SAVE THE CHILDREN

MALI FIELD OFFICE

CHILD SURVIVAL 8 FINAL EVALUATION

KOLONDIEBA AND BOUGOUNI DISTRICTS
SIKASSO REGION, MALI

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
Arrondissement	Administrative subdivision of a circle in Mali
ARI	Acute Respiratory Infection
BCG	Bacile Calmette et Guerin (vaccine for tuberculosis)
CBA	Child Bearing Age
CDD	Control of Diarrhea1 Disease
CERPOD	Centre de Recherche Population et Developpement
Circle	Administrative subdivision of a region in Mali
c s	Child Survival
CSCom	Centre de Sante Communautaire
DIP	Detailed Implementation Plan
DPT	Diphtheria-Pertussis-Tetanus vaccine
EPI	Expanded Program on Immunization
FO	Field Office
FP	Family Planning
FT	Family Trainer
GM	Growth Monitoring
HIS	Health Information System
ICPM	Infirmier-Chef de Poste Medical
IMR	Infant Mortality Rate
KAP	Knowledge, Attitude, Practice
KPC	Knowledge, Practice, Coverage
MCH	Maternal and Child Health
MOH	Ministry of Health, Solidarity, and Senior Citizens (Mali)
MTE	Midterm Evaluation
NGO	Non-Governmental Organization
ORS	Oral Rehydration Salts
ORT	Oral Rehydration Therapy
PEV	Programme Elargi de Vaccination
PHC	Primary Health Care
ProMIS	Project Management Information System
PVO	Private Voluntary Organization
SC/US	Save the Children/United States
STD	Sexually Transmitted Disease
TBA	Traditional Birth Attendant
I-r	Tetanus Toxin
U5MR	Under Five Mortality Rate
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VHC	Village Health Committee
WHO	World Health Organization

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EXECUTIVE SUMMARY

Save the Children/USA (SC/US) has been present in the circle of Kolondieba providing technical assistance in Child Survival (CS) services since 1986. After the Mali CS-IV grant (1988-1991), a follow-up project (Mali CS-VIII) for three years beginning September 1992 was allocated under cooperative agreement # FAO-0500-A-00-2034-00 with USAID/BHR/PVC/CSH. A final evaluation for Mali CS-VIII was conducted from September 11 to 29, 1995. This final evaluation was to assess the level of achievement of Mali CS-VIII stated objectives, its response to the recommendation of the midterm evaluation, its effectiveness and sustainability, and make necessary recommendations for future projects.

The project's goal was to reduce infant and child morbidity and mortality, through separate but interrelated objectives focused on the child survival interventions such as (1) Village Literacy and Self-Management for health, (2) maternal and adolescent health, (3) control of diarrhea1 disease, (4) immunization and disease surveillance, (5) nutrition and breast-feeding, and (6) malaria prevention.

All project activities were conducted throughout the five arrondissements (subdistricts) of Kolondieba circle (district), and expanded to the Zantiebougou *arrondksement* of Bougouni circle. The beneficiary population including infants O-l 1 months, children 12-23 months, children 24-59 months, children 60-71 (vitamin A component), females 15-19 years (high risk pregnancy), females 20-34 years, and females 35- 49 years (high risk pregnancy) was estimated at 105,143 people out of a total population of 162,207 inhabitants. Project funding was provided by USAID/Washington and SC/US, $ 706,350 and $ 235,744 respectively.

Mali CS-VIII focused on strengthening sustainable village health committees (VHCs), and competent family trainers (FTs, annimateurs *familiaux*) who are the back bones of the community-based health care system. The project has conducted literacy training of VHCs and TBAs to enable them to take responsibility for the community health needs. FTs are key health agents of the community-based approach. Each of them covers five to eight villages and their VHCs. FTs deal with water and sanitation issues, safe motherhood initiatives and child survival activities such as advising parents to have their young one immunized, promoting protective behaviors and village self-management for health, training mothers to prepare and use ORT, counseling and educating for better nutrition, and providing family planning services. They also collect pertinent selected- health data on the community which are incorporated into project's health information system.

The Mali CS8 activities are incorporated in a broad integrated set of community development activities including agriculture, literacy and numeracy, credit, water management, and primary schooling (village school). Women's education and empowerment are two of the main foci. The project has developed a truly intersectoral team which implements in collaboration with the MOH local representatives, a community-based educative, promotive and curative health care system.

The project relied on a family-based, universal enrollment health information system that has the potential to provide accurate data to assess progress and impact at the beneficiary level.

During the three years of implementation, Mali CS-VIII has conducted three KPC surveys within the community to assist in monitoring and evaluating the project, Also, specific studies for a thesis or operational research purpose supported by SC/US have been conducted in the area during the project implementation. There is therefore a wealth of data on the project area which is regularly used to improve the implementation of project activities. Investigation including, document review, staff, collaborators, and beneficiary interviews, statistical comparison and analysis of the KPC baseline, midterm, and final survey have shown progress in major components of the Mali CS-VIII project.

However, even though the Mali CS-VIII project made noticeable progress over the course of three years and collected an impressive amount of data, the evaluation team faced difficulties in documenting the achievement of some objectives stated in DIP and as revised in the MTE due to the complexity of their formulation. An example would be the objective: "60% of women will know the importance of acquiring clean water in a manner that maintains the cleanliness of the well or other sources, and know the importance of applying appropriate sanitation measures. Except the fact that this objective contents at least three different components (the importance of clean water, the process of drawing clean water from the well, and the appropriate sanitation measures to be taken), the difficulty in documenting its achievement also was caused by the lack of local specific goal standard as regard to each component

Save the Children is seeking funding from the local USAID mission to continue its work in Kolondieba Circle. The upcoming project will take place in a new context of national reorganization of the Mali health system focusing on decentralization, and community empowerment through the creation of CSCom (Centre de Sante *Communautaire*). The Kolondieba area has been divided into sixteen health areas which should be provided with functional CSCom. To be functional, a CSCom should have a fixed health facility made of dispensary, maternity, and pharmaceutical store. It should also develop an outreach and community-based health care system managed by the community health committee with the technical assistance of an intersectoral team that includes the Ministry of Health (MOH), other sectoral government ministries, PVOs, local NGOs, and private sector. This strategy has been also proposed by SC for its CS-XI project in Bougouni Circle.

