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*CHEDDRA CHILD AND MATERNAL CARE
PROJECT*

CARE International in CHAD

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ABBREVIATIONS

BSPE	Bureau de Statistiques, Plannification et Etudes
CCMCP	Cheddra Child and Maternal Care Project
CNNTA	Centre National de Nutrition et de Technologie Alimentaire
EPI	Expanded Program on Immunization
FED	Fonds Europeen pour le Developpement
FGD	Focus Group Discussions
GNP	Gross National Product
HEALTHCOM	Health Communications Project (AED/USAID)
IBSP	Integrated Basic Services Program (UNICEF)
IMR	Infant Mortality Rate
KAP	Knowledge, Attitudes and Practices
MMR	Maternal Mortality Rate
MPA	Minimum Packet of Activities
MOPH	Ministry of Public Health
ORT	Oral Rehydration Therapy
PHSSP	Prefecture Health Structure Support Project
PIE	Project Implementation Evaluation
RTA/PHC	Regional Technical Advisor/Primary Health Care
TBA	Traditional Birth Attendant
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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1. EXECUTIVE SUMMARY

The Cheddra Child and Maternal Care Project (CCMCP) is an innovative community-level preventive care project using an integration of community-oriented health promotion activities, face-to-face interaction, and dispensary reinforcement to contribute to the reduction of infant and maternal mortality in the health sub-zone of Cheddra. It complements the existing clinical services offered at the under-utilized Cheddra dispensary, recently included in the Health Structure Support Project financed by the European Development Fund (FED). As indicated, the FED project focuses its assistance on infrastructure reinforcement, clinical services and curative care. The phenomenon of under-utilization of health services is not examined in any of the FED's projects. The presence of a dispensary staffed with a trained nurse for the past five years has not significantly contributed to use of the dispensary, nor has it changed the health statistics in the region. To address this gap, the CCMCP is modeled on the most successful elements from proven Child Survival communication and integrated community health care projects (USAID/India, HEALTHCOM/Honduras, CARE/Mali), with seven key elements:

- * thorough pre-project community evaluations, on-going monitoring and evaluation activities;
- * close coordination of activities with local Ministry of Public Health officials and programs;
- * adult education/communication methodologies;
- * trained female health promoters;
- * focus on community-managed prevention activities;
- * training for existing community groups, particularly women's groups;
- * transfer of the project organizational structure to the community to insure sustainability.

These elements will be applied through five interventions: control of diarrheal diseases; hygiene and sanitation; immunization, nutrition, and maternal health preventive care.

The CCMCP is proposed for three years at a total cost of \$573,000. CCMCP will serve as a prototype in line with the MOPH's January 1993 Health Round Table, which stressed the integration of communication and community participation activities in health infrastructure building. While the project cannot be financially sustained by the MOPH (78% of the health budget in Chad is financed by external aid), the contributions to infrastructure, technical

and managerial sustainability are judged to be considerable. Operations research has documented over the years, that projects targetting behavior changes (as opposed to quantitative coverage) can count a 4 to 5 point increase (mothers practicing diarrheal disease management, improved breastfeeding practices, etc.) as a solid success. In working with the MOPH and the local community, CARE will facilitate the establishment of systems and the transfer of skills that will have a lasting effect on community health care.

The target population for the project is roughly 3000 children, and 2300 - 2500 women of childbearing age (15 - 40 years). However, it should be kept in mind that caretakers (often an older sibling or a grandmother) are also part of the larger target population, as well as fathers. Effectively, the project counts a total 10,000 population estimate as a global target, segmenting different groups with varying intensity over time.

Inputs will include: renovations to the Cheddra dispensary, six project staff members, two vehicles, basic dispensary equipment, training, educational materials, and technical assistance.

Outputs will be: an improved dispensary structure; a database of health practices information; four trained health promoters; a functioning network of community care workers; and a package of adult education techniques for the five interventions.

Outcomes will be: a visible collaboration for preventive care activities between project and MOPH staff; increased attendance at the Cheddra dispensary; increased vaccination percentages; improved home management of diarrheal and nutritional problems; increased participation by community members in the management of their health and welfare.

2. PROBLEM STATEMENT

2.1. Country Setting

Chad, situated practically in the middle of Africa, is one of the largest landmass countries on the continent. The country is still of significant strategic importance, bordered on the north by Libya and to the east by Sudan. Chad is the largest landlocked country in the world without railroad access to an ocean port (the nearest port is Douala, Cameroon, approximately 1500 kilometers southwest). Chad's 1,284,000 square kilometers have three distinct climate zones. The Saharan zone to the north receives an annual rainfall of less than 200 millimeters per year. The central Sahelian zone receives between 200 and 900 millimeters, and the Sudanian zone in the south benefits from over 900 millimeters of rain per year.

The population estimate for Chad is 5,507,000 with a density of 4.1 inhabitants per square kilometer. The population is not evenly distributed due to the extreme topographical variance. There are only 0.2 inhabitants/sq.km. in the north, 4.6/sq.km. in the central and eastern portions, compared to 18.5 inhabitants/sq.km. in the south. Urban population estimates run between 23 and 30%, the definition of 'urban' being somewhat vague by global standards. 51% of the population is estimated to be under the age of 20, and 53% of the population is female.

Islam accounts for 50% of the religious base in Chad, followed by 23% Christian (majority Catholic), and 24% animist. French and Arabic are the official languages, and there are over 200 other Chadian languages.

Chad figures in the archeological chronicles for the discovery of a one million year old human skull found in Borkou. This, and tombs in the Tibesti dating to BC 4900, attest to pre-historic human presence in Chad. The ancient kingdom of Kanem was represented on caravan maps as early as AD 872. Due to its central location, Chad has long served as a crossroads for trade both north/south and east/west.

Chad became part of the French West Africa territory by military conquest in 1891. Chad became independent in 1961, and the next thirty years were fraught with civil wars, internal rebellions, and intermittent outside military interventions.

2.2. Problem and its Causes

2.2.1. Contributing factors

On the human development index, Chad consistently ranks among the ten poorest countries for all indicators: GNP per capita,

literacy, infant mortality, life expectancy, access to health services, etc.(see annexes).

