical initial investments will ensure community demand generation at one end, and provision of quality services at the other. Management and supervision capacity development of local self government bodies occur concurrently. All activities will help develop community surveillance mechanisms and ownership of CS objectives.

Mothers groups will be the most peripheral component. The DDCs have proposed that the women elected ward members be appointed as ward coordinators for health activities, so they will receive leadership training. Initially they will chair the mothers groups, with the FCHV as the secretary. As the groups mature, they can decide on the most suitable structure. CARE will help the mothers groups link with existing resources and government schemes not being currently tapped. Having the elected ward member as the chairperson of the group will help in developing those linkages.

Financial Sustainability

The MOH is not currently willing to commit indefinite financial support to extension of the FCHV scheme. CARE is negotiating with the VDCs to underwrite some or all future costs, such as materials or refresher

training, using a part of the VDC Rural Social Development annual fund. The FCHV associations are another possible mechanism to assure financial sustainability, since they can raise some funds locally (through sales of Clean Birth kits, ORS, Cotrimoxazole, or holding social events) and could solicit additional support through local government or institutions.

The project proposes to build on existing cost recovery systems that are not currently functional for the service provisions.

1. At the level of Health Post and Sub Post, drugs will be supplied by the MOH through the management committees and sold to patients. Medicine is dispensed through prescriptions from Health Post/Sub Post staff, whose salaries are paid by the VDC. The funds generated will be used to procure more supplies.
2. At the ward level, FCHVs and TBAs are initially given a drug or safe delivery kit by the MOH. Supplies are sold to the community at some mark up and the funds generated are to be used to replenish supplies. However, this system needs to be reviewed and strengthened to ensure financial viability as well as access for the poorest of the poor.
3. The project will generate community health funds by instituting savings schemes in the mothers groups. The revolving drug schemes for mothers groups will be restricted to preventive & promotive medicines like ORS, SHDK etc. Communities will be encouraged to use this contingency fund for obstetric emergencies, but each individual community may determine other uses as well. This will enable the communities to recognize that their collective efforts can help them address their own needs, and will contribute towards cohesiveness of mothers groups and community ownership of the program.
4. At every level linkages with government drug schemes will be developed

An expert will be sought to assist the project to develop financially viable health financing options for mothers groups. To assure the supply of essential antibiotics and ORS at the community level, CARE will explore sustainable supplies provision schemes through mothers groups, such as revolving drug kits with essential supplies. CARE-Nepal had success with this model for birth spacing devices in other districts.

Sustainability Plan

Please refer to the projective objectives and goals section (page 19-21).

The project plans to document and disseminate achievements and lessons learned that may inspire other PVOs or government to replicate the experience. CARE will utilize lessons learned from this project to benefit the other health projects in the country.

I. Training

The project plans to train all project staff and some MOH staff, private health care providers and selected members of community in technical areas, (PRA/PLA), adult learning methodologies & principles for behavior change, such as interpersonal communication skills (counseling). Supervisory staff will also be trained in quality assurance and supervision. In addition, all stakeholders will receive appropriate training in nutritional and care-seeking behaviors, such as breast-feeding promotion, maternal and child nutrition, food calendars and locally available micronutrients-rich products. All project staff as well as mothers groups will receive HMIS training on how to collect analyze and use data for decision-making. All training will be based on following principles:

- ❖ Use national protocols.
- ❖ Skill and competence-based, with hands-on practice.
- ❖ Participatory in nature and based on adult learning principles.
- ❖ Field follow-up of all the trainees within a stipulated period.
- ❖ Cost-effective using local resources.
- ❖ Conducted in small groups of no more than 20.
- ❖ The trainer/trainee ratio will be maintained at 7-8:1.
- ❖ Conducted in an environment as similar to the actual working context as possible.
- ❖ Efforts will be made to avoid duplication of the training by other agencies.

- ❖ Project management and supervision skills based on trainees' job requirements.
- ❖ Community mobilization and counseling skills integral to all training.

Regular refresher training and on the job follow up will be a cornerstone of the training plan. Every training session will have a corresponding action at the community level. After every phase of quarterly training, FCHVs will take what they have learned back to the mothers groups to ensure immediate adoption and use of the knowledge and skills. The following table presents an example of how FCHV training might result in actions at the community level.

Training / Capacity Building Sessions	Action in Community
<p>1. ORIENTATION Introduction to the project Define roles of project functionaries Discuss possible role of community in the project</p>	<p>Community meetings for generating interest. Identifying and selecting interested mothers for strengthening/formation of mothers groups.</p>
<p>2. SETTING GOALS Define goals objectives and indicators of the project Educate communities about importance of health information and data. Use information to meet project goals Define action plan and commit to implementation.</p>	<p>Community meetings Begin making community data boards Community commitments toward joint action plans to resolve to address identified issues.</p>
<p>3. LEARNING ABOUT PEOPLE AND IDENTIFICATION OF THE TARGET GROUP Geographic maps and household locations (PRA) Community resources, groups, leaders and women Registration and verification Tracking vital events Possible use of rosters for identification of eligible women and children</p>	<p>Mapping, household numbering Household registry or verifications Improved vital events tracking. Establishing/updating rosters of women and children. Identifying project participants.</p>
<p>4. LEARNING ABOUT NUTRITIONAL PRACTICES AND RESOURCES OF COMMUNITIES Community calendars/food calendar Nutritional practice of the community (based on qualitative research in depth practices specific to the village) Identification of positive deviance cases in the community and their household practices</p>	<p>Identifying community resources with communities. Season-specific local food calendar. Communities nutritional practices identified and mapped positive deviance cases identified in the communities Household practices of deviant cases identified.</p>

<p>5. IDENTIFY COMMUNITY BELIEFS AND PRACTICES FOR CHILD FEEDING PRACTICE</p> <p>Identify the normal practices and beliefs of infant feeding. Acknowledge the positive beliefs and support their continuity. Address the impacts of the negative beliefs.</p>	<p>Communities' nutritional beliefs identified. Enabling/inhibiting factors at community-level for promoting healthy practices identified. Action plans developed based on identified factors.</p>
<p>6. ROLE OF BETTER NUTRITION IN INFANT HEALTH</p> <p>Relationship between good infant feeding practices and health of the child. Define dietary interventions to prevent illness, such as diarrhea, ARI, malaria.</p>	<p>Identify growth faltering and the possible reasons for it. Dietary management for diarrhea/ARI and prevention of infections.</p>
<p>7. INFANT FEEDING PRACTICES</p> <p>Educate about frequency, portion size, consistency, calorie density, hygiene in food preparation and feeding. Promote cultivation and consumption of locally available, low cost foods, especially those rich in Vitamin A and iron. Demonstration of cooking and feeding.</p>	<p>Creating awareness about importance of Vitamin A and iron in the diet. Increased local cultivation Recipe demonstrations.</p>
<p>8. SERVICES AVAILABLE AT THE HEALTH FACILITY LEVEL AND WITH FCHVs FOR IMPROVING INFANT NUTRITION</p> <p>Availability of the services at the health post/subpost level Session on importance of growth monitoring Importance of Vitamin A in keeping a child healthy</p>	<p>Increased awareness about available health services Better utilization of growth monitoring services Increased compliance with 6 monthly Vitamin A doses.</p>

The MOH and project staff had already been trained in KPC survey methodology and health facility assessment techniques. This enabled them to participate fully in collecting information and data for designing the detailed implementation plan. They will also be trained in qualitative research methods so they can participate in qualitative assessments.

TRAINING PLAN

FCHVs will be the key change agents. They will be trained in technical interventions as well as community mobilization skills (PRA/PLA), interpersonal counseling skills and self supervision. First year will focus on the training of existing FCHV and in the next year the new additional FCHVs will be trained.

TBAs will be trained in antenatal care, use of SHDKs, identification of danger signs during pregnancy and delivery when timely referral is required, and essential newborn and postnatal care.

MOH facility level staff will be trained using the IMCI 11-day health facility level curriculum in collaboration with the CDD/ARI section of MOH, JSI and WHO. The VHWs MCHWs, CHE & FHE will be trained using the 7-day basic health worker package. These curricula have follow-up supervision and project management skills as an integral part of the package. FCHVs and selected community representatives will be trained using the combined CDD/ARI package of the MOH/JSI. This package consists of an initial five-day session on ARI and a two-day session for diarrhea. Additional technical interventions will be covered quarterly as part of continuing education.

Private health care providers and pharmacists will be included in capacity building sessions. The project will focus on building their capacities about the national protocols , appropriate management of diarrhea and ARI and judicious use of antibiotics.

NGO partner participants will receive training in all the interventions and project management. By working with CARE project staff, the NGO staff, community volunteers and local governance bodies will learn about planning, use of data for decision-making, monitoring and evaluation, and interpersonal skills. Acquisition of these skills will be assessed through regular supervision and feedback.

Two or three active representatives of mothers’ groups, will also be trained with FCHVs on all essential skills for child survival activities. They will become an additional source of health care at the community level. The mothers groups will be taught appropriate nutritional behaviors for pregnant/lactating women and children, with particular emphasis on breast feeding and complementary feeding. Mothers will also learn about disease prevention, appropriate home management and care seeking for pneumonia and severe diarrhea or dehydration, and maternal and newborn care. In certain VDCs, mothers groups will be trained about malaria. All members will be trained in counseling skills so they can promote healthy behaviors in other mothers. Mothers groups and FCHVs will also be trained in community health fund generation and management to support emergency obstetric needs.

The scheme shows all proposed training at different level in a generic manner. Depending on the content of training and job responsibilities, different groups and batches will be formed. Additional training on leadership and organization development will be organized for representative of local self-governance bodies, FCHV associations and HPMC/SHPMC.

Trainers	Trainees	Content	Methods	Duration	Frequency
External trainers from JSI, MOH, training specialists from CARE and other consultants	Master trainers DPHO, PM, CHO, DDC and NGO representative	Facility level IMCI training MOH /JSI curriculum including project management (1)	Workshop and clinical practice sessions	Initial training for 11 days	Once in the project life
		PRA /PLA training (2) + Qualitative data collection training	Workshop and field practice sessions	Initial training for 8 days	Once in the project life
		Improving training skills including counseling skill (3)	Training of trainers	Initial training for 10 days	Once in the project life
		HMIS training			
		Participatory planning and management Training on technical issues ANC/PNC care ,safe delivery and neonatal package nutrition, malaria and project management at the end of years 1, 2, & 3	Workshop and field practice sessions Workshop	Initial training for 5 days Initial for 7 days	Once in the project life
		Workshop and clinical practice sessions	Refresher and auxiliary training sessions for 3 days	Once in every 6 months (total of 8 training of 3 days each)	

External trainers and master trainers (Team from the larger group based on topics)	Health facility staff, Projects Health Supervisors , DDC staff and NGO staff 7private health care providers*	Facility level IMCI training MOH /JSI curriculum including project management (1) PRA /PLA training (2) + Qualitative data collection training	Workshop and clinical practice sessions Workshop and field practice sessions	Initial training for 11 days Initial training for 8 days	Once in the project life Once in the project life
		Improving training skills including counseling skill (3)	Training of trainers	Initial training for 10 days	Once in the project life
		HMIS training	Workshop and field practice sessions	Initial training for 5 days	Once in the project life
		Training on technical issues ANC/PNC care ,safe delivery and neonatal package nutrition, malaria and project management at the end of year 1, 2, & 3	Workshop and clinical practice sessions	Refresher and auxiliary training sessions for 3 days	Once in every 6 months (total of 8 training of 3 days each)
HA, Projects HS , DDC staff and NGO staff	Outreach level govt. staff (VHW & MCHW) and CHE /FHE of project and appropriate NGO staff 7 private health care providers *	Community-level IMCI training	Workshop and clinical practice session	Initial training for 7 days	Once in project life
		MOH/WHO/CARE package			
		Quantitative data collection	Workshop and field practice sessions orientation	Initial 4 days training	Once
		Health Facility assessment	Workshop with field practice	For one day	Once
		Community participation / empowerment	Workshop and field practice sessions	For 5 days	Once
		PRA /PLA training (2) + Qualitative data collection training	Training of trainers	Initial training for 8 days	Initial training for 8 days
		Improving training skills including counseling skill (3)	Workshop and field practice sessions	Initial training for 10 days	Initial training for 10 days
HMIS training	Workshop	Initial	Initial		

		Training on technical issues ANC/PNC care ,safe delivery and neonatal package nutrition, malaria and project management at the end of year 1,2,&3)	and clinical practice sessions	training for 5 days Refresher and auxiliary training sessions for 3 days	training for 5 days Refresher and auxiliary training sessions for 3 days
CHE/ FHE VHW (also MCHW)	FCHV, selected members of mothers groups (1-2 from each ward), private health care providers *	<p>Combined CDD/ARI package of MOH/JSI</p> <p>Training on community Participation/ empowerment</p> <p>PRA/PLA training</p> <p>Improving training skills including counseling skill</p> <p>Orientation on ANC/PNC care, safe delivery and neonatal package(4)</p> <p>Technical training (refreshers on interventions)</p> <p>Training on community birth planning and health funds management Training on organization development for formation of associations</p>	<p>Workshop and clinical practice sessions</p> <p>Workshop and field practice sessions</p> <p>Workshop and field practice sessions</p> <p>Training</p> <p>Orientation</p> <p>Workshop and clinical practice sessions</p>	<p>Initial training first phase 5 days Second phase 2 days</p> <p>Training for 5 days</p> <p>Meeting for 3 days</p> <p>Training for 3 days</p> <p>Meeting for one day</p> <p>Refresher training for 3 days</p> <p>Followed by field level support</p>	<p>Once in project life</p> <p>Once</p> <p>Once</p> <p>Once every year</p> <p>Once</p> <p>Once every 4 months</p>
MCHW (also ANM & VHW) CHE, FHE	TBA	<p>Orientation to CDD / ARI and other technical interventions</p> <p>Training on ANC/PNC care ,safe delivery and neonatal package</p> <ul style="list-style-type: none"> ❖ Safe motherhood ❖ Neonatal health <p>HMIS training</p>	<p>Meeting and health education</p> <p>Workshop and clinical practice</p> <p>Training /supervision meetings</p> <p>Workshop and field practice</p>	<p>One day</p> <p>Initial training for 12 days</p> <p>For 2 days</p> <p>Training for 3 days Followed by</p>	<p>Once in project life</p> <p>Once in project life</p> <p>Every six months</p> <p>Once</p>

		Interpersonal communication / counseling skill training)	sessions along with FCHV Workshop and field practice sessions along with FCHV	field level support Training for 3 days and Continued support during supervisory visits	Once every year
FCHV,TBA supported by CHE and FHE	Mothers groups, ward coordinators	Nutritional behaviors Home management of conditions. Health seeking behaviors Community resources Community health fund Interpersonal counseling	Informal and formal mothers group meetings using health education methods and material & practical demonstrations ❖ home visits	Training sessions lasting for 1-2 hours	Once every month.

*Private health care providers will be accommodated in suitable groups as per the services provided by them

Note: Training curriculum to be used can be found in Annex VII.

J. Behavior Change Communication

The project will first assess community needs and practices through a qualitative study. that will gather information about existing health facilities, problems, cultural beliefs and practices, socioeconomic conditions, and social, institutional and individual resources. Special emphasis will be placed on identifying positive community practices, which will be promoted through community modeling. (See Annex II for TOR.)

Based on qualitative information, a communication strategy will be developed that is appropriate for local beliefs and customs, followed by seeking community support. During village meetings, the existing situation and gaps will be discussed, and responsibilities of each stakeholder will be determined. The most active, respected and influential community-based institutions and individuals will be identified and assigned specific responsibility to monitor the project’s communication strategy.

After this, project will focus on creating community awareness, identification of target populations, and generating discussion on adoption of better nutrition and health practices. It will focus on developing mothers groups’ capacity to access and manage health and nutrition-related interventions. The community-based organizations will facilitate development of an action plan to achieve desired behavior change. Mothers groups will be encouraged to meet monthly to identify barriers to behavior change, find appropriate solutions to identified constraints, and develop action plans.

Additional nutritional information will be collected on an ongoing basis and used for improvisation of communication strategies. All messages regarding health and nutrition in the community will be channeled through the mothers groups. The impact of BCC on caretaker knowledge and practices will be tracked through community data boards. (See section on monitoring and evaluation for details.)

Techniques for changing community norms and beliefs will include:

- Improved knowledge and awareness: Mass media campaign using FM radio, as well as local folk media with artists
- Interpersonal communication: Home visits by community health volunteers and members of mothers groups, whose capacity to influence behavior is based on being part of community and knowing family decision-making structures and traditional practices. They will be trained in counseling, cooking demonstration, and communicating with family decision makers.
- Effective supervisory support: Project and government field level staff will provide continuous support to community volunteers and mothers groups, including accompanying home visits, continued on-the-spot training, and assistance with data analysis for decision making. In the beginning, field staff will attend all monthly mothers group meetings, until mothers groups become proficient in facilitating behavioral change.
- Community modeling: Demonstration of positive deviance cases within the community will be one strategy to change behavior and norms. Staff will be trained to identify such cases and their practices. It will be especially important to address the prevailing community belief that health is directly related to money.
- Changing normative practices of community: The project will elicit support from elected ward leaders for strategies and practices. In addition to changing community norms, this will help develop community ownership and surveillance mechanisms.
- Behaviors of health care providers: The project will focus on behaviors of both government and private health care providers. Since 49% of the population consults private health care providers, their role in the community health care will be acknowledged and supported, even though many have received little or no formal health training. The project will promote quality service and discourage indiscriminate use of injections, antibiotics and IV fluids. Project will explore possibility of accreditation of private health care providers who consistently follow optimal health care standards.
- Behaviors of other family members (husbands, in-laws, etc.): In this population's family system, decision making is influenced by elders. Husbands usually play an important role in deciding to seek help at the facility level. The project will focus on knowledge and beliefs using local folk media, and health education meetings to which all villagers will be invited.