It is recommended that the SC/US CS project, in collaboration with all the partners establish measurable objectives with benchmarks and their corresponding indicators, and the method of tracking of progress should be specified for each objective. The challenge but also the key for success of Mali CS will be to foster integration of its health activities into the global health program of CSCom implemented by an intersectoral team (with SC/US as a team member) under the coordination of the MOH. Through intersectoral collaboration, limited resources will be shared, thus maximizing project's benefits for communities. SC is aware of the complexity of the task and has already began discussions on these matters with the MOH and other partners. It is also recommended that the SC/US CS project strengthen its linkages with the MOH/EPI program so that there is better coordination between the days scheduled for immunization and the mobilization of the children who need to be immunized.

I. INTRODUCTION

1.1. Project backaround

The Mali CS-VIII project was a follow-up of CS-IV aimed to contribute to sustainable reduction of morbidity and mortality of mothers and children through the practice of protective behaviors, and training of VHCs to take over the health promotion, and management roles of SC/US' paid health workers, ensuring post-project continuation of behaviors and benefits. Funds for project implementation had come mainly from USAID and SC/US. Interventions used to achieve the overall goal of improving mothers and children's health status included: VHCs literacy, mothers and adolescent education for health, control of diarrhea1 diseases, expanded program on immunization for children under two years, growth monitoring and promotion, nutrition education, family planning, and malaria prevention.

The project was implemented in all five arrondissements of Kolondieba circle (Centre, Kebila, Fakola, Kadiana, and Tousseguela) with an extension to Zantiebougou arrondissement in Bougouni circle. Kolondieba and Bougouni are located in the Sikasso region, 300 Km SE of Bamako, Mali's capital. The project area is estimated at 9,000 Km^2. The total cumulated population of the six arrondissements is approximately 162,207 inhabitants. The project's 105,143 potential beneficiaries include 12,963 children aged O-23 months, and 60,538 women of child bearing age (CBA).

A literature review of Mali's health status and baseline survey conducted at Kolondieba in 1993 by the project, provided the following health information:

- In 1994, Mali's IMR was 12211,000 live births. Also, 17% of children were born with low birth weight, and 31% were suffering from moderate to severe malnutrition.

- In Kolondieba, the major health problems for children under five years were diarrhea1 diseases often complicated by malnutrition, malaria, acute respiratory infection, measles, tetanus, and sporadic epidemics of meningitis.

- Diarrhea1 disease's incidence increases during the rainy season (May-September), and ARI predominates in cooler months (November-February).

- The Mali fertility rate was 7.1, and contraceptive use in rural areas estimated at less than 1%, due largely to the absence of contraceptive distribution points.

- In the central arrondissement of Kolondieba, where SC/US had worked longer, CS-IV project efforts had contributed to decrease the IMR from 178 to 73.2/1,000.

- During the baseline, 99.3% of mothers interviewed declared that they had breastfed their "children, 41.9% of children aged 12-23 months were fully immunized, 75.5% of mothers had received two or more doses of Tetanus toxoid, 79.5% of mothers with prenatal consultation cards have had two or more prenatal consultations, and 56% said that they should see a trained health agent at least three times during their pregnancy.

The population of Kolondieba is settled in relatively stable villages (250 villages). The population, is composed mostly of Bambara, Fulani (Peuls), and Senoufo, and gains their livelihood from agriculture, and livestock. Even though Islamic faith is the most predominant, traditional religious beliefs and practices persist. The common language is Bambara.

1.2. Goals and Objectives:

The following objectives were originally outlined in the Detailed Implementation Plan in April 1993, revised during the midterm evaluation in May 1994, and served as the basis for the final evaluation of Mali CS-VIII in September 1995:

Village literacy and self-management for health.

1. 80% of FTs will conduct functional literacy training for VHCs.
2. 80% of VHCs will thereby acquire the skills, knowledge, and responsibility to manage project activities.
3. 80% of VHCs will have one literate member.
4. 80% of VHCs will have one literate woman member.

Maternal* and *adolescent health.

5. 75% of villages will have at least one trained TBA.
6. 80% of pregnant women will know how to seek prenatal care.
7. 75% of pregnant women will have a trained TBA or health professional assist at their delivery.
8. 50% of pregnant women will receive two antenatal checkups.
9. 40% of pregnant women will receive a postnatal checkup.
10. 60% of girls aged 12-19 years will know their nutritional needs and will be able to identify practices that ensure their normal physical development.
11. 60% of girls aged 15-l 9 years will learn protective behaviors for pregnancy and motherhood, with emphasis on safe pregnancy and childbearing, ORT, immunization, and breastfeeding.
12. 60% of adolescents aged 12-19 years will know three methods of STDs and AIDS prevention.

Control of diarrhea/ diseases.

13. 90% of mothers will be trained by VHCs members in ORT preparation and use, including home available fluids and cereals-based ORT.
14. Increase by 80% the number of mothers who use ORT in treatment of diarrhea and provide appropriate feeding during the last two weeks. This figure will be monitored by VHCs.
15. 60% of women will know the importance of acquiring clean water in a manner that maintains the cleanliness of the well or other sources, and know the importance of applying appropriate sanitation measures.

Immunization and disease surveillance.

16. 80% of children aged 12-23 months will be fully immunized against the six immunizable diseases.
17. 90% of women of child bearing age will be immunized against Tetanus.
18. 75% of cases diagnosed by FTS, VHCs as measles, neonatal tetanus, or pertussis will be reported to the health post and followed up by the MOH.

Nutrition and breasffeeding.