Chad's fledgling administrative and service infrastructure was acutely affected during the civil wars between 1979 and 1982 - to such a degree that many of the current material and human resource shortages are still attributed to the devastation wrought during this period. The drought that followed in 1984-85 severely de-stabilized the rural community's capacity for self-sufficiency, and the cycle of food insecurity, with all its ensuing socio-economic consequences, took hold. To this day, food shortages are routinely declared in agricultural zones which were formerly self-sufficient.

In all of Chad, the empirical base is very limited for assessing root causes of behavior-related health practices that limit progress towards development goals. The project area of the CCMCP is one of the most deprived inhabited geographical zones in Chad. Scarce rainfall, lack of roads, poor agricultural returns - these are factors that determine how people living in the area organize their lives and shape their attitudes regarding their health. The presence of a dispensary staffed with a trained nurse for the past five years has not significantly changed the health statistics in the region. No qualitative studies have ever been conducted to examine the fundamental behavioral elements (apart from epidemiological issues) that participate in keeping the status quo at an appalling infant mortality rate (IMR) of 213/1000 for under fives, and a maternal mortality rate (MMR) of 960/100,000.

The project catchment area of Cheddra (population 2000 - 2500) and 40 surrounding villages estimates a population of 10,000. Villages vary in size from 20 persons to upwards of 700. No precise statistics are available on age or sex breakdown for the specific area, but some calculations can be made using national age/sex breakdowns:

children 0 - 4 = 16.5%, i.e. 1650 of 10,000 persons
children 5 - 9 = 13.4%, i.e. 1340 of 10,000 persons
women of childbearing age = 23%, i.e. 2300 of 10,000 persons.

Thus, the target population for the project is roughly 3000 children, and 2300 - 2500 women of childbearing age (15 - 40 years). However, it should be kept in mind that caretakers (often an older sibling or a grandmother) are also part of the larger target population, as well as fathers. Effectively, the project counts the 10,000 population estimate as a global target, segmenting different groups with varying intensity over time.

2.2.2. Disease trends - Child Morbidity and Mortality

National statistics for end-of-year 1991 indicate diarrhea,

malnutrition, cough and fever the most frequent reasons for under-five visits to health facilities. Similarly, the MOPH staff in Cheddra and the Kanem report diarrhea and malnutrition to be the most common reason for under-five clinic visits. They also report frequent cases of acute respiratory tract infections, skin infections and conjunctivitis. Anecdotal information from villages around Cheddra indicates a similar morbidity pattern for small children. But only in the severest cases do villagers report taking children to the dispensary for treatment.

In 1988 a household survey was conducted in the Kanem examining agricultural production, consumption and nutritional status. Cheddra, Mao and Noku were the sites chosen. Among other subjects, the survey examined several variables affecting child health.

One of the more notable findings was that 14% of the children under five were suffering from diarrhea on the day of the survey. Assuming a five day duration, this indicates a 40% two-week incidence rate. The national annual incidence rate is estimated at 7 per year per child. Dehydration due to diarrhea is acknowledged as the major cause of child death in Chad.

Traditional treatment of diarrhea includes anal smoking with local incense or enema treatments with cultured butter. At the village level in the Kanem, the association between diarrhea and dehydration is not understood.

Access to potable drinking water in Chad, in the urban centers, is figured at 25%, even less for rural areas. Rural Kanem still relies on the ancient system of open wells called "chaddoufs", generally located in the "ouaddis" (fertile depression, like a paddy). Villagers judge water quality more by taste and color than by association with disease. Water can be found in the ouaddis, even in the dry season, so water quantity is not at issue. Sedentary hygiene practices in villages are poor, in large part due to former nomadic traditions. Rough estimates of family water consumption put daily use per person at 5-10 liters (WHO minimum requirements are 15-18 liters per person/day for hygiene and health maintenance).

A nutritional assessment by CARE in April 1987 discovered a malnutrition rate of 14% (less than 80% weight for height) for the Kanem. Cheddra was fixed at 12.5% in 1988. These rates are consistent with those figures found in other areas of the Sahel.

Health personnel report that ages for malnourished children fall between eight months and three years. Introduction of solid foods occurs at weaning (17 months for girls, 18 months for boys). Weaning practices consist of abrupt rupture from the breast. No traditional weaning foods are known. The survey, conducted by the National Nutritional Center and Appropriate Food Technology

(CNNTA), found that over 70% of calories in the daily diet came from cereals, notably millet. The diet is also lacking in Vitamin A-rich foods.

Immunization activities in the rural area are sporadic, though the demand appears to be high. Gaps of up to six months are common between rounds. Immuno-preventable diseases, specifically measles and tetanus, were reported in several villages. The National Statistics Bureau (BSPE) records a vaccination rate of DTC 3 for the Kanem of 44.3% for 1991. This statistic does not bear out, however, in cross-reference with local records.

2.2.2. Disease Trends - Maternal Morbidity and Mortality

One or two socio-anthropological studies done in Chad (UNICEF - "State of Chad's Women and Children," 1990) paint a picture of women chronically ill with all manner of complaints - fevers, abdominal pains, abscesses, malaria. Early marriages, high fertility, scarce health services and poor nutritional status all combine to increase the health risk to women during pregnancy and childbirth.

Age at first marriage in rural Chad is often at 13, with first pregnancy at 16. Fertility rates are high - 5.9% - especially in rural areas where large families provide the necessary labor for agricultural production. Traditional birthspacing is two years, "insured" through abstinence. Modern contraceptive prevalence in Chad hovers around 1%. Only 15% of pregnant women receive prenatal care and deliver with qualified assistance. (UNICEF stats) Statistics for the project area are even less -

Most villages have traditional birth attendants (TBAs). These are generally older women who, by virtue of having given birth and assisted at other births, inherit their status. Traditionally, they assist women during labor and delivery, and give advice on child care for the first week of the child's life. Many women, however, are not assisted by these TBAs, but by other family members or neighbors - particularly if it is not the first pregnancy (this may be explained by the fact that a TBA will expect a payment of some sort).

Women's nutritional status is chronically poor in Chad. Estimates are that 60% of pregnant women are anemic in rural Chad. Consequently, low birth weight babies (less than 2.5 kgs.) make up more than 11% of the newborn population in health facilities.

2.2.3. The Government of Chad's Ministry of Public Health

The government of Chad recently completed an exercise to redesign and re-strategize its health and social welfare system.