Target Group	Objective	Activity	Frequency	Intervenors
Pregnant women & mothers of children > 5yrs	Practice healthy behavior on sustainable basis Access quality services as and when required	Individual and peer counseling Awareness Campaigns ◆ local media ◆ radio	Ongoing Once in a year Ongoing	Community volunteers Mothers group Local cultural groups FM station
Family members (husbands, in-laws) and other influential people in the village	Understand their perspective and concerns Solicit support for project. Create an enabling environment for the practice of promoted behaviors. Encourage their participation leading to community ownership	Village level meeting Awareness campaigns using ◆ local media ◆ radio	Semi-annually Once in a year Ongoing	Project staff (CHE/FHE) with support from Health Supervisors, Govt. staff Local cultural groups FM station

Mothers groups	To enhance knowledge and skills for promotion of optimal practices and addressing the identified barriers.	Mothers group meetings	Monthly	FCHV/ TBA and project (CHE/FHE) and govt. (VHW/MCHW) staff
Community volunteers FCHV/TBA	To enhance knowledge and skills for the promotion of practices To enhance community mobilization and action planning skills To improve their services as health providers.	Training and refreshers Supervisory support	Once initially followed by refreshers (see capacity building section)	Project and Govt. trainers (see capacity building section)
Service providers(govt as well as private providers) Govt. (VHW, MCHW, ANM, CMA & HA) Private (traditional healers and other rural practitioners) & appropriate NGO staff	To improve knowledge and skills for promoting and supporting optimal practices in the community. To improve the service quality provided by them. To improve supportive supervision and monitoring skills of govt. staff	Workshop & training including regular refreshers and on the job support (see capacity building section)	Once initially followed by refreshers (see capacity building section)	Project, Govt. trainers and external consultants (see capacity building section) Core group
Core Team (PM, CHO,) govt. medical doctors at district level Appropriate NGO staff	To build capacity for project management and community action planning support Adequate treatment and counseling of cases referred by field functionaries. Building supervisory skills.	Workshop & training Cross visits to other successful project sites	Initially at the beginning then when required (see capacity building section)	CARE country office technical staff External resource persons
Community bodies at ward, VDC and DDC level including district level NGO federations	To develop community surveillance mechanisms To develop links of the project with other developmental activity To develop sustainability mechanisms	Orientations Project advisory committee meetings Briefing from time to time Sharing of project data and reports	Initially Quarterly	Project manager and other country office staff External consultant

SECTION 2. PROGRAM MANAGEMENT

A. Work Plan (Years One and Two)

Activity	Year 1				Year 2			
	1	2	3	4	1	2	3	4
Project start up								
Staff Recruitment/Placement	X							
Office Establishment/procurement	X							
Staff orientation	X							
KPC Survey		X						
Quality of Care Assessments		X						
DIP Preparation		X						
Qualitative data collection and analysis		X	X					
Strengthen/Expand health services								
Coordination and team building with MOH	X	X	X	X	X	X	X	X
Training Needs Assessment			X					
Training MOH Staff (DPHO, HA, CMA, ANM, VHW , MCHW)			X	X	X	X	X	X
Training VDCs/HPMCs and ward level committees			X	X				
Training FCHVs,			X	X	X	X	X	X
Training TBAs				X		X		X
Develop and test supervision systems for HP/SHP staff, FCHVs, TBAs, VHWs, communities				X				
Design population -based data management systems					X	X	X	X
Training new FCHVs/TBAs and private health care providers and pharmacists					X	X	X	X
Implement community drug schemes and community health funds						X	X	
Communities market ORS, SHDKs						X	X	X
Growth monitoring in all wards					X	X	X	X
Institutional Strengthening of local NGOs								
Organize NGO federation workshop	X							
Develop an inventory of the partners	X							
Form a partnership management committee		X						
Develop partner selection criteria			X					
Call for letter of interest from organization			X					
Screening of organizations			X					
Request for applications sent to selected NGO			X					
PMC decides on partner NGOs				X				
Partnership MOU signed with partners				X				
Training of NGO in project management					X		X	
Training of NGO partners in technical interventions					X			
Training of NGO in supervision monitoring and HMIS						X		X
Project implementation by NGO					X	X	X	X
Community mobilization								
A. Mothers groups								
Community orientation meetings for attaining social sanctions at district, VDC and ward level	X							
Training of staff in PRA/PLA and community empowerment concepts for project and partner staff		X						
Formation or reactivation of mothers groups			X	X	X			

Strengthening of mothers groups				X	X	X	X	
Continued mobilization of mothers groups						X	X	X
Development of community health funds						X	X	X
Development linkages of community groups							X	X
B. Mobilization of community volunteers								
Orientation meeting for FCHV and TBAs	X							
Development of FCHV association at VDC level				X	X			
Federate the FCHV associations at the district level						X	X	
Strengthen the associations at VDC/DDC level							X	X
Capacity building of project and MOH staff								
Training on IMCI of project (health supervisor) & health facility level staff (CMA, ANM)			X					
Training of IMCI of community level worker (VHW , MCHW) & CHE, FHE			X					
Training of FCHVs in combined CDD/ ARI			X					
Training for TBA				X				
Refresher training for facility level staff				X			X	
Refresher training for community level workers				X		X		X
Refresher training for FCHV/TBA					X	X	X	X
Training for newly recruited FCHVs					X			
Refresher trainings for new FCHVs							X	X
Miscellaneous								
Project review		X		X		X		X
Headquarters visit				X			X	
Mid-term evaluation								X

Work Plan (Years Three and Four)

Activity	Year 3				Year 4			
	1	2	3	4	1	2	3	4
Community depots for ORS, Clean Birth Kits	X	X	X	X	X	X	X	X
Strengthening of mothers groups in all wards	X	X	X	X	X	X	X	X
Maintain and improve supervision system and community based data management.	X	X	X	X	X	X	X	X
Growth monitoring at health posts and sub health posts	X	X	X	X	X	X	X	X
Project review		X			X			
Headquarters visit		X		X		X		X
Refresher training FCHVs, TBAs		X		X		X		
Quality of care assessments							X	
Re-training of SHP and HP staff							X	
Final KPC and evaluation								X

B. Human Resources:

Project staffing:

The project originally proposed 41 staff, but based on reviewer comments, country office LRSP and national government priorities, the strategy was changed to more strongly emphasize partnership and capacity building with national NGOs, MOH and other private health care providers. Now the project will hire only 33 staff. A new senior position of community health officer has been created to support local capacity building for improved service delivery and sustainable institutional development. Staff positions

will be maintained for the first two years during institutional development of the local partners, then the number of the staff will be reduced by 10% at the beginning of third year and 12% in the fourth year as the local organizations become more experienced.

Scale Down Plan for the Project

Title	Positions	YEAR 1	YEAR 2	YEAR 3	YEAR 4
		Oct 99- Sept 00	Oct 00- Sept 01	Oct 01- Sept 02	Oct 02- Sept 03
Project Manager	1	1	1	1	1
Community Health Officer	0	1	1	1	1
Health Supervisor	5	5	5	5	5
Community Health extensionists	20	15	15	11	7
Family Health extensionists	5	5	5	4	3
Asst. Finance Officer	1	1	1	1	1
Logistic Assistant	1	1	1	1	1
Driver	2	1	1	1	1
Guard /Helper	5	3	3	3	3
TOTAL STAFF	40	33	33	28	24
% of reduction		20%	-	12%	14%
Total reduction at the end of the project					40%

Technical and management support will be provided by the Health Sector Coordinator, Partnership Manager, Community Health Specialist and Senior Training Officers. The social mobilization /immunization officer from CORE group polio initiative will also support the project. The mid-term evaluation will specifically analyze the staffing level required and make recommendations for the following years.

Position	Type	#	# of pm ²	Supervisor	Core Duties
Project Manager	S	1	48	Health Sector Coordinator	<ol style="list-style-type: none"> 1. Program and policy planning and implementation. 2. Monitoring, evaluation and reporting of project activities. 3. Administration and financial management. 4. Human resource management and development. 5. Liaison and coordination.
Community Health Officer	S	1	48	Project Manager	<ol style="list-style-type: none"> 1. Coordinate with DPHO and other officials to operationalize project. 2. Assist in training of HP/SHP staff 3. Compilation and evaluation of CS activities and preparation of report. 4. Support Project Manager in program implementation and planning.
Health Supervisor	S	5	240	Project Manager	<ol style="list-style-type: none"> 1. Lead community problem analysis using PRA/PLA. 2. Prepare annual plan/program. 3. Meet with VDCs, HPMCs, SHPMCs . 4. Liaison with HP, SHP and train HP/SHP staff. 5. Monitor and evaluate the activities.

Community Health extensionists (CHE)	S	15 ^{2nd} year	576	Health Supervisor	<ol style="list-style-type: none"> 1. Organize Community and Women's groups. 2. Train and support FCHVs, TBAs, pharmacists and local health care providers. 3. Facilitate the process of forming FCHV associations. 4. Adopt educational materials. 5. Train HPMCs/SHPMCs in health planning, management and supervision.
		11 ^{3rd} year			
		7 ^{4th} year			
Family Health extensionists(FHE)	S	5 ^{2nd} year	204	Health Supervisor	<ol style="list-style-type: none"> 1. Organize community members, women's groups and men's groups. 2. Train and support FCHV, TBA private health care providers 3. Organize/facilitate meeting and health education for mothers groups and other community members. 4. Train HPMCs/ SHPMCs in health planning, management and supervision. 5. Facilitate the process of forming FCHV associations.
		4 ^{3rd} year			
		3 ^{4th} year			
Asst. Finance Officer	S	1	48	Project Manager	<ol style="list-style-type: none"> 1. Prepare/maintain all financial and accounting works. 2. Prepare account and financial reports. 3. Assist community organizations in managing their funds and resources. 4. Assist Project Manager in administrative matters. 5. Assist sector heads in preparing monthly funding requirement. 6. Liaison with local banks.
Logistics Assistant	S	1	48	Project Manager	<ol style="list-style-type: none"> 1. Receive and dispatch inventory items. 2. compile projector requirements and ensure the quality of materials. 3. Maintain up-to-date recording and reporting of Inventory. 4. Look after administrative matters. 5. Look after the utilization of vehicles and their maintenance. 6. Look after computer facilities. 7. Supervise support staff.
Secretary	S	1	48	Logistics Assistant	<ol style="list-style-type: none"> 1. Maintain mailing and circulation system. 2. Prepare all typing and word processing. 3. Maintain project documents. 4. Prepare and check daily attendance record. 5. Manage office supplies. 6. Enter data and prepare Information System Reports.
Driver	S	1	48	Logistics Assistant	<ol style="list-style-type: none"> 1. Transport CARE personnel, materials and equipment. 2. Pick up CARE personnel and CARE visitors. 3. Pick up and deliver mail.

					4. Ensure timely check of vehicle and inform vehicle mechanic of any mechanical disorders. 5. Report accidents.
Guard/Housekeeper	S	3	144	Logistics Assistant	1. Provide security around the office compound. 2. Keep the warehouse/store clean. 3. Maintain physical arrangements in office premises and rooms. 4. Carry office memos, documents.
Female Community Health Volunteer (FCHV)*	V	171 now about 500 by project end.	2-3 hours/per day	VHW (sometimes MCHW)	1. Home visits 2. Health education 3. ARI diagnosis and treatment 4. Refer ARI cases.
Traditional birth attendant *	V	172	1-2 hours/day	MCHW (sometimes VHW)	Home visits, antenatal health care, delivery, neonatal health care, postnatal health care, health education, referral for complicated delivery

* are the community volunteers supported by MOH and not CARE staff.

District Health Office Staffing Pattern for Kanchanpur District

Post	Sanctioned	Filled	Vacant	Basic Qualification	Work Location	Responsibilities	Supervisor	Supervisees
Sr. District Public Health Officer	1	1	0	BPH	HQ	Planning/Implementing/Evaluation	Regional Director	All Staff
Section Officer	1		1	BA	„	Admin	DPHO	NG Staff
Nursing Supervisor	1		0	IA	„	„	Sec.Off.	NG II class
Health Assistant	12	7	5	Certificate	„	Child Health	DPHO	
FP Inspector	1	1	0	„	„	FP	„	
Vector Controller	2	1	1	„	„	Malaria	„	Malaria Inspector/Lab Assit.
EPI Supervisor	1	1	0	„	„	EPI	„	VHW/CCA
Training Assistant	1	1	0	„	„	Training	„	VHW
D.T.L.A.	1	1	0	„	„	TB/Leprosy	„	VHW/MCHW
Statistical Assistant	2	2	0	„	„	Statistic	„	VHW
Public Health Nurse	1	0	1	„	„	MCH	„	ANM/MCHW
Malaria Inspector	2	2	0	SLC+Voc. Trg	„	Malaria	VCA	VHW/MFW
Lab Technician	1	0	1	Certificate	„	Lab	DPHO	LA
Lab Assistant	3	3	0	Trg+SLC	„	Lab	LT	VHW
Cold Chain	2	2	0	SLC+Trg	„	EPI	EPI	VHW

Assistant							Superv	
Computer Assistant	1	1	0	Certificate	„	Data Entry	DPHO	
Store Keeper (Kharidar)	1	1	0	Trg+SLC	„	Admin	NASU	Typist/ Peon
Accountant	1	1	0	Certificate	„	Accounts	DPHO	AP/Store keeper
Assistant Accountant	1		X	SLC	„	Account	Acc	Typist
DPHO Medical Officer	2	1	1	MBBS	„	Medical related		
Village Health Worker (VHW)	21	21	0	Grade 8	One per VDC	Immunization, FP(Contra-ceptive distribution), home visits	HP/SHP in-charge	FCHVs
Maternal and Child Health Aid Worker (MCHW)	11	11	0	Grade 8	Sub health post only	MCH clinics, antenatal visits, immunization support	CMA	NA
Assistant Nurse Midwife (ANM)	14	14	0	Grade 10	Health Post level, PHC	Antenatal clinics , vaccinations, delivery	HA	NA
Community Medical Assistant (CMA)	31	30	1	Grade 10, SLC	Sub Health Post and Health Center	Diagnosis and treatment of any cases referred, clinic logistics, and reporting	HA or DHO	VHW,MC HW
Staff Nurse	0	0	0	Grade 10, +2 years science campus	District Hospital, PHC	Diagnosis and treatment of any cases referred, clinic logistics, supervision and reporting	DHO	CMA
Typist	1		X	SLC+ Trg	HQ	Admin	S. Off	
Peon	4	4	X	Literate	„	Admin	DPHO	

C. Financial Management:

CARE Nepal has its own computerized financial system, which allows funds to be allocated, traced and reported on against specific budget allocations. Every month the internal accounting system produces a running report of the monthly and annual expenditures to date, a "balance sheet" of payable accounts, and a project management information report to Project Managers.

SCALA is the new financial software system that will be replacing the OFS from March 2000. It is formulated in accordance with the approved budget line items main headings. Accounting will be made in monthly transfers in advance as an accountable to CARE Katmandu. Statement of expenditures for the previous month and a forecast for the coming month will be sent to the Katmandu finance office by the end of each running month.

Procurement:

CARE will carry out contracting and procurement required in the project in a manner, which is consistent with USAID procedure and report the activity accordingly.

The Project Office annually prepares a local list of "preferred vendors," selected on the basis of prior experience, which is used for locally purchased goods. Few materials can be procured in Kanchanpur, Dhangadi and Nepalgunj, and for non-available items support from CARE Nepal's administration unit in Katmandu is solicited.

D. Monitoring and Evaluation

To avoid duplication of data collection, the project will support the government HMIS by building their capacity. The project will not develop any new formats for facility level unless the govt. HMIS does not supply needed information. The project will explore possibility of piloting MER in Kanchanpur. The project will focus on at collecting information on outcomes and developing systems for collecting population-based data. Only those data that can be used for decision making will be collected. Project participants, community groups and government health care providers will be trained in data analysis at every level so that it can be used for decision making. All data will be fed back to the community through community-level organizations, such as mothers groups, VDC, DDC and the governmental systems. The information will be displayed prominently in every ward on community data boards. The possibility of using household mapping, pictorial depiction of this data and use of pocket charts by the members of mothers group will be explored.