19. 80% of mothers with severely or moderately malnourished children will attend at least one nutritional demonstration session.
20. 60% of mothers of children <24 months will be competent in the preparation of appropriate weaning foods.
21. Increase by 80% the number of infants who are exclusively breastfed up to three months old, and receive appropriate supplementation from four months on.

Ma/aria prevention.

22. 65% of mothers with children under five will know appropriate preventive measures against malaria.
23. 65% of mothers with children <5 will know how to access care in serious cases.
24. Increase by 90% the number of village pro-pharmacies which have a stock of Chloroquine tablets.
25. Increase to 40% the VHCs which have a reliable supply of tablets in their kits.

1.3. Strateay:

The Mali CS-VIII has developed a strategy combining (1) education campaigns to promote protective behavior, and (2) training of VHCs and FT to enable them assuming their community's health management. The project has been very effective in requesting support from as broad a spectrumof community leadership as possible. In each village, the emphasis was on reinforcing preventive primary health care practices of the villagers, and supporting **a** local health management structure (VHCs).

• Information, education, and communication (IEC) campaigns were focused on immunization, nutrition, diarrhea diseases control, prevention of high risk births, and hygiene and sanitation. Instead of providing services, SC/US has rightly chosen to work through the **MOH** system and other local institutions to strengthen their capacity to provide effective child survival services. For example, the Mali CS-VIII project had supplied the principal financial and material support to the MOH personnel for implementing the Expanded Program of Immunization (EPI). Also, family planning (FP) strategies were developed in close collaboration with the service Socio-Sanitaire of Kolondieba.

• Training to improve skills in community organization, supervision, communication, monitoring and evaluation was provided to health centers staff, VHCs, and FTs. The project had recognized and rightly put emphasis on VHCs capacity building. A network of 250 VHCs each with the basic knowledge and skills to pass on simple health messages had been established and were committed to identify and organize targeted populations, to identify needs for outside coordination and assistance, and to maintain simple health records. Working relationship was established between VHCs and arrondissement health authorities. SC/US had worked also at the circle, regional and national level to promote interest in this community-based strategy, and to work for its replication.

1.4. Midterm evaluation hiahliahts:

In May 1994, a midterm evaluation was conducted to (1) assess with an external as well **as** internal perspective, the project's capacity to reach its objectives and the degree of achievement of each objective, (2) assess the degree of sustainability of project interventions, particularly the sustainability of village health committees, and (3) make necessary recommendations for midterm corrections. This midterm evaluation made 14 recommendations including:

* Foster collaboration between the project and government health care structures at each level from the district to the national level;

* Develop and refine valid measures for health care status and program impact;

* Improve feedback between SC/Kolondieba's health management information system and the VHCs.

* Develop creative ways to integrate innovations in education (e.g., village schools) and health programming, e.g., by adopting UNICEF's child to child training. In final analysis the midterm evaluation concluded that SC/US's CS-VIII project "has developed a sustainable and pioneering model for integrating child survival activities in **a** large framework of participatory community development."

1.5 Evaluation purpose:

The Mali CS-VIII final evaluation was to assess the level of achievement of its stated objectives, its response to the recommendation of the midterm evaluation, its effectiveness and sustainability, and make necessary recommendations for future projects. The scope of work included:

I- Project accomplishments:

* Assess the achievement of each objective.
* 'Compare the DIP's schedule of activities to actual implementation, and determine whether the inputs of each objective have been implemented in their appropriate time frame.

- Examine the implementation strategy of each objective and highlight strong and weak points.
- Evaluate the project health information system.
- Assess the appropriateness of the tools used by the project to implement its activities.
- Examine training programs and their effectiveness in increasing the skills and the knowledge of project participants.

2- Project expenditures:

- Analyze the budget and determine degree of expenditures vis a vis outputs and determine adequacy of funds to achieve project objectives.

3- Lessons learned

4- Project sustainability:

- Assess the adequacy of human resources including technical assistance to project interventions.

1.6. <u>Evaluation team profile</u>:

The evaluation team, made up of people with considerable experience in primary health care was composed of the following individuals:

1- Pierre-Marie Metangmo, MD, MPH, Department of International Health, Johns Hopkins University, team leader (consultant)

2- Dorothy Stephens, MSH, USAID, Mali

3- Kone Abdoulaye, MD, Ministry of Health, representing the District health authority, Kolondieba, Mali

4- Louise Cormier, MPH, CARE International Macina, Mali, health project's coordinator

5- Fode Doumbia, MD, Save the Children, Kolindieba, Mali

6- Issa Sidibe, MA, Save the Children Bamako, Mali

7- Mamoutou Diabate, AMPRODE/Sahel (Association Malienne pour la protection de l'environement par le Developpement du Sahel), Bamako, Mali

The core evaluation team was assisted by staff of Save the Children, Bamako and Kolondieba, Mali.

1.7. Schedule of work:

11 September	Arrival of Pierre-Marie Metangmo in Bamako
12 September	Meeting and orientation to project with Peter Laugharn, and Issa Sidibe
13 September	Visit to MOH and USAID. Travel to Kolondieba. First meeting of evaluation team to get to know each other
14 September	Meeting of evaluation team to design methodology, survey instruments, discuss work plan. Meeting with authorities, SC/US and health care center staff in Kolondieba.
15 September	Meeting with all participants to design qualitative (focus group and interview) guidelines, methodology discussion and logistic preparation. Review and pretest of survey instruments, printing of questionnaires and interview guidelines, training of participants in qualitative research methods, tabulation of the final KPC **survey.**
16 September	Interview with medical officer, supervisors, and nurses, translation and discussion of the focus group guidelines. Travel of survey and evaluation teams to all five arrondissements of the project area.
17-l 8 September	Qualitative survey and focus group implemented in 10 villages. Return of survey teams to Kolondieba.
19 September	Analysis of survey and qualitative data, discussion of results by all participants
20 September	Briefing in Kolondieba with SC/US staff, the medical officer, and the administrative authority. Return of evaluation team to Bamako.
21-30 September	Briefing in Bamako with SC/US, visit and briefing to USAID, UNICEF, and MOH, finalization of findings and recommendations, writing of a draft report.
01 October	Departure of Pierre-Marie Metangmo

II. EVALUATION METHODOLOGY

Investigations for final evaluation combined a mix of document review, service providers and beneficiary qualitative (focus groups, and semi-structured) interviews, statistical comparison, and analyze of final KPC Survey. An investigation framework was developed including three phases: preparation, implementation, and analysis.

