

**THE SOCIAL IMPACT OF KINTAMPO VITAMIN A  
EPI-PLUS PROJECT**

BY

**DR. AGATHA AKUA BONNEY**



**A DISSERTATION SUBMITTED TO THE UNIVERSITY OF  
GHANA, SCHOOL OF PUBLIC HEALTH, IN PARTIAL  
FULFILMENT OF THE REQUIREMENTS FOR THE  
MASTER OF PUBLIC HEALTH D.GREE**



**JUNE 1997**

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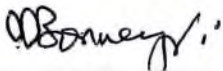
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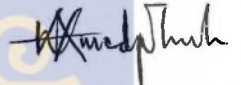
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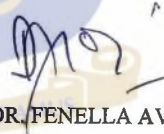


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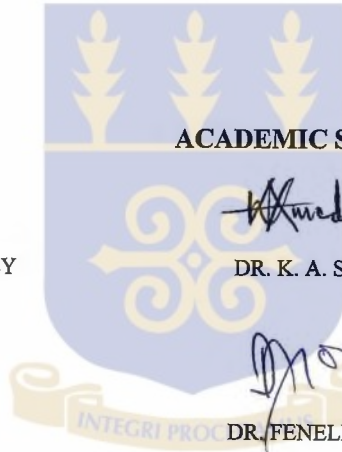
**ACADEMIC SUPERVISORS:**



DR. K. A. SENAH



DR. FENELLA AVOKEY



**DEDICATION**

This work is dedicated to Joe, my dear husband, and the children - Nana, Maame and Joe Junior - for their encouragement, support and the sacrifices they made towards it.  
*May the Good Lord richly bless them.*



## ACKNOWLEDGMENT

“When one climbs a good tree, he gets a good push from people”. For this reason, I am most grateful to the Good Lord for providing the opportunity, the strength and grace to see me through this Master’s course.

I am indebted to all my lecturers for providing me with knowledge which helped me at the Kintampo District for the production of this dissertation.

I wish to place on record the enormous support from my field supervisors, Dr. Sam A. Akor and Dr. Paul Arthur; my back-up supervisor, Dr. Kofi Asare as well as Dr. K. A. Senah and Dr. Fenella Avokey, my academic supervisors, for their direction, supervision and constructive contributions during the preparation and implementation of the research proposal as well as the writing of this work.

I express my profound gratitude for financial, material, moral, emotional and prayerful support from my extended, nucleus family members and friends.

I register my sincere gratitude to the Director and all others from the School of Public Health, Legon; the Staff of Kintampo Health Research Centre especially the two research assistants and the other two field workers who assisted me in data collection.

I am also grateful to the Staff of Kintampo District Health Services, the Brong Ahafo Regional Health Services, the Staff of the Disease Control Unit, Accra for their various contributions, encouragement, and well wishes.

I thank all the respondents whom I came into contact with during this research period.

Finally, for all others who helped in diverse ways to get this work produced, I say, *May the Good Lord Richly Bless You.*

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# DISTRICT MAP OF GHANA



MAP 1

DISTRICT DARKENED)



## ABSTRACT

Researches in communities are usually concentrated on the objectives of projects and may not address the felt-needs of the people involved.

A project which administered Vitamin A Supplementation to children at the time they received their immunizations was carried out in the Kintampo District of Ghana. It was known as the Kintampo Vitamin A EPI -Plus Project (KIVAP EPI-PLUS).

For the success of the project, the communities were educated on the importance of Vitamin A through meetings, durbars and follow-up visits. These frequent interactions by the KIVAP EPI-PLUS Staff had some impact on the lives of the people.

This study tried to find the social impact of the KIVAP EPI-PLUS project on the people involved in the project.

The study was exploratory in design; and both secondary and primary data were collected through the use of hospital data, questionnaire, focus-group discussions and in-depth individual interviews. Altogether, six hundred and forty-eight people were involved in the study.

The findings of the this study have implications for future activities or projects to be carried out by Kintampo Health Research Centre (KHRC) in the district.

One of the significant findings was that people remembered the usual activities of the KIVAP EPI-PLUS project; such as dispensing of free medicine, taking of blood and breast-milk samples as well as frequent visits by the various project teams.

Significantly, they could not recall information of possible side-effects of Vitamin A. This is an indication that in research of such nature, constant education on all aspects is necessary. Because when people cannot recall, vital data are lost and this becomes a problem for the validation of reports.

While mass participation is essential for the success of any project, researchers should realize that people's participation is contingent upon their religious beliefs, cultural background, family linkages and peer pressure. Therefore, it is unrealistic for researchers to expect a hundred percent participation.

Another important finding from the study is that in rural communities, constant interaction with health personnel may lead to an increase in seeking health care.