Data collection by mothers groups: Community-based data collection will start with members of mothers group collecting information monthly from the 4-5 mothers in their neighborhood. Data will be collected orally and verbally reported at monthly meetings, where they will be compiled and recorded by literate members, and shared with other members. Mothers groups (especially the ward coordinator and FCHV/TBAs) will be trained to analyze information and use it for decision making.

Data collation at the ward level: By the time 2-3 mothers groups will be formed in a ward, responsibility for data collation will rest with the senior FCHV. By this time, the project would have recruited sufficient new FCHV to support individual mothers groups. Collated information will be shared with other members of the ward committee for making an action plan. Most of these ward committees are non-functioning. The project will try to reactivate them and submit a copy of the information to project staff as well.

Data collation at the VDC level: During the initial phase, the CHE/ FHE will collate information at the VDC level and give it to the HP and SHP management committees. Responsibility will gradually be handed over to FCHV/TBA associations, as well as MCHW and VHW. The information will also be provided to the project health supervisors and put on the agenda of management committee meetings. The HPMC will be trained to analyze the data for use in decision making, and to compare the community-based data with health facility records. Initially project staff may participate in management committee meetings, but gradually this responsibility will be handed over the FCHV associations.

Collation of information at the project level: The health supervisors will collate the information and give it to the DPHO and DDC. The CHO and the project manager will try to participate in district level meetings and develop a mechanism whereby population-based data will be used to validate the facility-based data routinely collected by district HMIS. Over time this community-based information should be an integral component of district level health planning.

Community data boards: Information collected by the mothers groups will be compiled and prominently displayed on community data boards for one full year so that trends can be effectively analyzed and proactive measures initiated. This is based on the assumption that communities must analyze their own problems based on actual data and develop pragmatic and feasible action plans in order to control their own

health in a sustainable manner. The mothers groups will decide with support from FCHV on the information to be collected and how it should be depicted. The following tables gives an example of possible structure of the data board.

Start date	Male	Female
# of Pregnant women	0-6 months	
# of women aged 15-49 years	6-12 months	
	1-5 years	
	# of children measured for MUAC*	
	# malnourished using MUAC	

Indicator	J	F	M	A	M	J	J	A	S	O	N	D
General												
# of new pregnancy registered												
# of births												
#of maternal deaths												
# of children(below 5 years) deaths												
Diarrhea												
# of cases												
#of cases having used ORS												
PCM												
# of cases with ARI												
# of cases of Pneumonia												
# of cases having received treatment from trained personnel using Cotrimoxazole												
Nutrition												
# of pregnant women having one extra food at least for 15 days in a month												
# of mothers who put the child to breast immediately after birth												
# of mothers who give only breast milk to their child aged less than 6 months during last month												
# of mothers starting appropriate complementary foods at 6 month of age												
MNC												
# of mothers who received 2 antenatal check up												
# of pregnant women in second and third trimester who took IFA tablet for at least 15 days in the last month												
# of pregnant women who received second TT dose during the current pregnancy or 5 doses in their lifetime.												
# of deliveries conducted by trained personnel												
# of antenatal cases who have birth plan												
# of women who used SDK during their deliveries												
# of postnatal women who received a dose of Vit A.												
Malaria												
# of cases with fever												

# of cases visiting trained worker/health facility												
--	--	--	--	--	--	--	--	--	--	--	--	--

Data analysis, use and dissemination: At monthly mothers meetings, information will be compiled and handed over to the next level (CHE/FHE or VHW and ward committees). It will be compiled and sent to the S/HP management committees as well as project health supervisors. Health supervisors will submit it to project staff, where it will be computerized and analyzed quarterly. This quarterly report will be shared with the PAC, DDC and the DPHO office, and used to make major project decisions. Computerized reports of the whole project will also be sent to the Child Health Division of MOH and the VDC.

The project accepts the monitoring and evaluation guidelines provided by the USAID and does not propose any changes.

E. Budget

No change had been made to the original budget.

F. Technical Assistance Plan

PVO HQ level support

The chart below lists the skills of HQ staff.

Individual	Title & Qualification	Area of expertise
Judiann McNulty	Deputy Director Ph.D.	Nutrition, breast feeding promotion, micronutrients, diarrhea, sustainability, supervision, behavior change, IEC, quality assurance, monitoring and evaluation, community participation and empowerment.
Dr. Sanjay Sinho	Children's health specialist M.D. Pediatrics (M.A.) Sociology	Integrated Management of Childhood Illness, maternal & newborn care, malaria, project management.
James Setzer	Technical Advisor MPH	HMIS, ARI data management systems

CARE HQ hosts an annual Child Survival Workshop, which introduces new concepts and allows CS projects from around the world to share best practices with one another. In 1999, the Nepal CS Project manager participated in a one-week workshop in Dhaka, Bangladesh entitled, "From Community Participation to Community Empowerment."

The next annual CS workshop in 2000 will focus on sustainability. Technical assistance is also provided by HQ staff during visits to the project area once or twice a year. Dr. Sanjay Sinho will be the project backstop person at HQ. In addition, technical assistance packets containing recent articles and reference material on specific topics are collated by HQ and sent out periodically. The latest packet in this series was on breastfeeding.

PVO Country Office Support

Most of the project staff is experienced in PHC and reproductive health interventions because they have worked previously with other USAID mission-funded projects in other districts. The Project Manager is a public health professional with extensive primary health care experience and special skills in maternal and neonatal health care. The community health officer has done a B.Sc. Nursing course, which includes 5

years of professional training after the SLC level. All field staff have qualifications in health and the majority (74%) have previous experience working with other CARE health projects.

At the CO level in Katmandu, the Assistant Country Director and Health Sector Coordinator are extensively involved in developing new initiatives and strategies for health programs at the mission level. The Assistant Country Director was also extensively involved in health programming in CARE Bangladesh.

The Health Sector Coordinator is a public health professional with special expertise in community nutrition. The Sector Coordinator is supported by two public health professionals: a Training Specialist and a Community Health Specialist. The project will also be supported by the Partnership Manager based at Katmandu, who has extensive partnership development and management skills, and a degree in Business Management. The second Training Specialist in Katmandu, who has strong community education and mobilization skills including extensive experience in PRA/ PLA techniques, will support the project in enhancing staff skills on PRA/PLA techniques.

As part of the Polio Eradication Initiative of the PVO Core Group, CARE Nepal is planning to recruit a Social Mobilization Officer and his/her services will also be available to the project.

The chart below lists the skills of key staff supporting project at the country level

Individual	Title and qualification	Area of expertise
Project level staff		
Madan R. Thapa	Project Manager	Reproductive and Public Health Project Management
Indra Ghimire	Community Health Officer	Public Health program management
Country level staff		
Purushottam Acharya	Health Sector Coordinator	Project Design, Project Management, Community Nutrition
Ram Baniya	Community Health Specialist	Public Health
Ranjana Shrestha	Training Specialist – Health	Curriculum Development, Planning and Management of Training on Reproductive Health and Nutrition
Kapil Neupane	Partnership Manager	NGO partnerships
Santosh Sharma	Training Specialist	PRA/ PLA

The Project Manager and the Community Health Officer are posted at the project.

Site, whereas the Health Sector Coordinator visits the project regularly for techno-managerial support. The Training Specialists, Community Health Specialist and Partnership Manager visit the project whenever required.

Additional technical assistance committed /received

- ❖ CDD/ARI and IMCI from Department of Health/Child Health Division and John Snow International will conduct initial training and follow up for master trainers in the second and third quarters of the first year of implementation
- ❖ For breastfeeding and complementary feeding practices, help will be received from the Linkages project in the third quarter of the first year.

- ❖ For qualitative surveys, assistance from PATH will be received regarding TBA training and birthing practices, which will be conducted in the second and third quarters of the first year. An external consultant will be hired in addition to train the staff in qualitative data collection technologies.
- ❖ An external consultant, Mr. Charles Pradhan, who has a Master of Science in Ecology and worked with Save the Children for 5 years a CS project, followed by consultations with ADRA and SC, was hired to train project staff and conduct the BSL.
- ❖ External consultant Dr. D.S. Manandhar, with a Master's in Pediatrics and 15 years experience, will be hired to assess neonatal health practices and develop a neonatal health care strategy for the country mission.

Unidentified technical assistance needs

1. External assistance for piloting MER initiatives and community-based data management systems will be required.
2. Consultants to translate texts from English to Nepali and otherwise maybe required from time to time.
3. For mid-term and final evaluations, consultants will be hired as per requirements
4. MACRO's technical assistance may be sought for community-based data management systems or any other needs identified.

SECTION 3: DETAILED PLAN BY INTERVENTION

A. Breastfeeding/Nutrition (30 % efforts)

Nutrition Status of the Children

In the KPC, nutritional status was estimated using the results of anthropometry (measurement of height and weight) in children below 24 months of age. Combining the height, weight, and age data, three indices of physical growth describing children's nutritional status were estimated: height for age, weight for age and weight for height. The three indices provide indications of children's susceptibility to diseases and their chances of survival and are expressed as standardized (z-score) deviation units from the median of a reference population recommended by the World Health Organization (WHO). Children who fall below two standard deviations from the reference median are regarded as malnourished, whereas children who fall below three standard deviations from the reference median are regarded as severely malnourished. Each of the three indices measures somewhat different aspects of nutritional status.

Category	Male			Female			Total		
	>2SD	2-3 SD	<3SD	>2SD	2-3 SD	<3SD	>2SD	2-3SD	<3SD
Weight for height	81.4%	12.2%	6.4%	81.4	12.2%	6.4%	83.6%	11.5%	4.9%
Weight for age	69.2	21.8%	9.0%	78.6%	13.0%	8.3%	73.5%	17.8%	8.7%
Height for age	77.9%	14.5%	7.6%	73.7	14.1%	12.2%	75.6%	14.3%	10.1%

Children whose height for age is below minus two standard deviations (-2 SD) from the median reference population are considered short for their age or *stunted*, while those who measure below minus three standard deviations (-3 SD) are considered *severely stunted*. Overall, 24% of children under two years of age were stunted and among them, 10% were severely stunted. The problem was most serious among children 18-23 months of age. According to NFHS 1996, 41% children of under 2 years of age were stunted and of them, 14% were severely stunted (see KPC results in Annex II).

The weight for height index measures body mass in relation to body length. Children whose weight for height measures are below minus two standard deviations (-2SD) from the median of the reference population are thin for their height or *moderately wasted*, whereas those below minus three standard

deviations (-3SD) are considered *severely wasted*. The percentage of children with wasting was 16 percent and of them, 5 percent were severely wasted. NFHS reported that 13% children under 2 years of age were wasted and 2% were severely wasted. It shows that the problem of acute malnutrition is more serious in Kanchanpur than at the national level. The level of wasting increases from 10% among children under 6 months of age, peaks at 24% among children 12-17 months of age. This trend is similar to that reported in NFHS. As in stunting, male children are slightly more likely to be wasted (19%) than the females (14%) in Kanchanpur.

Weight for age is a composite index of height for age and weight for height. Children whose weight for age measures are below minus two standard deviations (-2 SD) from the median of the reference population are *underweight* for their age while those whose measures are below minus three standard deviations from the reference population are *severely underweight*.

Maternal Nutritional Status

The KPC survey used mid-upper arm circumference (MUAC) and hemoglobin concentration to assess maternal nutritional status. Although, MUAC has been extensively used for children under five, this may be the first time it has been used for mothers in Nepal. There are no comparable data available. The KPC survey results show that 22% of women had less than a 22 cm. MUAC.

The NFHS used body mass index (BMI) to assess maternal nutrition status. The survey is based on women with a living child under two years of age and is not representative of the entire sample of ever-married women aged 15-49 years. Maternal height is an outcome of nutrition during childhood and adolescence. Short women are at increased risk of having low birth weight babies. The minimum height a woman is considered to be at nutritional risk is the range of 140-150 centimeters. NFHS reported that 12% of women in the far-western terai are under 145 centimeters. The KPC survey did not collect any information on women's height.

The NFHS calculated the body mass index also and used 18.5 as the cut off point to assess prevalence of chronic energy deficiency. It was noted that the mean BMI is 19.4 in the far-Western terai. 37% of women in the far-western terai who had a birth in the three years preceding the survey had a BMI less than 18.5 indicating prevalence of high level of chronic energy deficiency.

Anemia is a major nutritional problem among the women of Nepal. Although no nationally representative data are available, hospital records and small-scale studies have noted that more than 50% of women of child bearing age and 63% of pregnant and lactating mothers suffer from nutritional anemia. According to the KPC survey results, 46% of mothers have low hemoglobin levels (<11 gm percent) or are anemic.

Although government health facilities promote universal vitamin A supplementation within 45 days of delivery, only 25% of interviewed mothers in Kanchanpur said they had taken vitamin A capsules during that time. Only 20% of mothers took iron folic acid tablets during their last pregnancy, and among them only 6% have taken them for three months or more.

Breastfeeding Practices

Breast-feeding is almost universal and generally prolonged in Nepal. According to the Nepal Multiple Indicator Survey IV (NMIS4) of 1996, only 0.3% of children were not breast fed at all. All children included in the KPC survey were reported to have been breast fed and 97% of the children under two years of age were still being breast fed.

The KPC survey showed that for almost half of the infants (49%) breast-feeding starts within one hour of birth. For approximately 42%, it starts within one to eight hours and for the remaining 9%, it starts eight hours after birth. The NFHS 1996 reported that 30% and 86% of infants were breastfed within one hour and one day of birth, respectively. Women who had completed their School Leaving Certificate (SLC) initiated breast feeding slightly earlier than illiterate women.

Mothers were also asked whether they threw away the colostrum (“first milk”) or fed it to the infant. About 72% mothers surveyed said they fed it to the infant, compared to 69% in the NMIS4 for the Far Western terai. The quantity of milk discarded was not asked.

The period of exclusive breastfeeding is often shorter than the recommended six months. The KPC survey shows that 59% of infants are exclusively breastfed for four months and 34% for six months or more. The proportion of children exclusively breastfed declines sharply after 6 months (11%) when semi-solid and solid foods are started in their diet.

In the NMIS4, households were asked about the benefits and drawbacks of breast-feeding. The responses show that perceived benefits far outweigh drawbacks. Most households thought that breast-feeding was good for growth and health of the child. However, four out of five households were not aware of any benefits to the mother.

Complementary foods

In Nepal, complementary foods are introduced anywhere from several weeks to more than a year after birth. They include both solid and liquid foods (water is not considered a complementary food). In the KPC survey, mothers were asked at what age they should start complementary foods. Around 5% of mothers responded that the complementary foods should be started within 4 months, 13% said at 5 months, 53% said at 6 months of age, and around 28% responded that they should be started at 7 months or later. When the data were desegregated by gender of child, there was no significant difference in mothers’ responses.

The NMIS4 indicated ethnic and geographic variations in age where other liquids and solids are introduced in the far-western terai. This study found 5.5 months to be the mean age for adding other liquids and 6.9 months for solid complements, especially among Tharus. In the KPC survey, only 20% of mothers said green vegetables should be included and 10% mentioned fruits as complementary foods. About 8% mentioned meat and fish, 7% said cooking oil or ghee should be added in the complementary food. A large number (67%) of mothers stated that rice-based porridge or adult food should be given.

Feeding Frequency

The KPC survey asked how often children older than six months were fed during the previous 24 hours and seven days. Only 17% of children had consumed three or more cereal-based foods in the last 24 hours. The consumption of protein foods was also very low; only 4% had meat, fish or eggs seven or more times in the previous seven days. Similarly, around 35% of the children consumed green vegetables for seven or more times in the last seven days. The following table gives a summary of the 24 and seven-day food frequency recalls:

Type of Foods Consumed by 6-23 months Children in last 24 hours and 7 days (n=188)

Type of Food	Frequency in last 24 hours			Frequency in last 7 days			
	1	2	3 or more	1-2	3-4	5-6	7 or more
Cereal-based food	12%	19%	17%	7%	4%	1%	40%
Mango, Papaya and yellow fruits	2%	1%	0%	4%	1%	0%	3%
Pumpkin, sweet potato, carrot	4%	<1%	<1%	9%	1%	0%	1%
Meat, fish, eggs	13%	3%	1%	27%	2%	2%	4%
Milk or milk powder	4%	2%	1%	7%	3%	0%	4%
Green Vegetables	21%	24%	8%	12%	10%	6%	35%
Pulses	7%	4%	<1%	11%	5%	1%	3%

Vitamin A Supplementation

About 79% of the children aged six to sixty months had received Vitamin A supplementation within 6 months prior to the KPC survey.

Causes of Malnutrition

The poor nutritional status of children under two years of age in Kanchanpur district is primarily due to inadequate and inappropriate complementary foods, too early or too late introduction of complementary foods, and poor knowledge of mothers and caretakers about child feeding. Low social and educational status of women further augmented the problem. A child of an illiterate mother has an increased risk of malnutrition. Similarly, the social system of bonded labor, landlessness and limited income opportunities are important factors contributing to food insecurity and malnutrition.

Current Beliefs and Practices

In Nepal, there is little understanding of the relationship between food intake and malnutrition. Malnutrition is considered a disease with a variety of causes. In many places, poor appetite and ill health in children are considered a result of “evil eye” or the malevolence of a god or goddess. Gods, the spirits of dead children and even the shadow of a pregnant woman have all been suggested as causal factors in marasmus.