2.1 Preparation:

This phase consisted of document review, identification of questions to be answered (objectives achieved, strategy, collaboration, sustainability), the outputs expected (quantitative or qualitative), and where to find information needed (HIS, interviews, KPC surveys, documents, staff members). This phase was extremely short. The team leader **was** contacted only two weeks before the beginning of the evaluation. For this reason, other team members did not receive confirmation of the evaluation schedule until the arrival in Bamako, on September 11, of the team leader. However, each member of the team reviewed documents related to the project such as proposal, DIP, and MTE, before the evaluation began.

2.2. Implementation:

The evaluation team spent eight days in the field (Koloondieba) designing interview guidelines for qualitative surveys, conducting interviews, visiting ten villages in the project area, and analyzing findings for first steps of briefing at the local level.

Prior to the evaluation, SC/US staff and personnel had conducted a KPC survey, of mothers aged 15-49 years with a child aged O-23 months. In total, 240 mothers were interviewed using a formally pretested survey instrument that served for baseline and midterm. The questionnaire used had been constantly modified from the baseline (42 questions) to midterm (30 questions), and final (55 questions).

Sampling was based on two-stages cluster sampling approach as outlined by the WHO-EPI program (seven randomly selected respondents in 30 randomly selected clusters) and **was** conducted by 10 teams of three FT each. Data entry and analysis were done in EPIINFO 5.1.

The purpose of the qualitative survey was to assess project functioning, level of collaboration and sustainability. Group discussions and semi-structured interviews were conducted. Villages to be visited and to be interviewed were selected among the 30 villages surveyed for the KPC. However, the evaluation team took into consideration the fact that all villages were not accessible because of the rainy season. Also, we suggested covering all five arrondissements choosing two villages in each. The following villages were visited:

Diarrakoun and Kalakan (arrondissement Central), Kokouna and Kebila (arrondissement de Kebila), Sokolondie and Kolona (arrondissement de Tousseguele), N'tjondougou-Koloni and Beko-Sokoro (arrondissement de Zantiebougou), and Siana and Dembasso-Ouoman (arrondissement de Fakola).

Three levels of interviews were defined and corresponding questionnaires drawn up for each:

1- SC/US service providers (supervisors, nurses, family trainers).
For this group, questions were oriented toward the quality of service, lessons learned for sustainability, and suggestions for the upcoming CSCom program.

2- Beneficiary population (VHCs, group of women eligible for the KPC, TBAs).
A detailed focus group discussion guideline was designed for groups of five women aged 15-49 years and having a child under two. The same approach was used for discussions with VHCs members. TBAs were interviewed separately. Questions were impact oriented with the hope to assess functionality and self-perception of VHCs. Also, suggestions for the next phase of the project were welcomed.

3- MOH health workers (medical officer, healths center officers).
Two sets of questions were designed for medical officer, and ICPM respectively. The focus in this group was on the collaboration and on suggestions for sustainability and the design of the next phase of the project.

2.3. Analysis:

After two days interviews by five teams, in two different villages each, findings were shared during a plenary session, then participants were divided into four working groups: one for each of the three levels of interviews identified earlier, and the fourth for the quantitative survey. An analysis framework **was** determined for each group and findings were regrouped into charts or tables to serve as a reference during discussion meetings. In addition, **a** round robin technique was used at the end of each step to highlight important findings, questions and recommendations for the next step.

One last week was spent in Bamako, consolidating, interpreting and writing final results and findings. Visits, and more in depth discussions with SC/US Bamako staff, USAID, MOH, UNICEF and others health oriented NGOs permitted the final evaluation team to elicit comments and suggestions about results and findings.

2.4. Constraints:

1. During the preparation phase and later in the field, the evaluation team encountered difficulties in understanding the real meaning of a number of objectives stated in the DIP, and thus in gathering data for measurement These are objectives numbers 2, 6, 10, 15, 20, 23, and 25. These objectives formulated back in 1991 were less specific.

2. The project relied on a number of monthly and quarterly reports and the HIS data to monitor the progress of its activities. However, a tracking system and process used to monitor each project objective was not clearly established. Despite an impressive list of data collected on a regular basis (monthly and quarterly reports), measurements of project accomplishment over time could only be obtained after a lengthly process of manual data extraction, and in many cases, through interviews of supervisors.

3. Due to accessibility limits (rainy season), and time constraints, the qualitative survey was administrated to a very small number of non-randomly selected villages. Using criteria of easy accessibility, size, and VHCs functionality, we selected two villages in each of the five arrondissements. Objectives related to girls' literacy and health education conducted in village school could not be assessed because schools were on summer vacations during the evaluation period. September coincides with intense agricultural work period in rural areas. This shortened the availability of people for interviews. One courageous and devoted evaluation team did cross a flooded river, and walked several miles in order to reach one of the targeted village.

4. Focus group and VHCs interviews were conducted in Bambara. Questionnaires were first written in French, then translated into Bambara and discussed during a plenary meeting before their administration. A short refresher course about how to conduct focus group interviews and qualitative research was given. Also, recommendations were provided on the nature of information to track. However, once in the field one team experienced difficulties with translating of some of the questions. Also half of ICPMs (Infirmiers-chef des postes medicaux) refused to be interviewed arguing that they were not officially informed.