This culminated in a Health Round Table begun in June 1992, and the publication of a program plan of action in January 1993. Within this context, the GOC spelled out its priorities, strategies, and action plans for the nineties. Priorities include increasing health services coverage, both curative and preventive; institutional capacity-building; and human resource development. Health service structures are divided at three levels: the central level, the intermediary level and the periphery. At the peripheral level, a minimum packet of activities (MPA) will orient the health and social services departments. This MPA consists of:

- primary curative consultations
- diagnostic analysis for communicable diseases
- growth monitoring and immunization
- safe motherhood activities (pre/post-natal consultation)
- primary treatment for chronic illnesses (TB, leprosy, etc.)
- integrated health education and IEC activities
- community development activities
- referral for care within the system.

Each prefecture has since written a three-year operational plan for their zones of responsibility. International organizations participate with financial and technical assistance at the prefecture level.

2.2.4. The Kanem Prefecture and Cheddra Dispensary

The Cheddra dispensary is currently supervised by the Chief Medical Officer and his staff in Mao, 260 km to the north and five hours in a four-wheel drive vehicle over traced sand paths. Supervisory visits occur approximately every two months, and last about four hours. The medical registry of the dispensary is reviewed, administrative problems discussed, and training arrangements, if any, prepared. No medical consultations are held for the population of Cheddra. According to the new health district zoning plan, Cheddra's closest referral center is Moussoro, 75 km to the north. Cases that are beyond the capacity of the dispensary are referred, in principle, to Moussoro. However, no medical doctor has yet been assigned to this Center, so referrals continue to go to Mao or Massakory, 75 km south of Cheddra in a different prefecture. Massakory currently sees approximately ten Cheddra patients per month.

The Cheddra dispensary sees approximately 150 - 170 clients per month, or 5.6 new cases per day, according to registry records. A two person staff consists of a registered nurse, and an assistant. The registered nurse received his diploma in 1962, and except for one in-service training in 1989, has not had occasion to re-train. Patient consultations last between seven and eighteen minutes, longer in the case of pre-natal visits. The current physical structure is solid but small. A long, covered veranda

serves as a waiting area. However, there are no benches, and the ledge of the veranda has no steps, making a foot-high climb to reach the entrance. The dispensary has no electricity, and the windows are kept closed against sand, making a very dark examination room. There is no running water in the facility, although a plumbed sink is installed leading out to a septic tank. One good-sized room serves as the examination/treatment room. One room houses the pharmacy closet, stores the kerosene barrel, and has a partition behind which the pre and postnatal consultations are performed. The room is overpowered by the kerosene fumes. The nurse's office is in the center of the dispensary, and it is from here that diagnosis and treatment are generally performed. A refrigerator for vaccinations is located in the entryway. The courtyard of the dispensary is unenclosed, allowing for sheep and goats to shelter on the veranda at night. There is no toilet facility on the premises. The dispensary has no means of transport, animal or otherwise.

2.3. Other Donor Assistance

The Kanem is one of nine prefectures to be included in the Prefecture Health Structure Support Project (PHSSP) being implemented by FED. PHSSP has three objectives:

1. provide the chief medical officer of the prefecture with the means to implement his role as the manager of health services;
2. support and reinforce the functions of the health system in the prefecture;
3. establish a supply system for essential drugs.

Major activities cover: training (particularly for personnel and resource management); establishing and maintaining an essential drug supply; laboratory training and equipment; cost recovery strategies; rehabilitation of facilities at the prefecture level; and support to the central level.

UNICEF participates in the Kanem through the Integrated Basic Services Programme (IBSP), integrating health, education, food security, and water and sanitation activities through a strategy of applied community development. The Expanded Programme of Immunizations (EPI) is managed through this system, with UNICEF insuring all aspects of vaccination activities through its partnership with the MOPH. However, only Mao and fourteen surrounding villages are included in the mobile team network.

3. STRATEGY

3.1. CARE's Role

3.2. Project Description

The Cheddra Child and Maternal Care Project (CCMCP) is an innovative community-level preventive care project using an integration of community-oriented health promotion activities, face-to-face interaction, and dispensary reinforcement to contribute to the reduction of infant and maternal mortality in the health sub-zone of Cheddra. It complements the existing clinical services offered at the under-utilized Cheddra dispensary, recently included in the Health Structure Support Project financed by the European Development Fund (FED). As indicated, the FED project focuses its assistance on infrastructure reinforcement, clinical services and curative care. The phenomenon of under-utilization of health services is not examined in any of the FED's projects. The presence of a dispensary staffed with a trained nurse for the past five years has not significantly contributed to use of the dispensary, nor has it changed the health statistics in the region. To address this gap, the CCMCP is modeled on the most successful elements from proven Child Survival communication and integrated community development projects (USAID/India, HEALTHCOM/Honduras, CARE/Mali), with seven key elements:

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communication and community participation activities in health infrastructure building.

3.3. Project Strategy

The project's strategy will be to reinforce the existing health structure through measured amounts of technical, training and material assistance to the Cheddra dispensary, and improve the quality of supervision by helping to assure regular and sustained contact with the next levels of referral.

Simultaneously, the project will initiate and support a network of trained community care personnel who will instruct in home-management of specific health problems and refer to qualified care those problems beyond the home level capacity.

Operations research studies have proven that when health care providers take pride in their professional roles, they tend to provide more and better services. The communication strategy of the project will involve building the prestige of the health care personnel and the health promoters. This will improve and maintain morale, enhance their status and lead to increased public attendance at the dispensary and greater acceptance of home care techniques.

3.4. Project Goal and Objectives

Ideally, the project goals should reflect the goals and objectives of the MOPH as outlined in its Program Plan of Action. The MOPH has adopted a set of health goals aligned with the goals of the World Summit for Children in 1990. These goals are stated in terms of reduction of infant and maternal mortality and the causes therewith; and the improvement in the health status of children and women through delivery of quality health care. To do this, the MOPH needs to develop its institutional capacity through all means at its disposal. This is generally understood as outside assistance. CARE/Chad's contribution will be to:

Contribute to the reduction of infant and maternal mortality by xx points in the health sub-zone of Cheddra, including the 10 to 15 villages around the town.

This goal will be realized by achieving the following objectives over three years:

1. Increase by 60% the number of child caretakers practicing improved home management of diarrhea for their children under five;
2. Increase by 60% the number of households practicing improved

hygiene and sanitation;

3. Increase by 60% the number of children under one fully vaccinated;
4. Increase by 60% the number of child caretakers practicing improved nutrition and weaning practices for children under three;
5. Increase by 60% the number of women practicing improved pregnancy and childbirth management;
6. Increase by 60% the number of clients visiting the dispensary on a daily basis;
7. Improve the quality of care received at the dispensary measured in terms of correct diagnosis and treatment, and return visits.