Many parents consult *guru* (local faith healers) who treat with a combination of rituals, herbal remedies and advice on feeding, some of which may be harmful, such as the restriction of fresh vegetables, milk products, meat and sour foods.

Some of the beliefs and practices associated with pregnancy lead to a deterioration in diet, while a few may have beneficial effects. One widely held belief is that if a woman eats more during pregnancy she will have a bigger baby resulting in problems during delivery. This fear may cause pregnant women to deliberately restrict their food intake. There is a greater awareness of the need for a better diet during lactation, but the concern is more for the baby than the mother. Most changes to the diet are designed either to ensure adequate production of breast milk or protect the baby from harmful effects of certain foods.

Problems associated with breastfeeding include the practice of not giving colostrum and very early/late introduction of other liquids or food. Mothers who do not feed their infants colostrum describe it as dirty, stale and pus-like. It is believed to be difficult to digest and to make babies sick. Most babies are breast fed for at least two years but the period of exclusive breastfeeding is often shorter than the recommended six months. Some babies are given complementary foods and liquids at an early age because their mothers have to work outside the home and cannot take their babies with them. Others introduce solid or liquid food early because they do not think breast milk alone is adequate or they are afraid that they cannot produce enough milk. Still others mothers introduce complementary foods very late. They believe that the infants only need solid food when they show an interest.

Mothers and caretakers become more concerned about their children's diets when they are sick. They may restrict both solids and liquids, which is potentially harmful for the child. Some foods are thought to be harmful, such as dark green leafy vegetables, which are classified as cold foods and are believed to cause colds, coughs and diarrhea. During illnesses, bland, easily digestible foods tend to be given and richer foods withheld. However, some foods are given in some areas for particular illnesses and restricted in other areas for the same illness.

MOH Policy and Activities in Area

His Majesty's Government has identified nutrition programs as the major intervention to improve the health status of children in Nepal. It has taken a multi-sectoral approach to involving the Ministry of Health, Ministry of Education, Ministry of Local Development and the National Planning Commission. However, the commitment given by individual ministries thus far has not been enough to overcome the magnitude of problem, as demonstrated by the lack of change in malnutrition prevalence in children since 1975.

The Fifth five-year Plan included the nutrition program under the umbrella of the Ministry of Health. Major components are promotion of breastfeeding, growth monitoring of children under three years of age, prevention of iodine deficiency and vitamin A disorders, control of anemia, and nutrition education to meet the children's daily requirement through locally-available resources. Vitamin A deficiency disorders have received particular attention. Under this program prophylactic administration of Vitamin A capsules to children 6 months to 5 years of age at 6 month interval and postnatal mothers (within 45 days of delivery) is being implemented in more than 60 districts, including Kanchanpur.

In order to improve the overall nutritional status of children, pregnant women and lactating mothers, the national nutrition program has set the following objectives and strategies:

Objective #1: To reduce severe and moderate protein-energy malnutrition among children under three years of age to half of the 1990 level (50%) by the year 2001.

Strategies:

- Creating awareness of the importance of growth monitoring and proper child rearing practices for mothers through mothers' groups
- Provision of growth monitoring services at Health Posts, Sub Health Posts and primary health care outreach clinics.

Objective #2: To reduce maternal anemia to less than 50% by the year 2001.

Strategies:

- Training of the peripheral health workers (Health Post and Sub Health Post staff)
- Involving Female Community Workers, who are predominantly female, to support mothers by providing knowledge on anemia and distributing iron tablets
- Promotion of regular consumption of foods rich in iron and promotion of foods that enhance iron absorption, especially targeted at pregnant and lactating women and children under five years of age

- Provision of 160 mg. iron folate tablets to pregnant women from their second trimester until delivery at one tablet each day (180 tablets) until six weeks after delivery (45 tablets)
- Identification and treatment of severe anemic cases
- De-worming of children regularly, and promotion of improved environmental conditions.

Objective #3: To reduce Vitamin A deficiency among children under five years of age by 90% in all districts by preventive measures (prophylactic distribution of Vitamin A capsules) by the year 2001.

Strategies:

- Distribution of high dose Vitamin A capsules (200,000 IU) to children on a twice-a-year basis as a preventive measure
- Advocacy for changes in dietary behavior, improved breastfeeding and child feeding practices through nutrition education
- Training and dissemination of treatment protocol cards and supply of vitamin A capsules to all hospitals, Health Centers, Health Posts, Sub Health Posts throughout the country to ensure treatment of clinical cases of vitamin A deficiency
- Advocacy for increased home production, consumption and preservation of vitamin A rich foods
- Increase mothers' knowledge of proper breastfeeding and child feeding practices
- Distribute high dose vitamin A capsules to post-partum women.

Objective #4: Promotion of exclusive breastfeeding for all infants until they are five months old, and receiving breast milk in addition to complementary foods until they complete their second year.

Strategies:

- Legislation to control the promotion of breast milk substitutes
- "Baby friendly hospital" intensive training to all nursing staff in hospitals with maternity services
- Integration of breastfeeding training with growth monitoring promotion at Health Posts and Sub Health Posts
- Increase educational efforts at Health Posts/Sub Health Posts and communities to promote breastfeeding
- Ensure promotion and protection of breastfeeding through all health facilities and NGOs.

In the DHS Annual Report (1997/98), growth was measured using a weight-for-age card for approximately 31% of the new children under 3 years of age who visited the health institutions of Kanchanpur district. Based on the weight-for-age criteria (<80% of NCHS standard), 16% of the newly monitored children in Kanchanpur were malnourished. The KPC survey showed that 92% of the newborn babies were not weighed. Although, 26% of the children under 5 years of age had attended the growth monitoring activities in health facilities, 13% could not show the growth card during the survey. According to DHS in Fiscal Year 97/98, 32% of under-five children received Vitamin A capsules and only 8% of the expected pregnancies received all 180 iron tablets. The KPC results showed that 6% of mothers received iron folic acid tablets for at least 3 months during their last pregnancy.

Program Approach

The project will implement programs related to child-feeding practices, maternal nutrition, and breastfeeding promotion, with the focus on improving community norms and care-seeking practices. The emphasis on increasing demand will be coupled with improved services and supplies at the community level.

In the initial phase (March/April), the project will explore traditional child feeding practices, beliefs and taboos and their influences on the nutritional status of children under five years of age through qualitative research. The major questions will be food beliefs and taboos, gender differences in feeding practices, perception of malnutrition in the communities and local terms used. Positive feeding behaviors, roles of different family members, feeding

frequency, portion sizes, and utilization of locally available foods for complementary feeding will also be explored. Strategies based on this research will be designed to address specific problems in various target groups (see Annex II).

The project will attempt to modify breastfeeding, child feeding and maternal nutrition practices at the household, community and health facility levels. Mothers of young children will be the primary target, but husbands and other family members will become involved to support optimal child feeding practices. Since the community directly influences mothers' behaviors, Ward Coordination Committees, mothers' groups, FCHVs, and TBAs will be the counselors and synergists.

Household Level:

FCHVs and TBAs will follow the mothers from pregnancy onward. During the antenatal and postnatal periods, they will encourage optimal feeding practices, including optimal maternal nutrition during pregnancy and lactation, breastfeeding and introduction of semi-solid foods by six months. Messages on breastfeeding will include immediate initiation of breastfeeding after delivery and exclusive breastfeeding for six months. The messages for child feeding will be based on the concept of positive deviance, identifying positive child feeding and caring practices, importance of regular weighing and growth monitoring, health seeking behaviors and foods used by mothers whose children are well nourished and who are in the same socioeconomic group. Messages will specify quantity and nutritional content of food, feeding frequency, increasing caloric density by adding oils, foods that are rich in Vitamin A and iron, and dietary management of diarrhea and ARI. The messages for maternal nutrition will focus on extra nutritious snacks (in addition to regular diets) during pregnancy and lactation, iron folate supplementation during pregnancy and Vitamin A supplementation during the postnatal period. The role of the other family members (husband, mother-in-law) will be explored by qualitative research and suitable strategies to address them will be designed.

Mothers' Groups: Mothers' groups will meet once a month for information, education and communication activities related to child survival issues. The Ward Coordinator together with mothers' group members will play a vital role in influencing other mothers and families by reinforcing positive, maternal nutrition, breast feeding and child feeding practices. Each group member will be encouraged to counsel 4-5 mothers in her neighborhood for peer education and monitoring their behaviors. Mothers groups will be involved in conduction of community level weighing & growth monitoring sessions. In 3-4 VDC possibility conducting a pilot on community level nutritional monitoring of under-five children using mothers groups (weighing and MUAC) will be explored. Identified severely malnourished cases will be referred to Health Posts/Sub Health Posts for treatment. Possibility of utilization of community health funds for nutritional rehabilitation of cases of Grade III malnutrition will also be explored.

The project will focus on developing and institutionalizing ideal community norms for maternal nutrition, breastfeeding, and child feeding practices. The Ward Coordinators and mothers groups will be trained to change community perceptions and practices regarding:

- Importance of early initiation of breastfeeding, exclusive breastfeeding for 0-6 months and breastfeeding during diarrhea and ARI.
- Development of food calendars for the area, emphasizing locally grown products that can be incorporated as complementary foods according to their seasonal availability.
- Promotion of low-cost, high-calorie, locally available foods, which are culturally acceptable and suitable for supplementary feeding.
- Explore positive beliefs, taboos and practices associated with specific foods for children under 5 years and pregnant and lactating mothers, and develop action plans.
- Demonstrate cooking and complementary feeding with locally available foods.
- Promote cultivation and consumption of locally available, low-cost, nutritious foods by pregnant and lactating mothers and under-five children, especially those rich in Vitamin A and iron.
- Skills of child weighing, growth monitoring and counseling.
- Inform and educate the community about the risks of diarrheal disease and the need for adequate dietary management at the household level.

- Iron folate supplementation to pregnant women from the fourth month of pregnancy until 45 days after delivery.
- Vitamin A supplementation to children under five and postnatal mothers.

FCHV/TBA Level: FCHVs will be trained in identifying positive deviants and their behaviors regarding local foods, health-seeking behaviors and caring practices. They will learn about identification of malnourished children using MUAC tapes, management of malnourished cases using local foods, and counseling skills. FCHVs will also be responsible for conducting regular growth monitoring sessions at the community level. The project will provide weighing scales to the FCHV to be shared among 4 FCHV for conducting these sessions at the community level or during the home visits. Each FCHV will have the weighing scale for one week after which it will be passed on to the next FCHV. They will also be trained in adult training principles so they can train mothers groups, initially supported by project staff. TBAs will focus on colostrum feeding, nutrition of pregnant women and maternal nutrition after delivery.

Health Post/Sub Health Post level: At this level, growth monitoring using weight for age cards will be promoted. Staff will be trained in weighing skills & identification of malnourished children using growth cards and clinical signs and symptoms of malnutrition. Key strategies include iron folate supplementation, Vitamin A supplementation to children and mothers, deworming for mothers and children, health education about the need of additional nutrition during pregnancy and lactation, breastfeeding, appropriate complementary foods for children. The project will support VHVs and MCHVs in arranging deworming campaigns in communities and outreach clinics, and will work with DPHO to ensure necessary supplies of Salter Scales, growth and MUAC cards, and deworming medicines.

Key Messages

Messages will be based on the key behavior recommendations made by the Linkages and the Ministry of Health.

For Pregnant women:

- Eat at least one extra nutritious snack each day, in addition to the regular diet.
- If you have ever experienced night blindness, eat liver once or twice a week (in addition to the regular varied diet and extra snack).
- Take iron/folate tablets from the fourth month of pregnancy until 45 days after delivery.
- Have at least four antenatal checkups from the nearest trained health personnel.
- Do not drink alcohol.

For Lactating Mothers:

- Eat at least two extra nutritious snacks each day, in addition to the regular diet
- If you have ever experienced night blindness, eat liver once or twice a week (in addition to the regular varied diet and extra snack).
- Drink extra fluids.
- Take a Vitamin A capsule (200,000 IU) immediately after the birth, at least within six weeks after delivery.
- Do not drink alcohol.
- Do not smoke or chew tobacco.

For Breastfeeding Promotion

- Initiate breast-feeding immediately after birth.
- Breastfeed exclusively for 6 months.
- Breastfeed frequently, on demand, including at night.
- Babies who are sleepy and do not demand breast milk should be wakened for breastfeeding at least every three hours.
- Continue breastfeeding frequently at least until 24 months of age.

For Childhood Feeding Practices

- Introduce suitable and culturally acceptable complementary foods at six months of age.
- Feed the child under one year of age three times a day in addition to breast milk.
- Feed the child over one year of age five times a day in addition to breast milk.
- Add fats (ghee or oil) to the child's food to increase energy density.
- Feed the child a varied diet:
 - fruits or vegetables every day
 - dairy products, eggs, fish, and meat at least once a week
- Supervise child while eating, feed child actively.
- Get your child weighed on a monthly basis .
- Wash hands before handling foods and feeding.
- Give high dose Vitamin A capsules (200,000 IU to 1-5 years and 100,000 IU to 6 months to 1 year) every six months.
- Breastfeed and give fluids more frequently during illness. Continue feeding and give extra meals at least up to two weeks after illness.

Behavior Change Communication (BCC)

BCC strategies will seek to promote positive health-seeking behavior using the health belief model. The approach adopted for BCC will be the same as described earlier, but it will focus on pregnant women, lactating mothers and mothers of children under five years of age. All other women of reproductive age, family members and decision makers at household and community levels will be the secondary target audience.

Target Group	Objective	Activity	Frequency	Intervenors
Pregnant women and lactating mothers	To promote early initiation of breast feeding (within eight hours of birth)	Individual and peer counseling	Ongoing	Community volunteers (FCHV/TBA)
	To promote exclusive breast feeding (6 months)	Mothers' group meetings	Monthly	Mothers' groups
	To continue breast feeding during illness	Awareness Campaigns ◆ local media ◆ Radio	Once a year	Local cultural groups FM station
	To identify and address myths ,misconceptions and positive practices related to breast feeding	Home visits within 48 hrs. of delivery	Ongoing	Health Post/Sub Health Posts
	Access quality services when needed			

<p>Family members (husbands, mother in laws, father in laws) & other influential people in the village</p>	<p>To understand their perspectives and concerns To solicit support and promote optimal breastfeeding.</p> <p>To create an enabling environment for the promotion of exclusive breastfeeding, appropriate complementary foods and good maternal nutrition practices.</p> <p>To encourage their participation in community action planning.</p>	<p>Village level meeting</p> <p>Awareness campaigns ◆ local media ◆ radio</p> <p>Individual counseling</p>	<p>Semi-annually</p> <p>Once a year Ongoing</p> <p>Ongoing</p>	<p>Project staff (CHE/FHE) with support from Health Supervisors, Gvt staff Local cultural groups FM station</p>
<p>Mothers groups</p>	<p>To enhance their knowledge and skills for the promotion of optimal child feeding, including breastfeeding and maternal nutrition practices, child weighing and growth monitoring and addressing identified barriers.</p>	<p>Mothers' group meetings</p>	<p>Monthly</p>	<p>FCHV/ TBA and project (CHE/FHE) and govt (VHW/MCHW) staff</p>
<p>Community volunteers FCHV/TBA</p>	<p>To enhance knowledge and skills for the promotion of maternal nutrition, breastfeeding, and child feeding practices and</p> <p>To enhance their community mobilization, and action planning skills</p> <p>To improve their skills in order to assess the nutritional status of children using weighing.</p>	<p>Training and refreshers</p> <p>Supervisory support</p>	<p>Orientation and refresher training</p> <p>Review meetings</p>	<p>Project and Govt trainers</p> <p>VHWs, MCHWs and CHE/FHE</p>

Service providers (govt. as well as private health care providers) Govt. (VHW, MCHW, ANM, CMA & HA); Private (traditional healers, and other rural practitioners) & appropriate NGO staff	To improve knowledge and skills for promoting and supporting optimal maternal nutrition, breastfeeding, child feeding practices in the community.	Workshops & training including regular refreshers and on-the-job support	Once initially followed by refreshers	PM/Community Health Officer, Govt trainers and external consultants
	To improve the quality of service provided specially related to nutritional monitoring.	Review meetings	Quarterly	
	To improve supportive supervision and monitoring skills of govt. staff.			
Core Team (Project manager, CHO) govt. medical doctors at district level	Develop skills to enhance supportive supervision and quality service delivery	Workshop & training Refresher	Once	External resource persons.
Local NGO staff, CHO Health Supervisor	Develop skills to enhance supportive supervision and quality service delivery	Workshop and Training	Annually	Project Manager and technical staff from Katmandu

B. Control of Diarrheal Disease (20 % effort)

Incidence and Distribution

Diarrheal episodes among children under five have been declining. The MOH estimates that nationally there are 3.3 episodes of diarrhea per child per year, with a Case Fatality Rate of 1.6. The incidence of diarrhea in children under five has been reported at 171 per 1000 (MIS/PFAD, MOH 1997/1998), and 7.2 % of new cases involved severe dehydration (MOH, 1997/98).