III. PROJECT ACCOMPLISHMENTS:

3.1. Selected accomplishments:

The following table represents the objectives as stated in the Detailed Implementation Plan and contrasts them with accomplishments over the life time of the project. Sources of data included the DIP, 1993 baseline KPC survey, project's HIS, MTE KPC survey, interviews, and August 1995 final KPC survey

3.1 .I . Village literacy and self-management for health

Objectives	*Targets*	*Midterm*	*Final*
1- Family Trainers conducting functional literacy training for village health committees	80%	88%	87%
2- VHC being able to manage project activities	80%	30%	73%[1]
3- VHCs with 1+ literate member	80%	84%	93%[2]
4- VHCs having one literate woman member	80%	35%	58%[3]

[1] VHCs who have at least one literate member, and have been trained to conduct health education sessions for all CS activities (182/249)

[2] This information reflects the mise a jour from FTs, on April 1995

[3] There was a progress in the achievment of this objective despite the migration of literate women to others sectors with financial incentives, i.e., credit, and education.

The Mali CS-VIII project had decided to devote 20 percent of its efforts to improve VHCs' literacy and self-management skills. Illiteracy and associated lack of skills in problem solving, tracking and analysis of information, and interaction with health authorities were considered to be the greatest obstacle to the transfer of CS activities' management to VHCs. Village literacy had been proved to be a major factor for self-management, thus the driving force behind sustainability. It is also well known that female literacy is positively associated with decreased infant mortality, increased income generation, and increased birth spacing. The percentage of women having ever had any form of structured education (Koranic school, Bambara literacy, primary, and secondary school) has grown from 10% in 1993 baseline survey to 20% in 1995 final survey. The final survey revealed that 93% of existing VHCs had at least one literate member compared to 80% fixed as objective. Also, 87% of FTs had conducted functional literacy training for VHCs compared to 80% fixed as objective, and 78% of villages had at least one trained TBA compared to 75% fixed as initial objective. It appeared from the final evaluation that SC/US had made appreciative efforts in village literacy training overpassing the level of initial objectives. The project has established, and has strengthened VHCs providing literacy training to its members, 60 percent of which are women. FTs were trained to sensitize and assist VHCs for the management of CS activities. Both VHCs and FTs had played a key role in population mobilization, village pharmacy establishment, and community health data collection. Literacy training activities have had additional support from the educational branch of SC/US Kolondieba.

Discussion:

Despite the reported high percentage of VHCs, FTs, TBA and women who received literacy training, it was impossible for the evaluation team to determine the real impact of literacy training on the self-management of VHCs, and thus improvement of village health status. Data on how long, how often, and how deeply those people were trained were not available in the records. Indicators for literacy activities were more processed oriented, and could only tell. if women or VHCs were exposed to a literacy training session. General research has established a correlation between literacy and health status. Therefore, more operational research are needed to help document the impact of literacy on health status at the grassroots level, While the team could through, the qualitative interview, easily assess competence and commitment of FTs, the specific contribution of literacy training on VHCs success and village health status improvement still was an assumption. Despite the clear definition of self-management of VHCs provided in the DIP, the project did not set up a monitoring process to track progress of VHCs' management skills, Also, none of the VHCs interviewed appeared to be completely self-managed. Women interviewed knew better the role of FTs than that of VHCs.

3.1.2. Maternal and adolescent health

Objectives	*Targets*	*Midterm*	*Final*
5- Villages having at least one trained traditional birth attendant	75%	68%	78%
6- Pregnant women knowing how to seek prenatal care	80%	64%	75%
7- Pregnant women having a trained TBA or health professional assisting at their delivery	75%	92%	82%
8- Pregnant women receiving two antenatal checkups	50%	68%	58%
9- Pregnant women receiving a postnatal checkup	40%	dna	39%

Maternal mortality in Mali (2,000/100,000 live births) is one of the highest in the world. In the project area, efforts of CS-IV had lowered this figure to 115/100,000 live births. Still, at the beginning of CS-VIII, only 50% of mothers had a prenatal consultation card, and 48% had had at least two prenatal visits. Among the constraints for improving the maternal health was the lack of prenatal education, long distances between villages and health post, women's seasonal workloads, lack of services, and non-availability of birth spacing modern methods. High risk birth was defined as pregnant women who received no prenatal education and care and whose delivery was not assisted by a trained health worker. As a solution, SC/US worked to bring maternal care services to the villages (nurse-midwives and FTs regular &sits, VHCs establishment), women's literacy and other education efforts, and stimulation of modern contraceptive method demand. Health education sessions were conducted. TBAs were trained in hygienic delivery practices, and pregnancy complications and risk detection. Villages having at least one trained TBA raised up to 78% overpassing the initial objective fixed at 75%. Also, 82% of pregnant women had delivered under the assistance of TBA or health professionals. The final KPC survey revealed that 58% of mothers interviewed had received at least two antenatal checkups, and 39% a post-natal checkup. The rate of mothers using modern contraceptive method was raised from 0.8% to 30%.

Problems were raised regarding to reaching adolescents girls through training. Among constrains cited was the lack of knowledge of birth date, and the difficulty to tailor to such a specific population in a rural context. The project was asked to revise those objectives accordingly. This component was transferred to village schools, and could not be measured during the final evaluation (summer vacation June-October).

Discussion:

The KPC survey questionnaire when asking who tied and cut the cord of the child at the last delivery did not specify for possible answers if TBA was trained or not. The qualitative interview revealed that in some villages even though TBAs were trained, there could still be **a** problem of supply of the kits. The use of a sterile razor to cut the cord as well as clean sheets, mother TT immunization, and prenatal checkups are good indicators for improved pregnancy and delivery

management. No objective **was** set up for birth spacing. However, Mali CS-VIII registered tremendous progress in the use of modern contraceptive method. The strategy was to foster women's literacy and health education, then strengthen contraceptive supply. Accessibility to information and contraceptive products was the key factor. Further involvement of men as a beneficiary population of this activity could better improve the level of acceptance.