The individual indicators for these objectives can be found in the Annex.

3.5. Project Activities

3.5.1. Pre-Project Research

In all of Chad, the empirical base is very limited for assessing root causes of behavior-related health practices that limit progress towards development goals. Both for the necessary database for the project and as a valuable contribution to the general health database in Chad, a package of operations research activities will be implemented.

The pre-project evaluation activities will consist of:

- * Knowledge, Attitudes and Practices Survey
- * Focus Group Discussions enriched with In-depth Interviews
- * An Ethnographic Profile

This combination of evaluation tools will provide quantitative as well as qualitative information. Data verification through triangulation will help assure the validity of the data and cut down on biased responses. Population-based survey activities will be by random sample, and offer the opportunity to obtain non clinic-based information from women who have little contact with the health care system. The sampling frame will be drawn from maps that have recently been completed by the Census Bureau in preparation for the 1993 census.

Knowledge, Attitudes and Practices Survey

The KAP will gather demographic and socio-economic information, education and literacy data, religion, language and marital statistics to provide a hard database. It will continue with questions on practices: types of illnesses, types of treatment, cause of illness, cost, decision to treat. Knowledge will be tested regarding diarrheal diseases, acute respiratory disease, breastfeeding practices, pregnancy and illness of women, family planning, and female circumcision. Vaccination coverage will be verified.

Focus Group Discussions enriched with In-depth Interviews

Focus group discussions will provide qualitative reinforcement to the KAP regarding particular practices and trends that are of interest to the CCMCP. The question base will focus on practices and beliefs in reference to: diarrheal disease, hygiene and sanitation, immunization, nutrition and weaning, and maternal care. This makes five topic areas, for which two focus group sessions will be held on each. In addition, two in-depth interviews will be held on each topic.

An Ethnographic Profile

Ethnographic profiles construct a "portrait" rich in detail on a 'typical' beneficiary. All of the elements of the two previous research findings go into to this profile to offer a multi-dimensional model. As the project progresses, this profile serves as a cross-check for monitoring behavior change and anticipating problems in activities development that might not "match" with the diagnostic. While it is true every person is different, enough anthropological research has been done on ethnic and cultural classifications to justify this technique.

3.5.2. Training - The Health Promoters

Ideally, the project would require a minimum grade six education for its female health promoters. Similar projects in Mali, Honduras and India have found that, if this requirement is the bottom-line criteria for the community workers, these workers will not be found in the villages. Such is the case in Cheddra. Numerous visits to assess education levels of women have turned up exactly two young girls, age 15 and 17, with a grade six education. The project judges that it is of greater importance that the women health promoters be from the local community, than that they have a formal school education. As it is, the women of Cheddra and surrounding villages are experienced merchants, and have

independently organized themselves into vegetable garden collectives. Proven training techniques exist that do not depend on the trainees' ability to read and write. The key to assuring good transfer of skills will be careful and constant supervision both during and after training, and plenty of hands-on experience during training.

The four health promoters will receive two months' initial training and subsequent refresher courses during the life of the project. Training spread out over two months will help to accommodate the women's other responsibilities as wives, mothers and merchants. During this initial training, the health promoters will learn adult education techniques, data collection, community participation activities, interpersonal communication skills, and technical training in the five interventions. Personnel from the Health District Prefecture and Social Centers in Mao and Moussoro will be invited to assist in training.

During the refresher courses, the health promoters will learn how to train others, and will make study tours to Moussoro and Mao to visit their respective referral centers.

3.5.2. Training - Traditional Birth Attendants

During the second year of the project, traditional birth attendant (TBA) training will take place. The health promoters, already trained themselves, will help to identify three women per village for the TBA training. The training will be two days in length and take place in the respective villages, using MOPH and project personnel to train.

3.5.2. Training - Ministry of Health Personnel

Two five-day training sessions for MOPH personnel in Kanem Prefecture will be held during the course of the project. While the emphasis will be on training in health promotion techniques, technical content will be introduced according to need, as assessed by the Chief Medical Officer of the Prefecture.

The project will work to assure the attendance of the dispensary nurse at all appropriate MOPH training sessions.

3.5.3. Prevention and Promotion Activities

The health promoters will conduct a series of activities, to include:

- home visits to identify children and mothers with health problems and report these to the dispensary;

- home visits to teach mothers and caretakers how to prevent and cope with common ailments such as diarrhea and problems associated with weaning;
- organization of neighborhood hygiene and health education sessions;
- participation in immunization campaigns with the dispensary personnel;
- identification of secondary activities and mini-projects (water distillers, latrine building) that community members may choose to engage in.

The project staff will:

- organize the structure of the project;
- design training sessions;
- oversee the data collection;
- supervise the health promoters;
- establish and monitor the sentinel sites with the health promoters and;
- spearhead the image-building campaign of both health promoters and dispensary personnel.

The dispensary will continue its activities of diagnosis and treatment according to the MPA. These activities will be enhanced with organizational assistance from project staff vis-a-vis:

- establishment of an ORT unit in the dispensary (national policy) and ORT educational activities at the dispensary;
- organization of regular growth-monitoring sessions and nutrition supplement intervention as needed;
- organization and support for EPI activities, according to the national EPI policy (vaccination on demand, 15 day campaign cycles, mobile teams);
- organization of regular pre and postnatal care consultations;
- assistance with outreach health promotional activities in Cheddra town and coordination in rural areas.

3.5.4. Materials Development and Communication Activities

The materials development activities will have two components. The first materials to be developed will serve to promote and

enhance the public image of the health personnel and promoters. Certificates of achievement will be awarded to the promoters as they complete their training. A logo will be designed and used on flags to identify promoters' and health personnel homes, badges that can be sewn on an article of clothing, etc. Radio interviews with the promoters and health personnel will be taped in Cheddra and sent to be aired on Radio Rurale in the two local languages.

Simple promotional and educational materials will be designed or purchased for use with the communities by the health promoters. There are currently available in Chad a small number of materials kits designed for use with illiterate audiences. These include: discussion starters based on photos; slide series on diarrhea, vaccination, and breastfeeding (CARE possesses solar slide projectors); posters on hygiene and green leafy vegetables. The logo can be made into stickers that can be distributed for achievement awards, given for example, to mothers who fully vaccinate their children.