In the 1996 DHS Survey, diarrhea prevalence peaked at 6-23 months of age. There was a similar age peak for bloody diarrhea (dysentery). Diarrhea and dysentery prevalence did not vary by sex or birth order, but both (especially dysentery) varied inversely with mother's level of education. Children in Terai areas had blood in their diarrhea in about 7.5 percent of cases. In the two-week period preceding the baseline survey, about 29% of children under 24 months surveyed had diarrhea, compared to 28% of children under three in the NFHS report. Although diarrheal incidence peaks in ages 6-23 months, perhaps the similar prevalence in under-threes found by NFHS was due to the fact that their survey was done during the peak season for diarrhea (May-June), whereas the CS baseline was conducted in January. The MOH has carefully tracked variations in diarrheal disease cases presenting at government facilities. There was a consistent seasonal variation found, with highest incidence from March to September and lowest in December-January. In Kanchanpur, diarrheal disease cases peak during the rainy season from June to August.

According to the Chief of the CDD/ARI Section at the MOH, there have been no studies in Nepal of resistance to antibiotics used for dysentery, but he is unaware of any specific resistance. The MOH recommends a combination of Trimethoprim and Sulfamethoxazole for the treatment of dysentery in children (TMP 5 mg./kg. and SMX 25 mg./kg. twice a day x 5 days). As an alternative, Nalidixic acid is recommended (15 mg./kg. 4 times a day x 5 days). Although data have been collected on diarrhea-

associated deaths, none are available on the importance of dysentery and persistent diarrhea as causes of death in children.

MOH Protocols and Current Practice

MOH treatment protocols for SCM for diarrheal diseases have been developed for two levels of workers: physicians and senior health workers, and community-based workers. The manual for physicians and senior health workers is available in English. The manual for community-level workers is available only in Nepali and follows WHO guidelines. The protocol includes:

- Case management procedures for assessing a child for signs of dehydration by physical examination
- Questions to ask the mother
- Selection of an appropriate treatment plan.

Treatment for children who are *not dehydrated* includes counseling the mother by explaining the four rules for treating diarrhea at home:

- Give the child more fluids than usual to prevent dehydration.
- Continue breastfeeding.
- Give the child plenty of food to prevent malnutrition.
- Take the child to the health worker if there is no improvement in three days or any of the following develop: frequent watery stools, repeated vomiting, marked thirst, inadequate consumption of food or liquids, fever, blood in the stool.

If the child initially showed *some signs of dehydration*, the protocol for the health worker is to

- Show mothers how to prepare and give ORS.
- Reassess the child after four hours.

Community level workers should show the mother how to prepare and administer ORS, giving one teaspoonful of ORS every 1-2 minutes for a child under 2 years or frequent sips from a cup for an older child. The MOH developed a blue ORS cup to ensure proper portions. Six cups of water using the standard cup is mixed with one packet of ORS. If the child's condition worsens or he/she develops marked thirst or inability to drink water, fever, watery diarrhea, blood in stools or vomiting, he/she is immediately referred to a health care facility. A child showing signs of *severe dehydration* is referred immediately to the health care facility.

The MOH follows WHO guidelines (1990) for the antibiotic treatment of cholera, shigella dysentery, amoebiasis, and giardiasis, as detailed below:

Antimicrobial Agents Recommended in the Treatment of Specific Causes of Diarrhea in Children

Cause	Antibiotic(s) of Choice ²	
Cholera ^{3,4}	Tetracycline (12.5 mg./kg., 4 times a day x 3 days.	Furazolidone (1.25 mg./kg., 4 times a day x 3 days) or Trimethoprim (TMP)-Sulfamethoxazole (SMX) ⁵ (TMP 5 mg./kg. and SMX 25 mg./kg. Twice a day x 3 days)
Shigella dysentery ⁶	Trimethoprim (TMP)-	Nalidixic Acid (15 mg./kg., 4 times a

All doses shown are for oral administration unless otherwise indicated. If drugs are not available in liquid form for use in young children, it may be necessary to approximate the doses given in this table. The choice of antibiotic will depend on the frequency of resistance to antibiotics in the area.

Antibiotic therapy is not essential for successful treatment, but it shortens the duration of illness and the period of excretion of organisms in severe cases.

Other alternatives are erythromycin and chloramphenicol.

	Sulfamethoxazole (SMX) (TMP 5 mg./kg. and SMX 26 mg./kg. twice a day x 5 days)	day x 5 days), or Ampicillin (25 mg./kg., 4 times a day x 5 days)
Amoebiasis	metronidazol ⁶ (10 mg./kg., 3 times a day x 5 days/10 days if severe).	For very severe cases, dehydroemetine hydrochloride b y deep intramuscular injection, 1-1.5 mg./kg. daily (max. 90 mg.) for upto 5 days, depending upon response, for all ages.
Giardiasis	metronidazol (5 mg./kg., 3 times a day x 5 days).	Quinacrine (2.5 mg./kg., 3 times a days x 5 days).

The MOH recommends home-based ORT using ORS packets and food-based home fluids, such as soup, rice water, or yogurt drinks. These fluids all contain some salt and starch. Plain water is also recommended. Discouraged are sweetened commercial fruit drinks with a high sucrose content that can cause osmotic diarrhea and hypernatraemia.

Laboratory facilities are not always available to confirm diagnoses, and drugs are frequently out of stock. Use of antidiarrheals is discouraged, but some health workers are confused by the difference between antidiarrheals and drugs used for dysentery.

Staff of government health facilities in the project area counsel mothers to use ORT for diarrhea. All facilities from SHPs to hospitals have ORS packets, but the supply to FCHVs or TBAs is very irregular. During a field visit to a Chandani sub health post in preparation of this DIP, stocks of ORS packets were available but there was no ORT corner as recommended by the MOH. ORS packets are freely available in the market.

Most HP and SHP staff seem to have received basic training in SCM of diarrhea, but usually about two years ago. As a part of IMCI implementation, a training session is planned in the second or third quarter of the project's first year. FCHVs and TBAs also received basic training in ORT when they were recruited, mostly 5-10 years ago. The quality of their case management practices as assessed by the project is inadequate.

The practices of drug retailers and traditional healers have not been documented with respect to their knowledge ORT or other DCM practices. This information will be obtained through group interviews after submission of the DIP. The project plans to conduct an orientation of the drug sellers and train traditional practitioners in standard case management.

Knowledge and Practice

The January 2000 KPC Survey conducted by CARE provided information on:

- Current knowledge and practices of mothers in the project districts regarding childhood diarrhea,
- Mothers knowledge of how to prepare Oral Rehydration Solutions (Jeevan Jal)
- Feeding practices during diarrhea
- Parental care seeking practices for children with diarrhea (e.g., timing of care seeking, whom they consult).

The results of the survey are found in Section I of this DIP (Annex II) , under KPC Survey Results.

Approach

The project will work at the following intermediary levels for improving CDD management practices at the level of project participants.

⁶ Tinidazole and ornidazole can also be used in accordance with the manufacturers' recommendations.

Mothers groups: Mothers' groups will be trained during regular monthly meetings by the FCHV with help from project staff. Training will be intensive during the months preceding the rainy season and will focus on communicating the following messages:

1. Continue providing breast milk, fluids and feeding when a child has diarrhea to avoid dehydration.
2. Use Oral Rehydration Solution, which is locally available with FCHV and demonstration of ORS preparation using the government cups.
3. Recognize the signs of dehydration and severe diarrhea and the importance of going to a health facility and which types of diarrhea need treatment.
4. Prevention of diarrhea by hygiene promotion, use of latrines, hand washing etc.

Mothers' groups will also be trained on how to collect, report and analyze information about prevalence of diarrhea in their area. After the mothers groups become strong they will also be trained on community action planning for control of diarrheal cases.

Community level volunteers: FCHVs will be trained to recognize symptoms of dehydration and to prepare and administer ORS using the combined CDD/ARI curriculum. As a follow up to their training they will provide health education on danger sign recognition, referral, feeding during diarrhea, ORT, and hygiene to the mothers' groups and individual mothers during home visits. There will be special emphasis on CDD-related topics immediately before or during the rainy season. Project and government staff will visit FCHVs monthly for ongoing competency based training and supportive supervision, until they demonstrate competency (see annex VII).

Outreach level project and govt. staff: Project and government staff will be trained using a seven-day IMCI package. They will be providing supportive supervision to FCHVs, helping them to conduct group education sessions for mothers' groups and home visits. This staff will also be trained to develop HMIS and data analysis capacity at the community level. The outreach staff will also act as a link between the volunteers and the health facility staff (see annex VII).

Pharmacists/private health care providers: Local pharmacists will be taught that children should neither receive IV fluids as the first line of treatment, nor should they receive anti-diarrheal medications. Traditional health care providers will be trained in use and importance of ORS, and distinguishing simple diarrhea from severe diarrhea and dehydration, which needs to be referred to a health facility and nutritional management of diarrhea. Simple training aids related to treatment protocols and referral will be distributed and they will be encouraged to participate in the health information collection system. Counseling skills will be taught so they can improve quality of care and provide good nutritional advice to their clients. The project will also advocate certification of private health care providers who consistently demonstrate use of standard case management practices.

Health facility level staff: This staff will be trained as a part of an IMCI implementation in Kanchanpur district, with regular refresher courses, especially prior to the rainy season. A system will be implemented to facilitate the referral of patients to the next level and ensure follow-up when they return to the community. Trained staff's performance will be monitored through quality of care assessments and a self-supervision tool, which will enable them to monitor their own performance. (See Annex VII.)

CARE will work with the DHO to ensure uninterrupted distribution of ORS at the local level through the FCHVs on a cost-recovery basis. It will therefore be available through pharmacies, mothers' groups, FCHVs, outreach level government staff and health facilities.

ORS and Home Available Fluids

Promotion and use of ORT (ORS packets) is a focus of both the government and this project. Within the district, ORT corners were established by the government, but they are functional in less than 25% of centers.

ORS is procured by UNICEF and supplied to the MOH. It is first received by the national Logistics Management Division, DHS in Katmandu and transported to the Regional Store in Dhangadi, then to the

DPHP warehouse in Kanchanpur. Packets are distributed by district officials to health facilities at all levels. Usually the MOH has adequate amounts and presently distributes about 4 million ORS packets annually. Some health facilities give ORS packets to affiliated FCHVs, but many do not. They are almost always available free-of-charge at government health facilities. As a part of the project, FCHVs will be given an initial supply of ORS packets as part of their revolving drug supply.

Prevention

The project will educate caretakers in diarrhea prevention using approaches consistent with MOH guidelines. IEC and training materials will be adopted from MOH products. Education will be carried out during home visits by FCHVs and mothers' group members. FCHVs will conduct group health education session at mother's group meetings with support from project staff. Counseling skills will include listening to mothers, analysis of mothers' resources, offering options and helping make informed choices.

The project will also promote the use of sanitary latrines, personal hygiene, hand washing, proper water and food storage to prevent contamination, and proper waste disposal. Although it will not actually be involved with construction of latrines, CARE will work with VDCs and community groups to promote their construction and use. Kanchanpur presents a challenge since its low flood-prone land makes pit latrine design and construction difficult. CARE will use its experience from other Terai projects to suggest feasible alternatives to this problem.

The project will also coordinate with the National Vitamin A supplementation program and promote a dose of Vitamin A during the recuperative phase.

Behavior Change Communication (BCC)

BCC strategies will focus on promoting positive health practices and care-seeking behavior. The approach will be the same as described earlier, but it will focus on all mothers with children under 5 years of age and other caregivers. Information will include the definition of diarrhea, signs and symptoms, and action required in case of severe diarrhea and dehydration. Skills to be developed will include ORS preparation, individual and community level action required for prevention of diarrhea and nutritional behaviors. Husbands, other caregivers and family members who influence decisions will also be targeted.

Target Group	Objective	Activity	Frequency	Intervenors
Mothers with children > 5 years	To practice optimal feeding behaviors during diarrhea To develop skills for preparation and use of ORS To develop skills to identify cases needing referral To practice hand washing & use of sanitary latrines	Individual and peer counseling Demonstration of ORS preparation Health education	Ongoing Once a year Ongoing	FCHV Mothers group members
Mothers groups	To practice appropriate behavior for control of diarrhea /dehydration To train mothers to prepare ORS and when to seek medical help. To train mothers in feeding practices to be followed when child has diarrhea To act as depot holders for ORS	Home visits for interpersonal peer counseling Group meetings Awareness campaigns Local media radio	On regular basis Monthly Once in a year Ongoing	FCHV, ward coordinator VHW and CHE/FHE during their field visits

Family members, care givers (husbands, in-laws), influential people	Provide a supportive atmosphere vis-a-vis seeking help when required. Support practice of healthy feeding behavior during diarrheal episodes	Village level meetings Awareness campaigns local media radio	Every six months Once a year ongoing	VHW and CHE/FHE and Health supervisor and CHO on a sample basis
Pharmacists, private health care providers, traditional healers	Improve skills in order to enhance quality of care Discourage use of antibiotics, injections and IV fluids as first line of treatment. Promote use of ORS Improve community-based data collection	Orientation and refresher Review meetings	Semi-annually/quarterly Quarterly	HA/ Community health officer Child survival project staff
Core Team DPHO, Medical officer, HA Local NGO staff, CHO, Health supervisor	Develop skills to enhance supportive supervision and quality service delivery Organize and streamline logistics systems to ensure uninterrupted ORS supplies	Capacity building workshop Refresher training course	One time activity Annually	External consultant project manager and technical staff from Katmandu

Key messages to be promoted

The project will promote the same messages as WHO and the MOH to maintain consistency and avoid confusion.

For prevention of diarrhea

- During the first six months of life exclusively breastfeed your child.
- Prepare and give weaning foods hygienically.
- Use the cleanest water available, and protect from contamination. Boil the water if fuel is available.
- Regular hand washing substantially reduces the risk of diarrhea.
- Every family should use a clean, functioning latrine.
- Every infant should be immunized for measles at age nine months.
- Every child should receive Vitamin A as per national protocol.

Management of diarrhea and dehydration

- Continue or increase the amount of breastfeeding during diarrheal episodes.
- Give more fluids than usual during diarrheal episodes.
- Increase the amount of food during diarrhea and the recuperative phase.
- Use ORS as per protocol.
- When to seek medical care

C. Pneumonia Case Management (15 % efforts)

MOH ARI Case Management Policies, Programs, Protocols

The MOH initiated its program for control of ARI in 1989 with the assistance of JSI, to train physicians, nurses, health assistants, auxiliary health workers, auxiliary nurse midwives, MCH workers, VHWs and FCHVs in the diagnosis and management of pneumonia. UNICEF provides Respiratory Rate Timers. Pilot programs in four districts of Nepal were judged successful in increasing access health care and reducing pneumonia deaths and the program is now being expanded to four new districts. Now subsumed in IMCI, it is extending its catchment area to Kanchanpur as a part of government support to the CS project.

MOH training protocols for Standard Case Management (SCM) of pneumonia are consistent with those of WHO. The government is currently using IMCI training materials for health facility staff as well as VHWs and MCHWs. The older CDD/ARI package is now only used with community-based volunteers.

Both SCM basic and refresher pneumonia training are carried out by the Child Health Division of the MOH. Thus far, no courses have been taught for FCHVs. A wide-range of training and IEC materials had been developed, including training manuals for facility-based and community-based workers, technical guidelines, a laminated card containing protocols and rules for diagnosis, radio jingles, posters, and pamphlets. Separate PCM training materials are available for government workers at every level as well as for FCHVs. A five-day training schedule (combined CDD/ARI training) for FCHVs is in Annex VII.

All government health workers down to the SHP level who have been trained in SCM for pneumonia are allowed to use antibiotics, including physicians, nurses, health assistants, auxiliary health workers, auxiliary nurse midwives, and MCH and FCHV workers. In many cases, however, their training was 10 years ago and they do not receive routine refresher training.

The MOH has approved the use of Cotrimoxazole by FCHVs, issuing the following statement in its official Technical Guidelines on the Control of Acute Respiratory Infections:

“MOH recognizes the urgent need in Nepal for the availability of appropriate diagnosis and treatment of Pneumonia in young children. Therefore, in selected areas and in situations in which high-quality supervision and program management are being carried out by MOH or NGO programs and can be assured, VHWs, FCHVs, and other community health workers may be trained in the Standard Case Management of Pneumonia and provided with first line drugs (pediatric Cotrimoxazole tablets).”

Drug retailers (who act as untrained pharmacists) also give antibiotics, although the official protocol requires a prescription. There is also wide variability in practices of drug retailers. Although there has been no formal study, technical staff in the MOH Child Health Division report that they routinely prescribe antibiotics that have a higher markup than Cotrimoxazole, such as amoxicillin, cephalosporins and other second-line drugs for pneumonia treatment.

Quality and Utilization of Case Management Services

Based on the Baseline Survey indicating sources of treatment for children with rapid or difficult breathing (see Section I, KPC Baseline Survey Results by Intervention and annex II), the project will work with private clinics, SHP/HPs hospitals, pharmacists, private health care providers and traditional healers, as well as ANM and MCHW workers. Government facility-based and outreach staff & private health care providers will be the prime focus. FCHVs will be trained on identification of pneumonia and referral practices. They have not previously been trained in diagnosing pneumonia or in treatment with Cotrimoxazole and therefore do not presently carry a supply of the drug. Interactive capacity building sessions will be held with drug retailers and traditional healers to convince them about potential serious nature of ARI, rational case management of cold and cough, and they will be encouraged to refer pneumonia cases to the appropriate level.