3.1.3. Control of Diarrhea1 Disease:

Objectives	*Targets*	*Midterm*	*Final*
13- Mothers trained by VHC members for ORT preparation and usage	90%	31%	76%[4]
14- Increase in mothers using ORT and providing appropriate feeding during the last two weeks (Baseline was 64%)	by 80%	25%	11%[5] (68%)
15- Women knowing the importance of acquiring clean water	60%	dna	dna

The baseline, midterm, and final studies, all conducted during the rainy season (heigh prevalence season: June-October), found respectively that 14%, 16%, and 13% of children surveyed had a diarrhea episode in the previous 15 days. According to the MOH statistics in 1992, diarrhea was the second cause of death behind malaria among children aged O-5 years. Water quality, nutrition, and sanitation were considered as critical strategy factors. Community education involving dehydration danger awareness, recognition of critical signs for referral, and enhancement of proper personal hygiene and food practices were conducted in all villages. The Mali CS-VIII project raised the knowledge of mothers managing diarrhea cases. The final KPC revealed that 79.4% of mothers with a child who had diarrhea in the previous two weeks had maintained or increased breastfeeding compared to 71% at the baseline. Also, 82% had maintained or increased the amount of liquid compared to only 69% at the baseline.

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Discussion:

From the baseline to final studies, the incidence of reported cases had remained almost the same. Because of the complexity of factors causing infant and childhood diarrhea in Kolondieba, SC/US targetwas to change women's behavior in the treatment of diarrhea instead of the reduction of diarrhea1 disease's incidence. There was also a relative increase in the use of ORT from 64% at the midterm to 68% at the final survey. Focus group discussions confirmed the findings of the midterm regarding the high appreciation of home made oral rehydration fluids and foods. Accurate case management of diarrhea will have much more impact on mortality than morbidity.

[4] There was no question on ORT preparation. Also, there was no record for mothers trained. We made the controversial assumption that mothers who used ORT may have been trained. This figure corresponds to mothers using ORT.
[5] To arrive at this figure, we compared the baseline: 64% to the final: 68%.

3.1.4. Immunization and disease surveillance:

Objectives	*Targets*	*Midterm*	*Final*
16- Children aged 12-23 months fully immunized	80%	6 1%	60%
I-/-Women immunized against tetanus (two or more doses)	90%	93%	92%
18- **Cases** of measles, neonatal tetanus or pertussis reported to the health post by FTs or VHCs	75%	dna	65%[6]

At the beginning of Mali CS-VIII, 49.3% of children aged 12-23 months were fully immunized (BCG, 3 doses of DPT, 3 doses of OPV, and measles vaccination). The objective to be achieved by the end of the project was fixed at 80%. The strategy adopted was to strengthen the MOH existing immunization campaign, and to increase access of mothers to the immunization services. The MOH strategy combined vaccination at fixed centers on the Daly basis for people living in a 5-km radius, and quarterly vaccination by mobile team within 5-30 Km. The project strategy was to train FTs, and VHCs to conduct immunization and health education sessions in villages, women's meetings, and women's groups followed by home visits. The final survey revealed that 62.7% of children aged 12-23 months were fully immunized. The drop out was only 12% compare to 41% at the baseline. These figures even though less than the targets are valuable.

Discussion:

Projects' FTs, and VHCs were responsible for educating and mobilizing the population for immunization, and MOH was responsible for administrating the vaccine. To be successful, such a strategy requires great collaboration and communication between MOH and SC/US. This was not always the case. The vaccination calendar was sometimes communicated too late to FTs, and VHCs. Also FTs, after providing village mobilization for immunization were not always present at the actual immunization outreach post. There is a need to create a real team composed of FTS and MOH nurses, both being responsible for mobilizing and educating population as well as administrating vaccine and collecting data.

With regard to disease surveillance, 65% of measles cases were reported. No other data were collected concerning other immunizable diseases.

[6] This figure corresponds to measles only, and is reported monthly by FTs

3.1.5. Nutrition and breastfeeding:

Objectives	*Targets*	*Midterm*	*Final*
19- Mothers with severely or moderately malnourished children attending at least one nutrition demonstration session	80%	74%	74%
20- Mothers of children <24 months competent in the preparation of appropriate weaning foods	60%	59%	83%'
21- Increase in the number of infants who are breasted up to three months of age	80% revised: 50%.	42%	63%

A study made on 1,626 children aged O-29 months in the Kolondieba central arrondissement in 1990, by Beffon Cisse for a Doctoral thesis, revealed that 7.9% of the sample suffered from wasting (weight for age) and 33.6% suffered from stunting (weight for height deficit). Low nutritional status and inappropriate feeding practices are known to increase the prevalence of diarrhea1 diseases and to decrease immunity system. The project's strategy was to train FTs, village women's nutrition agents, and mothers in good nutrition practices for children, including exclusive breastfeeding for children aged O-4 months, proper supplementation, and appropriate weaning practices. The project also conducted training in importance, and practice of baby weighing (O-3 years), and development of small gardens for VHCs. As a consequence, the proportion of mothers exclusively breastfeeding increased from 35% at the baseline to 63% at the final survey. Also, 92% of children were weighted in the last three months compared to 86.5% at the baseline.

Discussion:

-- Noticeable progress has been accomplished in the nutrition component. During the final survey, 56% of mothers have declared having increased their diet during their last pregnancy. However, **as** it is the case in many other CS project, the nutrition component has been one of the most difficult to manage. Evaluators did not find exactly how the nutrition component of CS-VIII had address the issue of moderate or severe malnutrition. The focus **was** on growth monitoring and nutritional education rather than the follow-up of moderately and severely malnourished cases. Nothing was mentioned about the time spent in feeding. Nutritional status of pregnant women was not accurately monitored.

[7] This figure corresponds to the percentage of correct answers to the question "list appropriate weaning foods."