Materials that can be used by the literate health personnel include diarrheal flip chart and brochure, vaccination calendar, Facts for Life booklets, nutrition posters. Contacts for acquisition of all these materials are listed in the annexes.

3.5.5. Dispensary Renovation

The Cheddra dispensary will require rehabilitation to its structure if it is expected to respond adequately to the increased demand for services that the project activities will generate.

Water and electricity are both within the means of the project and the technical capacity of the area. CARE offices in Cheddra are solar-powered, and have water towers made from barrels. The dispensary can be so modified. A single step can be added to the veranda to facilitate entry. The grounds of the dispensary will be enclosed, and a latrine will be installed. The existing space will be repartitioned to isolate the kerosene supply, and improve the environment for pre and postnatal consultations. The project offices will be located on the premises, and this may require building an additional room. An outdoor awning made from local materials will be installed for education and demonstration sessions.

This combination of activities, from pre-project research to dispensary rehabilitation, contain within them the seven key elements cited earlier that guide the project.

4. MONITORING AND EVALUATION

As earlier described in the pre-project research outline, there will be a collection of activities to establish baseline data. Regular monitoring of project progress and health statistics can be charted against this information.

Sentinel sites will be established in each of the villages designated by the project, and two to three sites selected in Cheddra neighborhoods. A sentinel site is basically an intercept point from which the project can test for a variety of indicators: numbers of cases of specific diseases; numbers of households reported treating at home; message reception from the radio; logo identification; reported dispensary visits, etc. One person is designated sentinel, and working with the health promoters, he/she learns what kind of information to look for and techniques are experimented with for recording the information. The information should be considered anecdotal rather than systematic or scientifically accurate. However, this method helps to identify weak links, spot trends that can be followed up on, and indicate the general receptivity of the innovations being installed. CARE/Niger is currently experimenting with a notebook method of data collection to be used by illiterate health workers. The CCMCP will follow developments and adapt this system as success indicates.

Regular and quality supervision will be a crucial element of success for all levels of the personnel hierarchy. The great distances between health structures notwithstanding, it is still important that the project staff stay in close contact with Mao as its hierarchical overseer. In addition, the health promoters will need quality, interpersonal counseling to build and keep their confidence. Terms of reference or contracts may be drawn up, for which the health promoters set their own milestones, and for which they are 'rewarded' each time they achieve one.

CARE requires all of its projects to chart their progress via planning, implementation and evaluation (PIE) documents. These are prepared every four months. MOPH officials receive copies, as well as the national office. These documents summarize activities to date, examine problems and accomplishments, and aid in continued planning.

A mid-term assessment, scheduled halfway through the life of the project, will be a process evaluation on the project to date. It will be conducted by a team, including an outside consultant, MOPH officials and CARE staff.

A final evaluation will be conducted at the end of the project, again by a team. The final evaluation will repeat the KAP survey to assess progress against goals and objectives. Based on

the findings of the final evaluation, the acceptability and feasibility of the project model will be assessed and future activities will be proposed accordingly.

5. RESOURCE REQUIREMENTS

5.1 Staffing

The project will be headed by a project manager, most likely an ex-patriate, given the shortage of qualified personnel in Chad. A public health specialist would be appropriate, but an experienced administrator with solid skills in community development should be able to execute the responsibilities of project manager. Someone with non-formal adult education skills would be a wise choice. This person will be responsible for training and supervising the staff, project planning and management, and liaison with the MOPH hierarchy and CARE offices.

The assistant project manager, preferably a Chadian nurse, will provide technical expertise and work closely with the dispensary nurse in organizing dispensary-level activities, and outreach activities in Cheddra town. This person will also co-supervise the health promoters and assist with the training sessions.

Four female health promoters from Cheddra or the immediate surrounding area will be responsible for extension activities.

The CARE/Chad office in N'Djamena will provide back-up logistical and administrative support.

5.2 Material Resources

The major material inputs will include:

- two vehicles and their operation and maintenance;
- dispensary renovations and equipment;
- educational/promotional materials;
- training and technical assistance.

The difficult terrain of the desert excludes the use of bicycles and/or motorbikes in the deep sand. Two vehicles will be necessary so that as one vehicle may need to be in Mao or N'Djamena, the project activities do not come to a full stop for lack of transportation to village sites.

The dispensary renovations are a crucial element in the strategy to encourage utilisation. Only the most basic repairs are being proposed to bring the dispensary up to standard.

As earlier outlined, educational/promotional materials will contribute to the effectiveness of the health promoters and dispensary personnel. The long process of message design, materials

elaboration, pre-testing and production may be circumvented by investigating for purchase, some of the simple but promising materials recently produced by UNICEF, USAID and the CNNTA.

Training costs cover the health promoter trainings (initial and in-service), the training sessions for the health personnel of the Kanem, and the TBA training sessions. Costs include: training materials, per diems, logistics and transportation.

Technical assistance is anticipated to assist with the pre-project research activities, the mid-term assessment, and the final evaluation. Some of this assistance can be provided by the CARE Regional Technical Advisor for Primary Health Care (RTA/PHC) based in Niamey, while local expertise may be found for data processing.

6. FINANCIAL PLAN

A. personnel

1. Project Manager (1) (40000/yr X 3 years)	120,000.00
2. Assistant Project Manager (1) (10000/yr* 3 years)	30,000.00
3. Health Promoters (4) (1512/yr*3 years*4)	18,144.00
4. Drivers (2) (4050/yr*2* 3 Years)	24,300.00
Personnel Total	192,444.00

B. Material and Equipment

1. Two vehicles (25000*2)	50,000.00
2. Vehicle operations (fuel & maintenance)	78,000.00
3. Dispensary Equipment	
Blood Pressure Cuff	200.00
Health Cards and demonstration Materials	1,800.00
Storage Cupboard and furnitures	3,000.00
4. Dispensary Repair	
Solar Panel	5,900.00
Awning for Education Sessions	1,300.00
Benches	100.00
Latrine	300.00
Office Construction	9,000.00
5. Educational Materials Development and Production (2000* 3 years)	6,000.00
6. Office Equipment	
Stationary supplies	1,500.00
Furniture 2 desks, 1 table, 3 filing Cabinets	1,000.00
Computer	2,000.00
Printer	1,500.00
Photocopier	1,000.00
SUBTOTAL	162,600.00