VHWs are supposed to make monthly supervisory visits to FCHVs and TBAs, but in practice there is a wide variation in the frequency and quality of these supervisions. Supervisors cite lack of transportation or travel allowance as reasons why visits cannot be made. The supervisory visits do not use observation checklists. As a part of the IMCI introduction, a standard supervision protocol will be implemented which requires the use of supervisory checklists. In addition, supportive supervisory skills will be continuously reinforced. Liaison with DPHO will be done to facilitate timely release of travel allowances.

In an evaluation conducted by JSI in neighboring Chitwan District, case management tended to be inappropriately carried out in PHC Centers, HPs, and SHPs. The knowledge of VHWs was often very good. Hospitals, drug retailers, THs, and some FCHVs, however, were not treating patients using SCM. Hospital staff often used intravenous or injectable antibiotics, including cefotaxim, cephalosporins and Gentamicin. Steroids and cough syrups were also being used. The study concluded that these hospital

practices tended to undermine the community's confidence in Cotrimoxazole to treat pneumonia. Drug retailers were selling a wide range of treatments, including Ampicillin, Betnesol, Amoxicillin, Cephalexin, Gentamicin, and cough syrup. Many of them treated pneumonia with injections and even warned mothers that treatment with "baby pills" (pediatric Cotrimoxazole) was not effective. Traditional Healers usually performed healing rituals referred to as *phuk phak*. Some would refer patients for treatment to a health facility after the rituals.

The supply of Cotrimoxazole in health care facilities is insufficient. The government yearly supply of antibiotics generally lasts only 4-6 months, according to those in charge of HPs and SHPs. Many community complaints about health care center around the lack of drugs and supplies at government facilities.

Monitoring Improving and Sustaining Quality of Case Management

The first essential step leading to quality PCM is training, including performance assessments during training and regular follow up and supportive supervisions. The knowledge and skills of health care workers and FCHVs will be assessed before and after training. For semiliterate community workers and volunteers, pictorial training materials will be used, and understanding will be verbally assessed by asking trainees to teach the meaning of the pictures to other trainees. They will also demonstrate skills such as counting respiratory rate or counseling in role-play or in an actual clinic setting. Those who cannot demonstrate the required knowledge and skills will not be given a respiratory timer or a supply of Cotrimoxazole.

VHWs and health facility records will be used to monitor proper referral of patients. In Chitwan District, after FCHVs were trained in PCM, the number of cases of pneumonia presenting at health facilities decreased, while the number of cases of severe pneumonia that were hospitalized doubled. VHWs and project field staff will review community-based records monthly, including reporting forms and referral records.

Involving Workers who do not Currently Treat Pneumonia

CARE will train all FCHVs and selected members of mothers groups for PCM using standard case management criteria. They will emphasize:

- ✓ Recognition of danger signs of pneumonia
- ✓ Home care for PCMs
- ✓ The importance of early referral
- ✓ Mobilizing the VDC to organize an emergency management plan.
- ✓ Identification of cases of pneumonia, treatment, and referral to an appropriate health facility when needed.

Under this scheme all the FCHVs will be enlisted and trained as new participants under close supervision. They will be allowed to use Cotrimoxazole.

Program Protocols for Pneumonia Case Management

The MOH protocols for SCM of pneumonia and other ARIs are based on those developed by WHO. The following information on SCM for pneumonia is taken from *Technical Guidelines on the Control of Acute Respiratory Infections*. The MOH places high priority on assuring a dependable supply of Cotrimoxazole and other antibiotics, and a functioning respiratory timing device for correct diagnosis. In practice, antibiotics are often not available, and facilities in the project area do not usually have a timing device or staff trained in its use (National Acute Respiratory Infections Control Program, MOH, February 28, 1995).

The principal signs used to establish a diagnosis of pneumonia are rapid breathing and chest in-drawing. The presence of either of these two signs indicates that a child has pneumonia and requires appropriate antibiotic treatment. The definition of rapid breathing changes by age group since normal breathing rates are faster in young infants. Rapid breathing is defined as follows:

- Infants under 2 months: Fast breathing rate of 60 or more breaths per minute.
- Infants 2-11 months: Breathing rate of 50 or more breaths per minute.
- Children 1-4 years: Breathing rate of 40 or more breaths per minute.

The CDD/ARI section of the MOH collapsed the fast breathing cut-off into two rates for community-level workers in accordance with WHO guidelines. For infants under two months, fast breathing is 60 or more breaths per minute, and for children between two months and five years, 50 or more per minute. Pneumonia is classified into the following categories (although the main emphasis is still detection of rapid breathing and chest in-drawing):

Age group	Type of disease	Criteria	Recommended Treatment and level
0-2 months	Very severe disease	Central cyanosis, stopped feeding completely, or convulsions, or extreme drowsiness, or stridor, or wheezing, or fever or low body temperature	Referred for admission at appropriate facility**
	Severe pneumonia	Fast breathing or severe chest in-drawing (a slight amount of chest in-drawing is normal in a young infant), without any of the signs of Very Severe Disease.	Referred for admission at appropriate facility*
	Cold/Cough no pneumonia	Cough or cold without any of signs of Severe Pneumonia or Very Severe Disease.	Home care
3- 60 months	Very severe disease	Central cyanosis, not able to drink, convulsions, extreme drowsiness, stridor in a calm child, wheezing, severe under nutrition	Referred for admission at appropriate facility**
	Severe pneumonia	Chest in-drawing without any signs of Very Severe Disease	Referred for admission at appropriate facility*
	Pneumonia	Rapid breathing without any signs of Severe Pneumonia	Management on out-patient basis using Oral Cotrimoxazole twice a day for 5 days
	Cold/Cough no pneumonia	Cough or cold without any of the signs of Pneumonia	Home care

*A facility that has adequate second-line antibiotics, supplies, and trained personnel for managing these cases.

** A facility where third-line drugs and oxygen supply is available along with medical doctors.

Recommended drugs for treatment of ARI

All children with Pneumonia, Severe Pneumonia or Very Severe Disease should be treated with appropriate antibiotics for a minimum of five days. Children with Severe Pneumonia or Very Severe Disease should be referred immediately for facility-level care. Children with no pneumonia should not be given antibiotics.

Oral Cotrimoxazole is the drug of choice for the treatment of pneumonia on an outpatient basis. Pneumonia cases should receive Cotrimoxazole for treatment at home, twice daily for five days. The dosage recommended is one tablet twice daily for infants under 2 months, 2 tablets twice daily for children 2 to 12 months, and 3 tablets twice daily for children 1 to 5 years. The only contraindications for Cotrimoxazole are jaundice in an infant less than one month of age, or proven resistance. Alternative first-line drugs are procaine penicillin injected daily for five days, or ampicillin/amoxicillin for five days.

Second-line treatment is recommended in cases of Cotrimoxazole treatment failure, defined as full treatment with Cotrimoxazole for two days with no improvement, or a worsening condition within the first two days. Oral amoxicillin or oral chloramphenicol are the drugs of choice for a second line treatment.

In cases where a patient does not respond to initial first- and second-line treatment, third-line drugs are chloramphenicol injection, benzyl penicillin injection, and gentamicin injection. Additional antibiotics may be required for district-, regional-, and central-level hospitals. Cough suppressants should not be given

District and zonal hospital level

At the district hospital level, third-line antibiotics should be available for very severe disease and severe pneumonia. Other supportive treatments will be required for these cases, such as oxygen for cyanosed cases, Salbutamol for the management of wheezing, and Paracetamol, which should only be used for children with high fever at or above 39 degrees centigrade. The project will support their availability through the MOH, but will not directly provide them.

Treatment at HP/SHP and PHC level

- Refer all cases of very severe disease to hospital and severe pneumonia cases to PHC if at all possible. If referral is not possible due to distance or lack of parents' compliance, treat with a full course of Cotrimoxazole for 5 days. If available, amoxicillin may be used as an alternative first-line drug.
- For cases of pneumonia, treat the child with full course of Cotrimoxazole for 5 days as per recommended dose.
- For cases of cold and cough with no pneumonia, antibiotics or cough suppressants should not be given. Mothers and caretakers should be taught to watch for difficult breathing, fast breathing or inability to eat or drink, and to seek health care immediately. They may also be taught supportive measures to be taken at home.

Community Level, including FCHVs

- In most instances the emphasis will be on early recognition of Pneumonia and prompt referral to PHC Centers, HPs, SHPs, or hospitals. Only the cases having no signs of pneumonia will be treated at the community level.
- Only two different respiratory rates will be utilized to define fast breathing, in accordance with WHO guidelines for community-based management.
- For cases of cold and cough with no pneumonia, antibiotics or cough suppressants should not be given. Mothers and caretakers should be taught to watch for key signs of pneumonia (difficult breathing, fast breathing, cannot eat or drink), and to seek health care immediately. They may also be taught supportive measures to be given at home.

CARE will facilitate the assessment of breathing using a respiratory rate timer, which will be provided by the government at the time of training, with assistance from UNICEF. The timers do not have a sweep hand requiring the health care worker or volunteer to look away from the child while counting breaths. They are entirely auditory. CARE will provide continuous on-the-spot retraining for community workers and may give timers to additional new FCHVs if government or UNICEF is not able to provide it to them. (As part of IMCI government provides timers only to 5 FCHVs in every VDC.)

CARE will organize all their training near a busy health care facility where it may be possible to observe children with chest in-drawing.

For the combined ARI/CDD management, the *Trainer's Guide Manual for Community Level Health Workers* containing sessions on classifying children brought to clinics will be used. The project will also use a videotape produced by the DCM/PCM Section of the Child Health Division, which shows cases of in-drawing and normal breathing. If the video cannot be shown for technical reasons, the MOH has pictures of children showing chest in-drawing and normal breathing.

Counseling for Antibiotic Use, Home Care and Referral

The FCHVs will advise mothers to go to a health facility when needed. If the mother is hesitant to go alone, community escort plans similar to those used in emergency obstetric care will be used. FCHVs will also be advised to accompany non-complying mothers to referral facilities. Trained members of mothers groups will be encouraged to counsel for home care and referrals, and escorting the mother and child if required. If they feel the case can be managed by a FCHV using Cotrimoxazole, they will refer them to an FCHV; otherwise they will directly refer the case to an appropriate facility. MOH protocols give treatment recommendations for cases where referral to higher-level facilities is not possible or the parents resist. A recent study has shown, however, that compliance with referral varies considerably depending on whether

the referring FCHV has been trained in full PCM or simply in referral. For FCHVs able to treat pneumonia cases at home and refer serious cases, only 7% of those cases were lost to follow-up.

Follow-up of Children Treated for Pneumonia

The project will train FCHVs and members of mothers groups to follow-up all cases receiving home treatment for ARI (pneumonia or cold and cough). At first contact, they will counsel mothers to return promptly if there is any worsening of the child's condition, otherwise on the third day of treatment or on the third day after referral. During follow-up, the child who has received home treatment will be reassessed and respiratory rate will be again counted. The FCHV will also assess the caretaker's compliance with the treatment. FCHVs will be taught to check the amount of Cotrimoxazole remaining at the time of follow-up and to ask the mother the dosage she has been using. If the child has responded, treatment is continued for the full course and caretakers will be advised again about the home therapy. In the case of either a compliance failure or treatment failure (i.e., the child is not free of symptoms after full treatment), the FCHV will refer the child to an appropriate health care facility as per MOH guidelines.

If the FCHV has referred a child suspected of pneumonia to a health facility on first contact, the case will be followed up on the third day to ensure that the mother took the child for treatment and that the child is doing well. In most cases, the FCHV will live nearby and probably be aware of whether the mother went for treatment and how the child is doing long before the third day. If the child has not been taken or is not doing well, the FCHV will offer to accompany the mother to the health facility personally or will ask somebody from the mothers groups' identified list of escorts to go along with the child.

Assessment of Access and Increasing Access

Access by itself is not sufficient unless FCHVs are trained. Although waiting time at health facilities is not excessive, travel time varies greatly. Some families live in remote villages accessible only by foot even others can access health facility only by foot during rainy season. Antibiotics are generally free in MOH facilities, but there are stock-outs about three-fourths of the year.

An MOH investigation found that mothers gave the following barriers to access:

- No one else in the house could assume their responsibilities while they were away from home.
- No money for treatment.
- The health facility was located too far away.
- Mothers inability to identify danger signs or recognize the seriousness of situation .

Subsequently the government protocol was changed and the trained FCHVs were allowed to prescribe drugs.

Definition of Adequate Access: The project will consider access adequate if a mother and her child can reach someone trained in proper PCM who has a supply of Cotrimoxazole within one hour by foot. The time taken by a mother to reach to a HP or SHP in the area is upto 2-3 hours. The project does not plan to open new health posts, but with training of private health providers the access situation will improve but the access to government facilities will remain as it is.

Increasing Access: As already discussed, previous pilot projects in Nepal have found that training FCHVs to diagnose and treat pneumonia greatly increases access to services. The FCHV works in her own community where she is known and has been selected by residents. Therefore, she is not constrained by ignorance of the local culture, language, or other barriers. The FCHV is available within the community for 24-hours a day, unlike staff in HPs and SHPs, which are open in the mornings and early afternoons. She is also available in remote rural areas. Each VDC has one health facility and nine FCHVs, all of whom will be trained to recognize, manage and appropriately refer pneumonia cases. Training of private health care providers and pharmacists will also help to improve the access The Child Health Division estimates that access will be very good for 80% of the area's residents after FCHVs have been trained in PCM.

Beliefs, Practices, and Vocabulary

Local words were used for pneumonia signs and symptoms in the KCP survey questionnaire which were comprehensible to those surveyed. In addition, the instrument was translated into Nepali. (See Section I, KPC Baseline Survey Results by Intervention.)

Communications for Recognition and Care Seeking

Mothers and other caretakers will be targeted for health education messages based on MOH guidelines. Key messages relate to recognizing early signs of pneumonia and where to seek appropriate care from trained health care providers who have antibiotic supplies. As with diarrhea prevention, caretakers will be educated by FCHVs, mothers groups and other health care providers through individual counseling at health facilities, during home visits, and in group health education sessions at monthly mothers group meetings.

Skills to be developed include counting of respiratory rate, identification of chest in-drawing and when to seek help. FCHVs will be taught the whole ARI management protocol. Mothers groups will learn referral and home care skills. Fathers and other influential community members like bhalamanas in Tharus (refer to cultural variations page 6 & 7) will be taught community-level action required for supporting adequate management of pneumonia and prompt/appropriate referral (including arrangement of transport, money and escort) and nutritional behaviors to be followed. The project will aim to increase access to treatment through face-to-face communications between health providers, including volunteers and mothers.

Target Group	Objective	Activity	Frequency	Intervenor
Mothers of children less than 2 months old	To practice optimal feeding during ARI (continued breast feeding) To seek appropriate advice for all ARI cases	Individual and peer counseling Awareness Campaigns • Local media • Radio	Ongoing Once in a year Ongoing	FCHV Mothers group members
Mothers of children 2-60 months	To practice optimal feeding during ARI To develop skills for counting of respiratory rate & identifying chest in-drawing Appropriate home management for non pneumonia cases To seek appropriate care from trained personnel when needed	Individual and peer counseling Awareness campaigns • Local media • Radio	Ongoing Once in a year Ongoing	FCHV Mothers group members
Mothers' groups	To practice optimal ARI management skills at home To train mothers in respiratory rate counting, identification of chest in-drawing, and when and where to seek medical help. To train mothers on optimal home management of ARI	Group meetings Accompany FCHVs for home visits and interpersonal peer counseling Awareness Campaigns ◆ Local media ◆ radio	On regular basis as part of monthly meetings Once in a year Ongoing	FCHV, ward coordinator VHW/MCHW and CHE/FHE during their field visits
FCHV	To train mothers in respiratory rate counting, identification of chest in-drawing and when and where to seek medical help. To train mothers on optimal home management of ARI To practice appropriate case management and referral for pneumonia cases	Participation in ARI training Regular refresher Supportive supervisory visits of project staff (CHE/FHE) and VHW/MCHW.	Five day initial training. Quarterly On going	Core trainers from MOH/JSI project staff (CHE/FHE) and VHW/MCHW

Community-based worker, govt.(VHW,MCH W) & project staff (CHE/FHE)	Practice appropriate ARI management and referrals as per protocols Provide supportive on-the-job supervision to FCHVs during field visits Participate in mothers group meeting for health education. Conduct appropriate home visits	Participation in community-based IMCI training Regular refreshers	7 days initial training Once in 6 months	Core trainers from MOH/JSI
Family members, other care givers(husbands, in-laws) influential people	Understand their perspective and concerns ToProvide supportive atmosphere vis-a-vis seeking help when required. Develop community-level evacuation plan for referral needs (identify escort, transportation and money sources) Support practice of healthy feeding behavior during ARI episode	Village level meetings Awareness campaigns ◆ local media ◆ radio	Once in six months Once a year ongoing	VHW and CHE/FHE and Health supervisor and CHO on a sample basis
Pharmacists and private health care providers including traditional healers	Improve their skills in identifying pneumonia cases Discourage use of antibiotics, injections and cough syrups as first line of treatment. Promote use of Cotrimoxazole for management of simple pneumonia Improve community-based data collection	Orientation and refresher Review meetings	Semi-annually/quarterly Quarterly	HA/ Community health officer Child survival project staff
Core Team DPHO, Medical officer HA Local NGO staff CHO, Health supervisor	Develop skills to enhance supportive supervision and quality service delivery To organize and streamline logistic systems to ensure uninterrupted Cotrimoxazole supplies To discourage indiscriminate use of antibiotics ,steroids and other drugs	Capacity building workshop Refresher training course	One time activity Annually	External consultant project manager and technical staff from Katmandu

Key Messages to be Promoted

Project will promote the same messages as WHO and the MOH to maintain consistency and avoid confusion.