3.1.6. Malaria prevention:

Objectives	Targets	*Midterm*	*Final*
22- Mothers with children under five knowing appropriate preventive measures against malaria	65%	60%	62%
23- Mothers with children under five knowing how to access care in serious cases	65%	49%	35%
24- Increase the number of village pro-pharmacies which have a stock of chloroquine tablets	by 90%	75%	dna[8]
25- Increase in the number of VHCs which have **a** reliable supply of tablets in their kits	by 40%	dna	dna

According to the MOH fever (used as **a** proxy for malaria), is the infant mortality and Morbidity leading cause among children aged O-5 years in Mali. Focus group discussion with mothers and VHCs confirmed that malaria **was** the greatest health problem in the project area. The CS-VIII strategy was to promote village clean up and the evacuation of stagnant water, and to train mothers to identify and treat appropriately (with chloroquine) moderate cases and refer severe ones. The questionnaire used for baseline, midterm, and final surveys were very weak in measuring malaria prevention knowledge and practices, given the importance of the disease in the area.

Discussion:

Malaria control is a very difficult task, and needs to be well planned. The achievement of the objectives of this component required having adequate chloroquine stock, and establishing efficient supply mechanisms. The final study found that 32.4% of children surveyed had had fevers (malaria) during the last two weeks compared to 21% at the baseline. Also, only 56% of mothers declared having given chloroquine to their children with fever. The project did not define effective management of malaria. Therefore, giving chloroquine to a child with fever is not enough. In fact 56% of mothers practice chloroquine administration but no protocol is taught. As the leading mortality cause, malaria needs better tailored control strategies. A combined strategy includihg prevention and cases management will be of much valuable.

3.2. Selected KPC surveys results:

The following table, represents a comparison of selected results of baseline, MTE, and final KPC related to the CS-VIII Project. Questionnaires developed for each of the three steps did not keep linkages and consistencies with each other, both in content and methodology. This does not allow for meaningful comparison of results.

[8] For this and the following question, the data were not available, however, the strategy used by SC/US has changed to include the support of pharmacies at the association of VHCs level, instead of the support at the individual VHC level.

Objectives	Baseline (1992)	Midterm (1994)	Final (1995)
Breastfeeding / Nutrition:			
Exclusive Breastfeeding up to four months	35%	dna	63%
Weaning food beyond six months	59%	54%	56%
Growth monitoring (GM):			
Children with GM cards	56%	85%	74%
Children weighted at least once in the last 3 months	86%	93%	32%
Will go to a health center if children in the red weight space	45%	61 %	43%
Malaria Prevention:			
Children with fever in last two weeks	21%	dna	32%
Would use Chloroquine in case of fever	70%	80%	56%
Control of Diarrhea1 Disease:			
Children with diarrhea1 in last two weeks	14%	17%	13%
Would maintain or increase BF	71%	dna	79%
Would maintain or increase Liquid	69%	dna	82%
Would maintain or increase Foods	64%	dna	66%
Immunization:			
Know age for measles vaccine (9 mo.)	53%	33%	dna
Know reasons for mothers' TT vaccine	7 1%	39%	77%
BCG	83%	88%	94%
OPVI	79%	89%	92%
OPV2	64%	79%	77%
OPV3	58%	62%	63%
DPTI	79%	87%	92%
DPT2	64%	80%	77%
DPT3	42%	62%	62%
Measles	62%	82%	71%
Fully Immunized	42%	60%	62%
Dropout rates (DPT1-DPT3/DPT1)	47%	dna	12%
Use of modern contraceptive method	1%	dna	30%

3.3. Focus-groups survev and discussion:

Focus group discussions were conducted in ten villages with women's groups and VHCs. Villages were not selected randomly because of accessibility constraints. However, some trends were identified toward projects' impact and sustainability. These trends cannot be understood as absolute because of biases including non-random choice of villages, questionnaire guide translation, and the fact that only people working for the project were translating and conducting the focus group discussions.

Nevertheless, when asked about the most frequent aliment of their household, malaria came first followed by diarrhea, then ARI. When asked about what they personally, FTs, and VHCs took as action to solve the problem, almost all answered "curative treatment." However, when asked what has changed in their community since the project started, they almost all cited benefits of training and health education. They recognized a real improvement in mortality and morbidity linked to the six vaccine preventable diseases. Women declared also that delivery conditions were improved. Regarding sustainability, the majority of respondents declared that they should be able to continue education and even all the project's activities provided they are given a modest material support, and supervision assistance. People were willing to take over the management of education and prevention activities after the project left. This may indicate that the project worked well to get people involved in all activities. When asked about the use of data they were collecting, the trend was that data were collected for HIS and not for a local use. However, some data were used at the local level. Feedback was not always provided.

Collaboration and team work were suggested by all as key strategies for the success of the upcoming CSCom policy. Focus groups and interviews were helpful in providing insight for some information generated by the KPC surveys. They were the occasion to search for beneficiary opinions, and suggestions.

IV- HEALTH INFORMATION SYSTEM:

The main sources of data for the project's HIS are VHCs registers, and FTs' monthly reports. The nature of data collected and their processes were fully described in the MTE. Since 1990, three data entry clerks and one HIS manager were trained, and were committed full time to computer data entries and analysis. However, despite the high quality of material and the commitment of HIS workers, still there was a limited use of data collected. The MTE already had recommended some reduction in the amount of data collected and a better matching with projects' objectives. Also, there was a problem of feedback and data sharing between HIS service and counterparts.

V.. SUSTAINABILITY:

It is a requirement for Child Survival activities to be ongoing, hopefully self-supporting after the end of the grant. As stated in its proposal, and DIP the Mali CS-VIII aims for sustainability at three levels: (1) the individual level with lasting changes in health-related KAP, (2) the community level with self-reliant VHCs, and (3) the government level with a supportive working relationship.

5.1. Sustainability at the level of the individual:

At the individual level, the project has achieved sustainability through lasting behavioral changes promoted by health education. Final KPC survey as well as the MTE revealed considerable change of indicators' level compare to the baseline.