C. TRAINING

1. Month Health Promoter Training	
Per diem X 32 days X 4 persons	1,280
Per diem MOPH X 10 days X 4 persons	400
Transport MOPH/MAO (0.16 X 300 X 5 trips)	240
2. TBA TRAININGS	
. Compensation for TBAs(30 persons X 2 dys) (Soap,lamps, sugar plus meals \$15 X 60)	900
. Materials for TBA kits(5 X 30)	150

(Razors, cotton, alcohol...)	
· Per diem MOPH/ MAO (2 days X 10 trainings X \$10 X 2 prs)	400
· Transport MOPH/MAO (10 trips X \$0.16 X 300 km)	480
3. SERVICE TRAINING/HEALTH PROMOTERS (4 trainings over 2 years)	
Per Diems for MOPH/MAO or MOPH/NDJ (2 persons x 3 days X 4 cycles x \$10)	240
Transport MOPH/MAO (4 trips x \$0.16 x 300 Km)	192
Material	400
4. MOPH PERSONNEL TRAINING/MAO (2 trainings over 3 years, 5 days each)	
10 participants x 10 days x \$10	1,000
Materials	500
Local transport	200
4 trainers: \$20 x 10 days	800
Distance transport N'Djamena/Mao	104
5. CONSENSUS BUILDING WORKSHOP (2 days/mao)	1,000
SUBTOTAL	8,286.00
D. Technical Assistance	
1. Regional Technical Advisor/ PHC (28 days at \$400.00/day)	11,200.00
2. Local Baseline Consultant (14 days at \$250/day)	3,500.00
3. Evaluation Consultant (s) (28 days at \$350/day)	9,800.00
SUBTOTAL	24,500.00
E. Evaluation Costs	
1. Perdiems (6 Surveyors 10/day X 14 days X 2)	1,680.00
2. Local transport	500.00
3. Local housing	3,000.00
4. Surveyors Salaries (20/day X 6 days X 14 X 2)	3,360.00
5. MOPH perdiems (10 X 28 days X 3)	840.00
Subtotal	9,380.00
F. Travel	
1. Evaluation consultant travel (2000 X 2 trips)	4,000.00
2. Regional conferences (4)	4,000.00

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3. International conference (1)	3,000.00
4. N'Djamena Per diems (140 X 3 persons X 5 days X 18 months)	3,780.00

SUBTOTAL 14,780.00

G. MOPH Staff

1. Dispensary Nurse (140 X 36 months)	5,040.00
2. Assistant (80 X 36 months)	2,880.00
3. Sanitary Tech (100 X 36 months)	3,600.00

SUBTOTAL 11,520.00

H. Other support costs

1. N'djamena Office support (50000/year X 3 years) (administrative costs, logistics)	150,000.00
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TOTAL COSTS 573,510.00

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7. OPERATIONAL PLAN

Once funding has been assured and a project manager recruited, a detailed operational plan will be worked out with local and national MOPH officials. A two-day consensus building seminar will be held in Mao, and attended by the dispensary staff, Mao health officials, project staff and CARE program staff. The overall activity design scheme will be drawn up during this time, with refinements being done later. The project's intermediate goals will be reviewed and put on a time line; villages will be selected; dispensary renovations programmed; and the training plan established.

8. APPENDICES

- I. Country and Project Area Maps
- II. Human Development Indicators
- III. Objective Indicators
- IV. Multi-Year Budget
- V. Materials Contacts

I. COUNTRY MAP



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Basic data: 1989 and earlier years

UNICEF country classification

Under 5 mortality rate	219	(1989)	Very High US\$B
Infant mortality rate	129	(1989)	Very High IRR
GDP per capita	8 160	(1988)	Low GDP
Total population	5.5 million	(1989)	

KEY INDICATORS FOR CHILD SURVIVAL AND DEVELOPMENT		1970	1980	1985	1989	
Births	(Thousands)	164	198	223	244	
Infant deaths (under 1)	(Thousands)	28	30	31	31	
Under 5 deaths	(Thousands)	48	50	52	53	
Under 5 mortality rate		295	254	234	219	
(per 1,000 live births)						
Infant mortality rate (under 1)		175	149	136	129	
(per 1,000 live births)						
		About 1980			Most recent	
Underweight children (under 5)	Moderate & Severe	..	..	..	..
(% weight for age)	Severe	..	..	..	..
Babies with low birth-weight		11	..	..	..
(%, 1985)						
Children completing primary level		20*	..	..	17
(% of first grade, 1975/1987)						
NUTRITION INDICATORS		about 1980	most recent			
Mothers breast-feeding at 3/6/12 months		.. / .. / ..	..	..	..
(%)						
Prevalence of wasting (%)		..	..	..	..
Prevalence of stunting (%)		..	..	..	..
Daily per capita calorie intake		77	..	..	69
(% of requirements, 1979-81/1984-85)						
Food production per capita index		102	..	..	78
(Index 1970=100, 1980/1989)						
Household expenditure	All food/cereals	..	..	..	..
(% of total income)						
HEALTH INDICATORS		about 1980	most recent			
CBT use rate (% 1988)		..	..	..	2
Access to health services	Total	..	..	..	30
(% of population, 1985)	Urban/rural	.. / ..	..	..	..
Access to safe water	Total	25	..	..	..
(% of population, 1975)	Urban/rural	.. / ..	..	..	..
Access to adequate sanitation	Total	..	..	..	..
(% of population)	Urban/rural	.. / ..	..	..	..
Births attended by trained personnel		..	..	..	24
(%, 1981)						
Maternal mortality rate		860	..	..	760*
(per 100,000 live births, 1972/1987)						
Immunization		1981	1985	1988	1989	
One-year olds (%) immunized against:						
- Tuberculosis		..	15	33	59	
- DPT		..	3	14	20	
- Polio		..	3	14	20	
- Measles		..	7	17	32	
Pregnant women (%) immunized against:		..	3	10	42	
- Tetanus						
EDUCATION INDICATORS		about 1980	most recent			
Primary enrolment ratio	Total	.. / ..	..	..	51 / 33
(gross/net, 1980/1987)	Male	.. / ..	..	..	73 / 52
	Female	.. / ..	..	..	29 / 23
Secondary enrolment ratio	Total	.. / ..	..	..	9 / ..
(gross/net, 1980/1987)	Male	.. / ..	..	..	19 / ..
	Female	.. / ..	..	..	2 / ..
Adult literacy rate, 15 years & older	Total	..	..	..	23 / ..
(%, 1970/1985)	Male/female	20 / 2	..	..	34 / 13
Radio/television sets		168	..	..	235 / 1
(per 1,000 population, 1980/1988)						
DEMOGRAPHIC INDICATORS		1970	1980	1985	1989	2000**
Total population	(Thousands)	2 552	4 277	5 018	5 538	7 337
Population aged 0-15 years	(Thousands)	..	1 972	2 229	2 486	3 338
Population aged 0-4 years	(Thousands)	..	754	760	762	1 254
Urban population (% of total)		11	20	25	29	39
Life expectancy at birth	Total	58	62	64	66	61
(years)	Male	57	60	63	65	60
	Female	60	64	66	68	62
Total fertility rate		5.2	5.2	5.2	5.2	5.5
Crude birth rate (per 1,000 population)		45	44	44	44	42
Crude death rate (per 1,000 population)		26	22	20	19	16
		about 1980			most recent	
Contraceptive prevalence rate (% 1977)		1
Population annual growth rate	Total	2.0	2.4
(%, 1965-80/1980-89)	Urban	9.2	5.3
ECONOMIC INDICATORS		about 1980	most recent			
GDP per capita annual growth rate		-1.2
(%, 1965-80)						
Inflation rate (% 1965 10/1980-88)		6	3
Population in absolute poverty	Urban/rural	39 / 56
(%, 1976)						
Household income share	(top 20%/bottom 40%)	.. /
(%)						
Government expenditure	Health/education	.. /	8* / 8*	..
(% of total expenditure, 1988)	Defence
Household expenditure	Health/education	.. /
(% of total income)						
Official development assistance:	- US\$ millions	35	264
(1980/1988)	- As % of GDP	31
Debt service		4	3
(% of goods & services exports, 1980/1988)						