- Infants under two months should be kept warm, breastfed frequently, and have their noses cleared so as to not interfere with feeding
- Children 2 months to 4 years should be fed, including continued breast feeding, given increased fluids, and given home fluids to sooth the throat (e.g., warm water with honey, ginger, turmeric, or tulsi leaves), continue giving food
- All children should be kept away from smoke-filled environments.

D. Maternal and Newborn Care (20 % efforts)

Baseline Information

See Section I, KPC Baseline Survey Results by Intervention.

MOH Policies and Current Public and Private Services

The goal of the MOH Maternal Care Program (Safe Motherhood) is to reduce mortality and morbidity during pregnancy and childbirth. The program uses a multi-sectoral approach with health as well as non-health (e.g., literacy) activities, including standardized and improved quality of antenatal, natal, and postnatal care through training MOH staff and TBAs, infrastructure development, establishment of new outreach clinics, revised case management protocols, advocacy, IEC and research.

National Maternity Care Guidelines developed by the MOH with UNICEF in 1996 state that basic antenatal, delivery and postnatal care should be available at all health care facilities from the SHP level upward. TT vaccine is available, but iron/folate is frequently out of stock. Basic equipment, in theory available at all health facilities, includes: sphygmomanometer, baby weighing scale, fetal stethoscope, and sterilizer. The Health Facility Assessment report, which lists equipment available at each facility in the project area, can be seen in the baseline section. According to MOH protocols, the following types of care were should be available in different facilities:

Maternal Care Available by Type of Facility

Type of Facility	Type of Care			Health Care provider
	Prenatal	Delivery	Postnatal	
Outreach PHC clinic (3-5 in every VDC once in month)	Antenatal check up, iron folate, TT injection, mothers card registration	No facility	Postnatal check up, maternal and child weighing and check up, postnatal Vit A, IFA for anemic mothers	Maternal Child Health Worker (MCHW) and Village Health Worker (VHW)
Sub-Health Post	Diagnose pregnancy, antenatal care for normal pregnancies, screen for high-risk, physical exam, counsel, TT, iron/folate	Normal delivery, referral for complications, aseptic and safe technique, ergometrine for postpartum hemorrhage	Physical exam, referral for complications, counseling, inc. FP, postnatal Vit A	Maternal Child Health Worker (MCHW)
Health Post	Same as SHP level + labs (hemoglobin, albumin, sugar), manage pre-eclampsia	Same as SHP + episiotomy, repair perineal tears, bimanual compression, manage eclampsia	Same as SHP + treat sepsis, cord infection, jaundice, diarrhea and PCM, puerperal sepsis	Auxiliary Nurse Midwife (ANM)
PHC Center	Same as HP + blood grouping, typing and VDRL, manage eclampsia	Same as HP + partogram, management of prolonged labor, forceps, resuscitation for shock.	Treat secondary postpartum hemorrhage and neonatal complications	Medical Officer (MO) or ANM
Hospital	Comprehensive	Comprehensive	Comprehensive	Medical Officers or

				specialist.
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At the HP and SHP levels, access to essential obstetric care is limited to mornings and early afternoons. Presently comprehensive emergency obstetric services, including C-section, are not available in Kanchanpur since there is no gynecologist or anesthesiologist. Emergency obstetric cases are referred to the hospital located at Dhangadi in Kailali district, which is immediately adjacent to Kanchanpur. Four of the VDCs in the project area are close to Dhangadi within one hour distance. For remaining VDCs, it takes 3-6 hours by motor vehicle to reach the hospital. Therefore only women in the four nearby VDCs have adequate access to emergency obstetric services.

Main constraints to emergency obstetric services include:

1. Accessibility and poor transportation from remote areas
2. Many vacant posts in health facilities and frequent transfers of staff.
3. Quality of services

CARE will try to improve emergency obstetric services by:

- Lobbying for vacant posts to be filled and for staff to remain there
- Lobbying for short-term training of physicians at PHC Centers and/or District Hospitals in emergency obstetrics
- Working with individual women to develop a birth plan
- Working with communities to develop an emergency evacuation plan
- Working with health facilities to develop an emergency management protocol plan for women reporting to them.

Knowledge and practice

Interesting data is available on causes of maternal mortality from studies conducted in 1998 on safe motherhood programs in the three districts of Kailali, Rupendehi (Terai) and Okhaldhunga (hill). Kailali has an almost identical socio-ethnic profile to Kanchanpur's and accounted for 56% (n=70) of deaths in the study. The study shows that 67.4% of maternal deaths (89/132) occurred at home, 11.4% (15/132) on route to a health facility and 21.2% (28/132) within the health facilities. Only government hospitals and PHCs were used for emergency obstetric care and hence reported any maternal deaths. The majority of deaths occurred in rural communities where distance to the nearest health center forces many families to use home remedies.

The major reasons identified in the study for obstetric deaths were:

- Delay in seeking care
- Delay in reaching care
- Delay in receiving care

Delay in seeking care is caused by a variety of factors, such as lack of knowledge about problem identification, lack of recognition of the seriousness of the symptoms, lack of confidence in the medical system, concern about the distance to be traveled, cost of the services, traditional beliefs and poverty/low socioeconomic conditions. (Thapa 1996)

Percentage distributions of delay in seeking care

Factors for delay in seeking care	Number	Percent
Recognition of seriousness of problem (n=132)		
Yes	103	78.0
No	22	16.7
Don't know/not applicable	7	5.3
Decision to seek care (n= 132)		
Yes	87	65.9
No	45	34.1
Time taken for decision to take to health institution (n=52)		
0-2 hours	19	14.4
3-4 hours	4	3.0
5-23 hours	4	3.0
1-6 days	13	9.8
> 7 days	2	1.5
Who took decision to seek care (n=87)		
Husband	37	42.5
Husband and/or his family member	34	39.1
Family member and/or maternal family member	10	11.5
Husband and/or maternal and other family members	3	3.5
Others	2	2.3
Reason not to seek care (n= 45)		
Can't afford	6	13.4
Lack of knowledge and others	19	42.2
Problem of access(too far, lack of transport)	13	28.9
Don't know/Not applicable	7	15.6
Health care provider at home (n=25)		
Health post in charge	2	8.0
Auxiliary nurse midwife	2	8.0
Trained TBA	3	12.0
MCH worker	1	4.0
Untrained health worker	15	60.0

Delay in reaching care: Of the 103 families in the study who identified the seriousness of situation, 87 (65.9%) decided to seek help; 52 of those (59.7%) took the women to a formal health facility and 25 (28.7%) called for assistance at home. Due to distances, difficult terrain and an underdeveloped road and transport system, transport delays are common. This is further aggravated during the monsoon season as swollen rivers make crossing difficult. The only access to a health facility was by walking plus some other means for 42% of families surveyed and by bullock cart for 28%. In the terai, up to 60% of the population is landless (Central Bureau of Statistics 1991), which means that taking the women to a hospital results in loss of daily wages.

Factors for Delay in Reaching Care	Number	Percent
Institution taken for care (n=52)		
Hospital	32	61.5
PHC	5	9.6
Private clinic	12	23.1
Don't know /not applicable	3	5.8
Mode of transport (n=52)		
Ambulance	3	5.8
Private vehicle	4	7.7
Taxi/bus	19	36.5
Porter	2	3.9
Bullock cart	14	26.9
Others	10	19.3
Time taken to reach first health institution from home (n=52)		
0-2 hours	17	32.7
3-4 hours	3	5.8
5-23 hours	3	5.8
Don't know/not applicable	29	55.8

Delay in receiving care: Of the 52 women who were taken to a health facility, five died on the way. Of the 47 women who reached the facility, 20 (42.6%) received immediate care, 5 (10.6%) were attended within one hour and 22 (46.8%) could not say how long they waited to receive care after arrival. This is a very typical picture for the Kanchanpur area.

Approach

The project strategies address antenatal, delivery, postpartum and newborn care and focus on improving community norms related to maternal and neonatal health and help-seeking practices. Community sensitization will be coupled with improvements in services and supplies.

The main strategy will be mobilization of pregnant women by mothers groups to practice healthy behaviors and optimal care seeking. Each member of a mothers group will be encouraged to take responsibility of one or two pregnant women for follow up. Members of mothers group will be encouraged to and report back on their practices during the monthly meetings. At the same time, other family members (husbands and in-laws) will be mobilized to support mothers to practice appropriate behaviors and help seeking. The project will network with government staff and local self-government bodies to develop surveillance mechanisms to ensure provision of quality service during and after the life of project.

The MOH routinely provides maternal care. The HP and SHP designates specific clinics for antenatal services once a week. In addition, three to five PHC clinics are organized in every VDC each month at a designated location, during which the following services are provided:

1. Physical examination and laboratory services (where possible) to monitor fetal growth and detect pregnancy risk.
2. Health education and counseling on nutrition, exclusive breastfeeding and family planning.
3. Provision of TTT immunization and iron tablets.
4. Early detection of high-risk cases and their referral to appropriate health institutions.

The project will improve the quality of services by enhancing skills and capacity of the government staff and complement the government's referral chain by enhancing skills and capacity of community volunteers and other private health care providers. It will coordinate with government to make FCHVs depot holders for iron folic acid tablets, and promote use of safe home delivery kits through mothers groups. Two innovative pilot programs will address community birthing centers and deworming during the third trimester of pregnancy, in 3 VDCs.

Antenatal Care: The project will promote positive health behaviors and optimal help-seeking practices during the antenatal period. It will develop community support and build the capacities of health providers for improved quality of services. At the community level, the FCHVs, TBAs and mothers' groups would be responsible for motivating pregnant women in the following areas:

- ◆ Early registration of pregnancy and receipt of HBMC
- ◆ Retention and use of HBMC
- ◆ Making at least four antenatal visits during the pregnancy to the nearest health facility
- ◆ Receipt and consumption of IFA tablets
- ◆ Compliance with TT protocol
- ◆ Practicing better nutrition including:
 - Consumption of at least one extra meal/ snack in the day in addition to varied diet
 - Consumption of Vitamin A-rich foods (dark leafy vegetables and yellow fruits, liver, etc)
 - Not to smoke, consume alcohol or chew tobacco
- ◆ Identification of danger signs and action required
- ◆ Reduce workload during the last trimester of pregnancy
- ◆ Develop birth plans
- ◆ Participate in community health funds which can be used for obstetric emergencies

The project will target pregnant women, family (especially husbands & mothers-in-law) and influential community members to build capacity in the identification of danger signs during the pregnancy and action required. TBAs and FCHVs will train mothers groups, who will in turn communicate these messages to the pregnant women assigned to her.

One of the key interventions is birth planning, which enhances the wellbeing of women during pregnancies and their outcomes. Birth planning includes:

- Knowledge of the delivery date
- Recognition of danger signs and complications during pregnancy, childbirth and postpartum, and required actions
- Procurement of a safe home delivery kit
- Identify and use a skilled/trained provider to conduct delivery (trained TBA or ANM)

Planning to handle obstetric emergencies in event of complications include:

- Identification of the nearest appropriately equipped health facility
- Identification and arrangement for transportation
- Arrangement for expenses and transportation to the selected health facility
- Ensure availability of an escort
- Identification of domestic help for the period of emergency

Mothers groups will also help develop a community birth plan, which will involve developing community health funds, identifying community resources for fast and affordable transportation, and developing a list of community volunteers to escort women to the health facility.

The project will coordinate with the DPHO and local self-governance to ensure supplies. It will use the national HBMC and not introduce a separate maternal health card. Similarly the project will coordinate with DPHO for ensuring availability of IFA with FCHVs. Supplies of deworming drugs will be ensured from DPHO and only if it fails will the project link up with other sources.

Delivery care: Wide prevalence of home deliveries in the area underlines the need to train TBAs and family members in birth planning, use of safe home delivery kits, identification of danger/warning signs, appropriate action to be taken in case of emergency, and basic postpartum and neonatal care. Training and regular refreshers for TBAs with hands-on experience will be organized using national curricula, which call for 12 days initial training and biannual two-day review workshops. These biannual reviews are training/supervision opportunities that include data collection and technical training in either family planning advice, STD/HIV, neonatal care or safe motherhood. In practice, the review protocol is not

followed and even when conducted, they focus on data collection. The project will try to make these reviews regularly functional.

Regular on-the-job support to TBAs is a responsibility of VHWs, MCHWs and project staff (CHE/FHE). The project will build their capacity to support TBAs. The FCHVs and other members of mothers groups will be oriented to promote healthy home-based birthing practices.

The project will promote the use of Safe Home Delivery Kits (SHDKs). Pregnant women will be encouraged to procure them in the last trimester of pregnancy. Some contingency supplies will be made available to TBAs during their training in case a SHDK is not available. They are available at medical shops, grocery shops and through TBAs. To increase access, the project proposes making mothers groups depot holders for social marketing of SHDKs.

The delay in receiving care after arriving at an EOC facility can be attributed to cumbersome administrative processes, lack of medicines, supplies, equipment, staff and effective management information systems. Facilities in the area will be assessed and any gaps in services identified would help form an action plan. The assessment would include a facility management survey, antenatal record or client review, and interviews with health care providers. (See Annex VIII for tools.)

An innovative project strategy will be exploring the possibility of establishment of community birthing centers in 3 VDC on an experimental basis. A space will be identified and provided by the community, with two to three beds, a delivery room, and accommodation for a TBA/ANM. The community birthing centers will be in VDCs that show community support and willingness to develop a plan to continue them beyond the project life. CARE staff have discussed this strategy with leaders of the maternity ward of the Regional Hospital to obtain their support and agreement.

The project also proposes to conduct qualitative research to explore the use of SHDKs and other clean birthing practices. This will help in understanding community norms regarding birthing practices and help seeking during obstetric emergencies.

Postpartum/Neonatal care: The project will explore the community beliefs about maternal care and based on it will focus on increasing women's, family members' and influential community members' knowledge about practices and danger signs in the postnatal period. Capacity building of TBAs, government functionaries and other private health care providers will improve quality of postpartum and neonatal care. The project will try to expand access to quality services by enhancing the skills of service providers and establishing linkages with referral hospitals.

The protocol for postnatal care will include a visit by a TBA/FCHV within 48 hours of delivery in order to:

- Provide maternal nutrition advice
- Check for establishment of breastfeeding and provide advice
- Provide neonatal care advice
- Screen for danger signs of puerperal and neonatal sepsis and refer if needed

The VHWs, MCHWs, and TBAs will be trained on the essential components of neonatal care. Mothers group members, FCHVs, pregnant women and other family members (especially mothers-in-law) will be oriented and counseled to practice appropriate neonatal care.

The TBAs will be taught to ensure warmth by drying and wrapping the neonate in a clean cloth, prevention of infections, and early initiation of breast-feeding. The capacity of TBA/FCHVs and mothers group members will be built to recognize signs of concern in a neonate, e.g., cold baby, baby unable to suckle, low birth weight and signs of septicemia, and to make referrals to an appropriate facility.

If the TBA has a minor concern, she will ask the VHW/ANM or project staff CHE/FHE to make a visit. If a serious condition is feared, the child will be immediately referred to a HP or PHC, accompanied by the TBA and the escort identified during community birth planning. The CHE/ FHE and health supervisor from the project will make random household visits for support and on-the-spot training of the FCHV/TBA.

In collaboration with external consultants, the project will work to develop community/village based neonatal care guidelines.

VHWs, MCHWs, TBA/FCHVs and mothers group members will encourage mothers for a routine postnatal visit to the health facility within 15 days of delivery. The health facility level staff will be trained to utilize PNC visits for maternal and newborn check ups and counseling about maternal nutrition, breastfeeding and neonatal care.

Access to Emergency Service: Pregnant mothers and key decision makers will be supported in developing a birth plan that includes access to emergency services. In addition, influential community members will help develop a community action plan to address issues of transportation, escorts, and money. Village-level health care providers will be trained to identify referral needs and efforts would be made to strengthen referral links to ensure quality services.

The project will advocate use of EOC facilities at Mahendranagar Hospital as well at Dhangadi. However, EOC services at Dhangadi are better, with facilities for C-sections and the presence of an obstetrician as well an anesthetist, whereas those positions are vacant at Mahendranagar. At the same time possibilities of utilizing emergency services in other hospitals (private nursing home) would also be explored. The percentage of beneficiaries who will require EOC is uncertain, but using nationwide projections, up to 10% of mothers could benefit.