5.2. Sustainability at the community level:

The project sustainability at the community level was built on VHCs and FTs, considered as the backbone of the program. As described in the MTE, VHCs have been involved in the planning and implementing phase of the project. The KPC survey, and focus groups' analysis illustrate progress made in VHCs training and self management. This is the right way to go. However, we did not find among villages visited in the project area, an example of a VHC totally self-managed. FTs still are playing a key role in monitoring, and supervising VHCs health activities. Unless SC/US assumes that some specific members of the VHCs such as secourist of TBAs will be trained and supervised on a regular basis in providing for their communities, integrated and quality primary health care services, it is difficult to imagine that there will not be a need of community health workers (FTs in this specific case) at the end of the program. It appeared from the qualitative survey analysis that villages with dynamic VHCs were those with a competent and devoted FT. Many others community-based health programs over the world have successfully experimented, and recognized the importance of community health workers on either a paid or a voluntary basis. There is a need for SC/US to better precise its approach as regard to community sustainability.

5.3. Sustainability at the aovernment level:

SC/UC had developed very good working relationship with MOH from the central level to the peripheral level. CS-VIII preventive health activities were designed to complement MOH health service delivery. For example, the project provided technical, and logistical support to the MOH in the implementation of its EPI. The Kolondieba medical officer Dr. Bamba recognized that SC/US was very successful mobilizing population for health education and immunization sessions.

The upcoming CSCom policy will create a need for better collaboration and dynamic working team to cover all health areas of the Kolondieba circle. This working team constituted of MOH, PVOs, VHCs, and private sector will have to design, implement, and supervise health activities of the health area.

5.4. Sustainabilitv plans:

Goal	ind-of-project bjectives	iteps taken to late	lutcomes
Individual: 1l) Lasting **KAP** changes will have happened.	) Increase lemand for nmunization !) Improve (nowledge of liarrhea, and its nanagement 3) Improve understanding of naternal, and child nutrition needs t) Promote protective practices for xegnancy 5) Promote malaria xevention	**I) FTs** have been rained to provide ealth education 2) Health education, and iutritional lemonstration sessions have been organized 3) Growth nonitoring has been developed 1) Children, and nothers have seen immunized 5) Cleanliness has been promoted	) Improvement of ndividuals KAP-elated indicators 2) Increase of wealth services demand
Community: 1) VHCs will have become functional	1) VHCs will be established in all villages of the project area 2) VHCs will manage all CS health activities	1) Creation of VHCS in all the villages 2) Training provided to all VHCs 3) Monitoring and supervision by FTs	1) 73%of VHCs are functional 2) FTS are supervising VHCs activities
Government: 1) MOH will supervise CS activities	1) MOH will supervise all the VHCs of the project **area**	1) Good working relationship 2) MOH nurses administered vaccine 3) MOH nurses attended some committee's meetings	1) 60% of children aged 12-23 months are fully immunized

VI. CONCLUSIONS:

6.1. Strenaths:

1- SC/US is well established in the Kolondieba area and has achieved a very good social mobilization of villages and communities. The staff is competent and committed to the objectives of the project. Mali CS-VIII has been very effective in soliciting support from a broad spectrum of community leadership.

2- SC/US has developed a good working relationship with representatives of the MOH, and other government institutions from the local to the national level. This excellent working relationship exists also with other PVOs and host country NGOs as well as with USAID/Mali mission.

3- Mali CS-VIII has developed a strategy with a focus on strengthening sustainable village health committees (VHCs), and competent Family Trainers (FTs, *annimateurs familiaux*) who are the backbone of the community-based health care system. This has created a favorable environment for community leaders through the VHCs to be involved in planning, implementing, and monitoring CS activities.

4- All the CS components developed by the project were relevant to the priority health issues of the area. Major childhood health issues in the area include malaria, diarrhea, malnutrition, measles, tetanus, parasitic infections, and ARI. CS-VIII activities address all of these except ARI.

5- The Mali CS-VIII activities are incorporated in a broad integrated set of community development activities including agriculture, literacy and numeracy, credit, water management, and primary schooling (village school).

6- SC/US has a stable and well-trained personnel. This explains the level of achievement of some objectives.

7- The project was staffed almost entirely by Malian nationals as required by USAID in order to promote and developed local competencies.

6.2. Weakness:

1- Despite the fact that objectives of Mali CS-VIII were conceived to reflect the contextual needs of the Kolondieba populations, the evaluation team faced serious difficulties when measuring its final impact. A close analysis of some objectives found important flaws in fheir formulation and the absence of appropriate indicators. Objectives were formulated in such a way that the KPC survey could not measure more than six out of twenty-five

2- Despite an extensively organized HIS developed by SC/US in Kolondieba, a tracking

system and process used to monitor each project objective was not clearly established. Despite an impressive list of data collected on a regular basis, measurements of project accomplishment over time could only be obtained after a lengthy process of manual data extraction, and in many cases, interviews of supervisors.

3- Many of the project's objectives and indicators were more process than outcome or impact oriented. Therefore, conclusions about knowledge leading to behavior change with impact on disease reduction were at the discretion of the evaluators.

4- The project did not develop a cost-recovery mechanism that could contribute to sustaining activities of village volunteers.

6.3. Recommendations:

I- The main recommendation for the SC/US CS upcoming health project is to work as a team with the MOH.

2- Specific objectives tracking process and their corresponding benchmarks should be established for each impact objective.

3- SC/US should conduct studies to document the link between literacy and behavior change.

4- Since the project rightly and frequently gathers health data at the community level, it is also recommended that linkages and consistency be established with the community to facilitate documentation of project impact over time.

*- 5- The project should promote a realistic, and feasible cost-recovery mechanism in each village in order to contribute to health activities' sustainability.

VII. PIPELINE ANALYSIS

Project funding was provided by USAID /Washington and SC / US, for $706,350 and $235,744 respectively. The final amount allocated by USAID / Washington came out to $587,157 ($706,350 - $119,193 indirect costs).

Following is the pipeline analysis of project expenditures.