Definitions, sources and symbols are described in the section preceding these data sheets.
 * UNICEF field office source.
 ** United Nations Population Division projections based on past and current trends.

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III. Objectives Indicators

The individual objectives have prescribed indicators to better measure at what point the project may know when the objectives have been achieved. The objectives cover the project area over three years.

1. Increase by 60% the number of child caretakers practicing improved home management of diarrhea for their children under five.

Indicators are:

- Mothers know the danger of diarrhea is dehydration
- 60% increased access to ORS packets
- 50% use of ORS/SSS
- Mothers know the importance of increased fluids during diarrhea
- Mothers know the recipe for SSS (verify that this is ok)
- Mothers know signs for referral
- Mothers know importance of catch-up feeding

2. Increase by 60% the number of households practicing improved hygiene and sanitation.

Indicators are:

- Family members know the association between hygiene and diarrhea
- Families report using cleanest available water for drinking
- Families report using water in sufficient quantities
- Families report appropriate transport and storage practices
- Families report participating in vector control activities
- Family members report appropriate handwashing.
- Family members report appropriate disposal of household waste.

3. Increase by 60% the number of children under one fully vaccinated.

Indicators are:

% children completely immunized (% completion of DPT3/DPT1, and % immunizations by antigen/under ones)

4. Increase by 60% the number of child caretakers practicing improved nutrition and weaning practices for children under three.

Indicators are:

- Mothers know correct age to introduce foods
- Mothers know at least one recipe for weaning porridge
- Mothers know the importance of feeding during and after an illness episode
- Mothers report practicing the above
- Mothers report feeding children at least three times a day
- Mothers know the importance of Vitamine A-rich foods

5. Increase by 60% the number of women practicing improved pregnancy and childbirth management.

Indicators are:

- Women report births assisted by trained birth attendants
- Births are reported to take place in sanitary conditions
- Women report seeking prenatal care (in Cheddra and participating villages)
- 60% of women in project area receive at least two doses of VAT
- Women know the importance of nutrition during pregnancy and lactation
- Women know at least two high risk signs during pregnancy and childbirth.

6. Increase by 60% the number of clients visiting the dispensary on a daily basis.

Indicators are:

- Increased entries in consulting register

7. Improve the quality of care received at the dispensary measured in terms of correct diagnosis and treatment, and return visits.

Indicators are:

- Increased entries in consulting register
- Higher rate of accurate diagnosis and treatment in consulting register
- Community members acknowledge going to the dispensary.

IV. Materials Contacts

1. Centre National de Nutrition et de Technologie Approprie
Programme Education Nutritionale
Ministere de la Sante Publique
N'Djamena

- slide shows, green leafy vegetable poster series

2. Service de Cantines Scolaires
Ministere de l'Education Nationale

- posters on hygiene, green leafy vegetables, flip chart series

3. UNICEF

- slide shows on diarrheal disease, vaccination, breastfeeding, nutrition

- discussion starter kits with black and white photos based on Facts for Life messages

- songs in French on audio cassette, Facts for Life

- A/V kits with materials for creating homemade visual aids

- Facts for Life books in French and Arabic

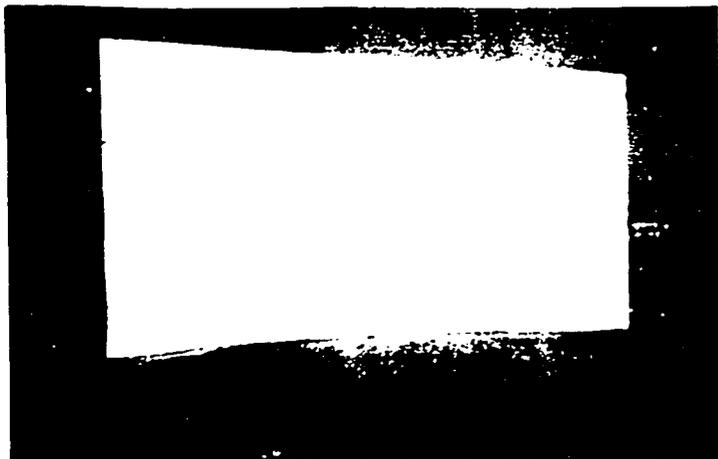
- Video cassette and audio cassette libraries