Sustainability of activities: All technical training workshops and visits will enhance the capacity of the service providers, and thus make inroads towards sustainability. For financial sustainability, the project proposes to have a community health fund at the level of mothers groups. All members of mother groups as well as other pregnant women will be encouraged to save some money. The mothers groups will be encouraged to use community health funds for obstetric emergencies in addition to whatever else the group decides.

Organizational sustainability of the mothers groups will be ensured through regular meetings, taking up health-related responsibilities, and linkages with other holistic developmental activities. Mothers groups would act as depot holders for SHDKs and will do social marketing of SHDKs to make access to supplies easy for pregnant women. The money generated will go for developing funds for emergency transportation. Mothers groups will have other motivational incentives, such as cross visits to other project sites, recognition at the VDC and DDC level for the best performing groups, being on the radio, etc.

The project aims to promote distribution and retention of HBM cards by all pregnant women. In addition, a register is maintained by VHWs, which will record ANC, TT, IFA and the child immunization schedule of that village. The project will organize special campaigns to communicate the importance of retaining those cards.

A double-check system has been envisaged to monitor the quality of services using HBMC cards. The records will also be cross-checked with the VHW register. The community data collected by mothers groups will provide validation of health facility-level data.

Behavior Change Communication (BCC)

The BCC approach will be the same as described for other interventions and will depend on exploration of community perceptions and perspectives about maternal care. It will target pregnant women. All other women of reproductive age will be the secondary target audience. It will focus on care during pregnancy, delivery, and the postnatal period, including neonatal care. Special emphasis will be put on identification of danger signs and action required in case of emergency, birth planning, safe delivery, nutritional counseling, postnatal visits and essential neonatal care practices. The project will also target husbands and other family members and decision influencers to create community norms and structures to support these practices.

Target Group	Objective	Activity	Frequency	Intervenor
Pregnant women and other women of reproductive age	Practice healthy behavior on sustainable basis Access quality services as and when required	Individual and peer counseling Awareness campaigns ◆ local media ◆ radio	Ongoing Once in a year Ongoing	TBA/FCHV Mothers group members Local cultural groups FM station
Mothers groups	Mobilize community to promote and support healthy behavioral practices Create enabling environment for service providers	Home visits for interpersonal peer counseling Group meetings Awareness campaigns ◆ Local media ◆ radio	On regular basis Monthly Once in a year Ongoing	FCHV, TBA and ward coordinator VHW and CHE/FHE during their field visits
Family members (husbands, in-laws) influential people	Understand their perspectives and concerns Provide pregnant women supportive atmosphere vis-a-vis seeking ANC/PNC and emergency services and practicing healthy behavior	Village level meetings Awareness campaigns ◆ local media ◆ radio	Once in six months Once a year ongoing	VHW and CHE/FHE and Health supervisor and CHO on a sample basis
TBAs	To provide skills to promote and support healthy behavioral practices Information to enhance their knowledge Improve skills in order to enhance quality of care Provision of safe delivery kits	Orientation and refresher training Review meetings Maintenance of TBA records	Semi-annually Quarterly Ongoing	VHWs, MCHWs and CHE/FHEs
Other service providers Govt. (VHW, MCHW, ANM) and private health care providers and local NGO staff	Improve skills in order to enhance quality of care Knowledge and skills enhancement Strengthen support system and access to supplies for providing quality services.	Orientation and refresher Review meetings	Semi-annually, quarterly Quarterly	HA/ Community health officer Child survival project staff
Core Team DPHO, Medical officer HA Local NGO staff CHO, health supervisor	Develop skills to enhance supportive supervision and quality service delivery	Capacity building workshop Refresher training course	One time activity Annually	External consultant project manager and technical staff from Katmandu

Key Messages to be Promoted

During antenatal period, have at least four visits from trained health personnel

During antenatal period, increase the amount of food eaten (at least one snack in addition to regular diet).

Take Iron Folic acid tablets from 4th month of pregnancy to 6 weeks postpartum.

Use iodized salt during pregnancy and postnatal period

Stop smoking, drinking alcohol, chewing betel nuts and using drugs

Reduce workload during last trimester of pregnancy

Develop a community health fund that can be used during obstetric emergencies

Develop a birth plan that includes

- ◆ Identification of trained TBA for delivery
- ◆ Identify the room to be used for delivery in the house and clean it
- ◆ Save money for possible emergencies
- ◆ Identify the health facility to be visited for possible obstetric complications
- ◆ Identify mode of transportation to be used during emergency
- ◆ Identify escort for emergency

- ◆ Identify help for domestic chores and care of other children in case emergency referral is needed
- Procure a safe delivery kit to be used during pregnancy.
 When to seek medical help during ante-natal, delivery and post natal period
 Immediate neonatal health care required
 Take a vitamin A capsule immediately after birth or at least within 6 weeks after delivery

E. Control of Malaria (15 % efforts)

In Nepal, malaria-prone areas have been broadly stratified based on endemicity, epidemic proneness, presence of the vector and its efficiency, drug resistance, and cross border problems. (See Annex XI.) Appropriate control measures are designed for each stratum. Kanchanpur is in the southern plains of cultivated terai (paddy ecosystem) bordering with India at an elevation of 60 - 150 m. above sea level. . Population out-migration to India for economic reasons is common. This area is classified as Stratum III for operational purposes. It experiences low receptivity and seasonal transmission from March through October. *Anopheles annularis*, which breeds in rice fields, ponds, and stagnant pools, is the major vector and is resistant to DDT. The majority of malaria cases in the area are due to *P. vivax*.

Data available since 1963 on malaria in Nepal reveals periodic upward lifts, followed by sharp falls. There was a period of stagnation with only slight fluctuations until 1971. From 1972, the number of cases started raising again and in 1973 and 1974 there was an epidemic bringing the number of cases to 14,000. By mobilizing limited resources and replacing DDT with Malathion, the Nepal Malaria Eradication Organization was able to contain malaria to between 10,000 and 13,000 cases annually.

In 1978 the situation really deteriorated, with steady increases every year, reaching 16,719 cases in 1983 and major outbreaks in 1984 and 1985. From 1985 to 1990, the number of cases decreased due to massive spraying in epidemic/outbreak areas. Despite a rise in 1991, cases gradually decreased to 8,498 in 1998, 10% of those in the far west region. During this period, Annual Parasite Incidence (API) was 0.52% as against 0.57% in 1997. The Slide Falciparum Rate (SFR) was 0.30%.

In 1996, a notable outbreak was occurred in two villages of Parasan Health Post (Stratum 1) of Kanchanpur District. A total of 4,046 people were affected, 2,594 slides were examined and 727 malaria-positive cases (28%) were found. The proportion of *P. falciparum* infection was 88%, of which in 8% were severe cases. Fifteen deaths due to malaria was recorded.

Most of the cases now being reported are indigenous with peak incidence from March to October. Seasonality of *falciparum* is not visible and cases are sporadically dispersed throughout the year, accounting for an estimated one fourth to one third of cases. The estimated levels of malaria-related morbidity and mortality are not available for the district, but national data show prevalence among infants to be 0.32% and 3.8% among children aged 1-4 years. (DHS, Epidemiology and Disease Control Division, Report of the Annual Internal Assessment of the Malaria and Kala-Azar Control Activities, 1998)

Baseline information

Details of baseline can be seen in the initial section. A detailed baseline will be undertaken in collaboration with EHP in the year 1. The project objectives and indicators will be set up on the basis of this baseline.

Government Policies and Protocol

Government strategies for control and management of malaria have the following components:

1. Disease management:

- Organization of outreach clinics at the community level for treatment of malaria cases.
- Diagnosis on the basis of clinical assessment at community level and lab tests at health facility level.
- Referral to hospital for treatment with second-line drugs for non-responding cases.
- Drug supplies to all Health Posts and Sub Health Posts.

- Mobilization of FCHVs for malaria case detection through PHC outreach approach.
 - Mobilization of passive case detection volunteers to collect slides and provide presumptive treatment of malaria with chloroquine.
2. **Health Education:** The purpose of health education is to involve the community in different aspects of malaria control program. Activities include personal contact, workshops, malaria education to the school children, and distribution of IEC material.
 3. **Surveillance activities:** This includes development of HMIS and information collection from non-health sectors, data compilation and analysis at the peripheral level. The malaria situation is monitored by the DHO. All positive cases confirmed by laboratory tests are reported monthly by the Health Post. Monthly reports are compiled and consolidated by the DHO. In case of any outbreak or abnormal increase in positivity rate, the DHO is informed immediately. A copy of the monthly report is sent to the HMIS section of DHS. In coordination with HMIS, Epidemiology and Diseases Control Division (EDCD) monitors the malaria situation regularly. An internal assessment of the program is carried out annually.
 4. **Research and policy related activities:** The activities focus on epidemic prevention, control of *P. falciparum* and entomological studies. Epidemic-prone areas are being identified using criteria for critical assessment of various malarogenic factors. A national policy for the treatment of malaria emphasizes treatment of *P. falciparum*, protocols for treating pregnant women and children under five, and drug-resistant malaria. There is regular monitoring of the development of drug resistance in *P. falciparum*, with entomological studies on transmission, vector distribution, livestock-related aspects and insecticide resistance measurements.

Treatment protocol for malaria cases

Chloroquine is the main drug for treatment of *Vivax* malaria; a total dose of 25mg/kg divided over 3 days is recommended for clinically suspected cases. In laboratory-confirmed cases, 5 days of Primaquine (total dose of 1.25mg/kg) is recommended in addition to 3 days of regular treatment with chloroquine for radical treatment.

For clinically-suspected cases of malaria in *falciparum*-endemic areas, routine doses of Chloroquine + Primaquine (0.75 mg/kg) for day 1 are recommended. The alternative therapy is a single dose of Sulphadoxine + Pyrimethamin (25 mg + 1.25 mg /Kg body weight) and Primaquine (0.75 mg / kg body weight). Primaquine is not recommended for children under the age of one or for pregnant women. Chloroquine is available in syrup for children below one year of age.

Community perceptions and beliefs

“AEULO” is the local term for malaria. There is no separate word for severe malaria. The communities consider malaria a life-threatening disease. The KPC survey showed that about 75% of people use bednets. For treatment, children are taken to health facilities, pharmacies and private health care providers as well as traditional healers. Communities and local leaders are aware and fond of residual insecticide sprays.

At present health workers are maintaining case records for malaria. The national surveillance system had weakened substantially and is being currently reviewed and revitalized. The project will participate with DHO and EHP in a baseline survey in May/June 2000, which will cover socio-behavioral aspects of malaria, entomology, qualitative studies, quality assurance, and laboratory studies. Based on the results, interventions and approaches will be designed and carried out as OR pilots in 3 or 4 VDCs. In all other areas, health education and training will be provided to VHWs, MCHWs, and FCHVs for malaria containment activities.

Project strategy

The project will use a three-pronged intervention strategy:

1. **Behavior modification:** For behavior changes in the community, FCHVs and members of mothers groups will be used as change agents. Targeted behaviors will include health care-seeking for children with fever,

promotion of bednets, especially for children less than 2 years old and pregnant mothers, and environmental sanitation factors.

2. Improved treatment /quality of care: CARE will provide training and support to VHWs, MCHWs, FCHVs and mothers groups on malaria prevention, identification and appropriate case management (where appropriate). The curriculum will use national malaria protocols. Village Health Workers, MCHWs and private health care providers and pharmacists will enhance their skills in case identification and management. Training will also include taking blood smears if the corresponding Health Post has a trained lab assistant and microscope.

CARE will work with the VDCs and DPHO to strengthen drug supply systems by improving existing logistics and investigating other systems, such as procuring drugs at low cost and distributing them to the FCHVs who then sell them for a nominal cost, or developing community pharmacies.

A referral system will be set up with the health facilities to allow FCHVs to refer cases when necessary. CARE will follow up to see if and where people go after being referred, and modify the system if necessary. Malaria training will form a part of IMCI training.

3. Feasibility study for impregnated bednets: Simple bednets are common in the area with 75% population claiming to use them for personal protection. Insecticide-treated mosquito nets have not been tried in any area of Nepal. The project proposes a feasibility study of their use in 3 VDCs based on EHP baseline and community interests. The feasibility study will include:
 - Community preferences regarding protections against malaria
 - Communities attitudes towards insecticide-treated bednets
 - Availability and acceptability of bednets and reimpregnation with insecticides
 - Community preparedness to buy them on full or subsidized rates
 - Feasibility of periodic community/household level reimpregnation
 - Cost benefit of impregnated bednets
 - Social marketing by mothers groups and FCHV associations.

This project will not undertake promotion of impregnated bednets until the communities' willingness to pay full or part of cost and sustainability of reimpregnation activities at household or community level can be ensured. Even if the project decides to undertake promotion of ITMs, it will start only after community mobilization and strengthening of mothers groups are completed. The feasibility studies will take about 18 months and the community mobilization activities will take same amount of time.

F. Integrated Management of Childhood Illness

In the proposal it was not mentioned as a separate strategy with specific efforts being focussed on it but it will be an overarching strategy to address the project interventions.

MOH Strategies, Activities, and Training Materials

In Nepal an ARI program was started in 1995. In 1996 the program was integrated with the CDD program and renamed CDD/ARI. It became a community-based ARI/CDD program in 1997 with the introduction of FCHVs and other volunteers. In the same year the program was subsumed in IMCI with starting of training of health facility-level staff for IMCI. The IMCI program was further strengthened to include community based workers to community-based IMCI in 1999.

The national government is gradually expanding both its community-based IMCI and its community-based ARI/CDD strategy. Community-based IMCI has covered 3 districts, whereas community-based CDD/ARI has covered 10 districts. Kanchanpur will be the fourth community-based IMCI district covered by the MOH. The key components will be ARI (including ear infection), Diarrhea, Malaria, EPI, and Nutrition (measles).

IMCI is not covering the newborn child, only children aged 2-60 months. Children below 2 months are being covered for nutritional advice only. IMCI training will be focussed on the interventions, but in addition sections on health facility assessments, follow up supervision and project management had been added to the curriculum. Drug procurement systems are being decentralized to the district level. As part of training, the FCHVs are allowed to use drugs such as Cotrimoxazole for pneumonia treatment. The IMCI implementation in the district will be starting in April. The CS project played crucial role in the MOH's decision to include Kanchanpur in IMCI implementation.

Adoption of IMCI materials, including translations in local languages and finding local practices in the nutritional area, has been completed. As a result, training has the following components:

Level of staff	Duration of training	Components
Master trainers (Medical officers as well as JSI and MOH trainers)	18 days	11 days IMCI package, 7 days for adoption and master trainers training
Health facility level staff + Health supervisors from project	11 days	9 days IMCI 2 days project management
Community based workers (VHW, MCHW) + CHE/FHE from the project)	7 days	5 days IMCI 2 days project management
Community volunteers (FCHV etc.)	5 days	Combined CDD/ARI package

All the training curricula and schematics are included in Annex VII. First and second levels of training include mandatory follow-up visits to be conducted in the next 6 weeks. Specific checklists for these follow-up visits have been developed. Training materials include manuals, video, picture books and hands-on clinical practice in hospitals as well as the community. After the initial training, a refresher is planned once within the next two years for a period of five days. A monitoring and review meeting is conducted once a year.

Role of the Child Survival Program in IMCI

The Child Survival program is intricately related to government IMCI implementation in the area. It will be closely associated with all the three components of IMCI:

- Training of health staff for appropriate case management
- Health system strengthening
- Community and family practices

The project's role will be to strengthen the health system through capacity building of hospital, health post/sub health post, and community-level staff in project management and technical interventions.

Training of the health staff will be conducted by MOH in collaboration with JSI. The project staff and its collaborators will be trained together with government staff in community-based IMCI and CDD/ARI. Project staff will support implementation of IMCI by conducting regular quarterly refresher training and supportive supervision of the trained staff.

Projects activities for behavior change in community and family practices and help seeking are described in detail in the behavior change communication section of all relevant interventions. The project will work at the level of primary caregivers as well as decision influencers within the family and community.

An example of collaboration with government is the use of health facility assessments baseline undertaken by the project by MOH. Similarly the MOH plans have the project train their staff in community-based data collection.

Specific components of the child survival program's IMCI strategy: The project plans to address only those issues already discussed in other sections of the DIP.

SECTION 4: ANNEXES

List of Annexes

- I. Response to DIP reviewers comments
- II. Baseline surveys (KPC report , FCHV and TBA skill assessment report & tools)
- III. Memorandum of Understanding with supporting organizations
- IV. CVs of key staff (A) Hq staff (B) Field staff
- V. Maps of project area
- VI. Roles and responsibilities of FCHV and TBA
- VII. Training curriculum
 - (A) FCHV
 - (B) TBA
 - (C) IMCI for facility, community level staff & combined CDD/ARI for FCHV
- VIII. NGO assessment tools
- IX. Maternal and Child health cards
- X. Monthly reporting formats
- XI. MOH protocol & stratification for malaria and EHP baseline design