4. UNDP

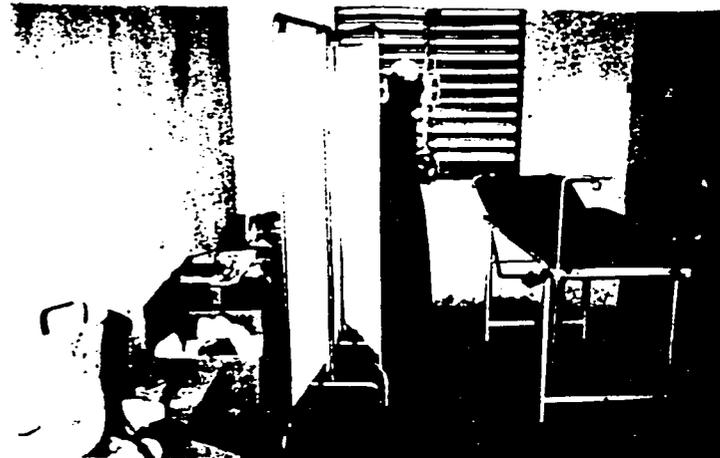
- video and audio cassette libraries

REHABILITATION DU DISPENSAIRE DE CHEDDRA

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Bureau annexe pour le projet et clôture sont souhaités



Une même salle pour pharmacie et soin prénatal (ce qui est encombrant.)

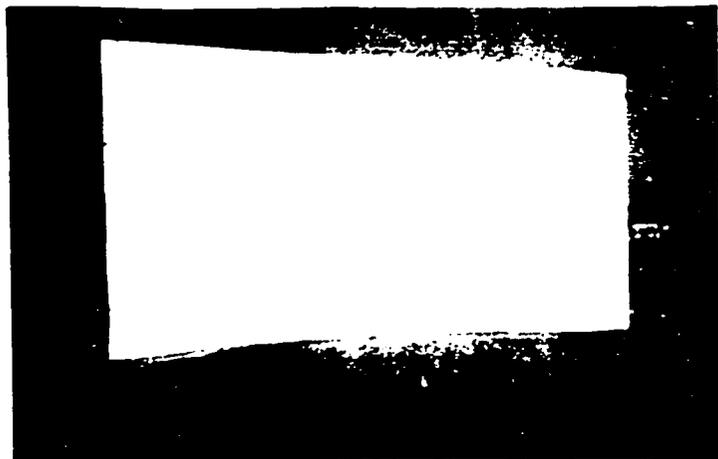


Hangar d'attente et équipement de réception à renforcer

VI. DISPENSARY PHOTOS

REHABILITATION DU DISPENSAIRE DE CHEDRA

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Bureau annexe pour le projet et clôture sont souhaités



Une même salle pour pharmacie et soin prénatal (ce qui est encombrant)



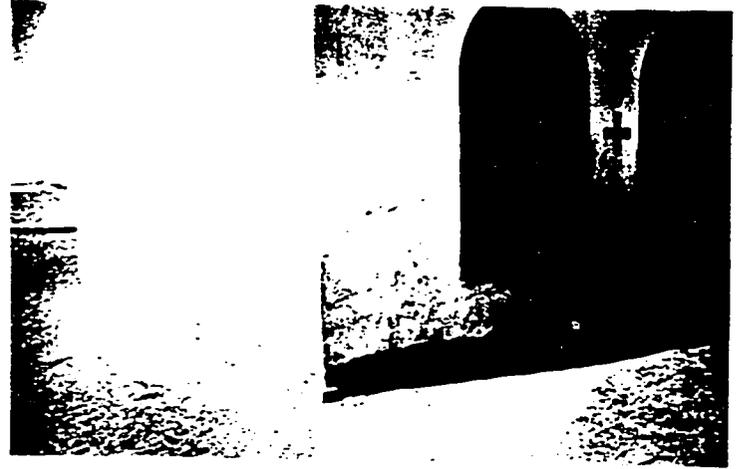
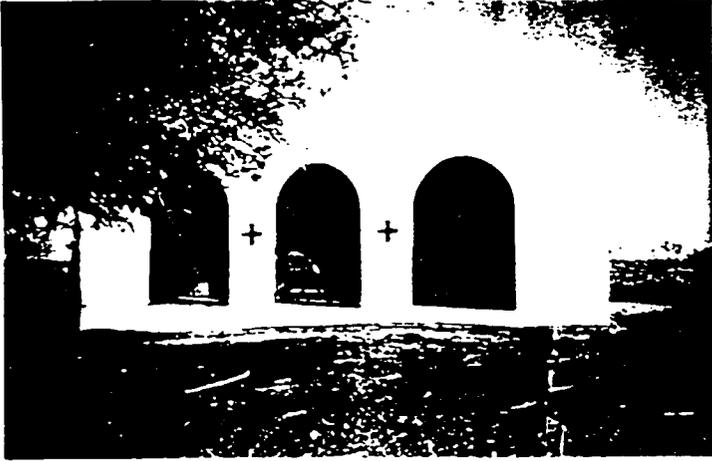
VL. DISPENSARY PHOTOS



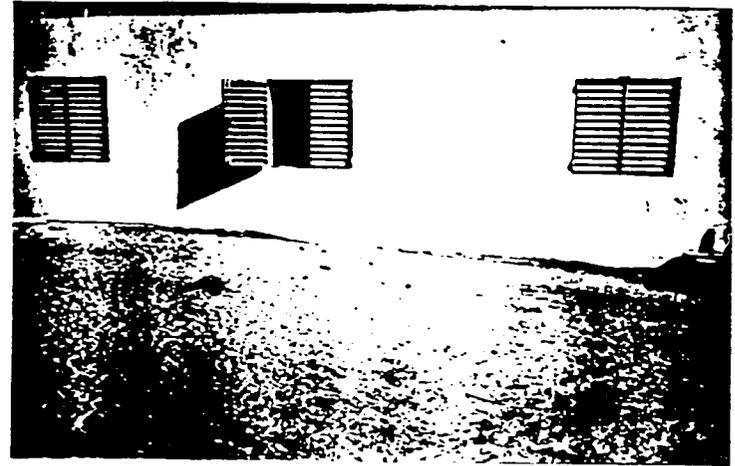
Hangar d'attente et équipement de reception à renforcer

REHABILITATION DU DISPENSAIRE DE CHEDDRA

2



Une marche d'escalier est nécessaire pour l'accès à la véranda



Il faut le renforcement du pied du mur contre l'érosion



Un cloison de séparation pour la salle de soin



Alimentation du lavabo et électricité pour consultation et soin



rne



Peinture externe et interne