For instance, the mothers' desire to make time to receive the KIVAP EPI-PLUS staff is an indication of their positive attitude developed as a result of their interaction with the health personnel.

Finally, the success of any future project at the community level, will depend not only on the project's objectives but more critically on the improvements the project brings on the lives of the people.

## CHAPTER ONE

### 1.1 INTRODUCTION

In the Third World, there are so many issues confronting communities. These include rural development, education, environmental and sanitation issues as well as health problems. One cannot do much in such situations without understanding the people themselves. That is why there has been a number of social researches in the form of rapid assessments, and extensive field works .

Often times, these researches are supposed to bring out problems that should be addressed by policy makers. As to be expected, researches especially in the Third World should address the problems of everyday life so as to enhance developmental efforts. In this regard, Nehru [1] has observed that “A living philosophy must answer the problems of today”.

All community-based researches and developmental projects have manifest objectives. However, experience has shown that the objective of these researches or projects are not necessarily in agreement with the felt- needs of the communities. Usually the project activities tend to concentrate on achieving its objectives, and often the cost to the communities in achieving these objective is not addressed. For instance, the Veia Irrigation Project (VIP) in the Upper East Region of Ghana, was one of the large scale state agricultural enterprises established during the post-colonial government period. It was to be beneficial to the local inhabitants. The member of Parliament for Bongo at that time commented that, the inhabitants will grow rice to meet local consumption and thereby

conserve foreign exchange, grow tomatoes for local consumption as well as provide employment for the people. But, the construction of VIP affected the people considerably. Their land and houses were taken over without compensation. Re-settlement arrangements were not discussed with them. After the completion of the project, most of the land was given to “technical people” from southern Ghana and the peasants were given only a small portion for farming. This led to migration of the able men to the south. The women who were left could not work on their farms to produce enough food and this resulted in nutritional problems. The development of the project led to high increase in the incidence of schistosomiasis or Bilharzia. As Piet Konings [2] observed, the Veia Irrigation Project (VIP) in the Upper East Region of Ghana which was constructed to help raise the standards of the people ended up aggravating the already low socio-economic status of the people.

The Volta dam is another example of a project which was constructed with the main aim of generating electricity to propel the nation in her developmental efforts. However, as it turned out untold hardships were visited on the lacustrine communities. As observed by Moxon [3], this project affected the socio-economic status of the people. For example, as a result of poor re-settlement some of the inhabitants were compelled to shift from fishing to farming because they were moved to forest areas. There were problems with overcrowding and sanitation which did not exist in their previous small communities.

The same can be said about road construction which creates gullies that accumulate water conducive to the breeding of mosquitoes which transmit malaria and other diseases. Moreover, the communities through which the new road passes are exposed to traffic and other vehicular accidents.

Another example can be cited using the Tema harbour. In the execution of this project, the original settlers had to be moved forcibly to Tema New Town. They lost their land and also their means of livelihood. It is clear, therefore, that social impact of projects which is rarely evaluated must be given a second thought. Unfortunately, while much literature exist on many developmental projects and researches, virtually nothing exist on their unintended impact on their host communities.

Social Impact Assessment (SIA) of any project is essential. It should be assessed before a project commences, and monitored throughout the duration of the project, and evaluated at the end of the project. Such assessments may be used to refine project objectives, or to re-design project activities, and thus, address the gaps between project objectives and the felt-needs of the communities. This is the key to effective community participation in projects and project sustainability.

However, community participation is influenced by many socio-cultural factors. In dealing with this, education and communication are essential. Kumaresan and Meganu [4] who worked in a community in north-western Botswana found that education of the community, patients, and traditional and religious healers on various aspects of leprosy, especially its causation, was essential to achieving a change in the health-seeking behaviour of the people. Community educational activities require finding answers to issues concerning how to deal with the psychosocial problems that confront individuals and their families and how to minimize or control the impact of societal institutions, processes and productive activities [5]. In health projects, health concerns should be paramount. Health services, the

role of workers, the goals of the programme - the total system, must be openly presented at durbars, publicly debated and openly endorsed by the traditional system [6].

## 1.2 **THE PROBLEM**

Since 1994, the Ministry of Health (MOH) has been carrying out a programme on Vitamin A Supplementation with immunization in the Kintampo District. This project is known as the Kintampo Vitamin A EPI - PLUS Project (KIVAP EPI - PLUS Project). As in the case of all health researches, the project has holistic objective of minimizing childhood morbidity and mortality through the administration of Vitamin A capsule. In order to achieve the project's objectives, several meetings were held with community members months prior to the commencement of the project. These meetings were to explain the objectives and activities of the project to the people, in order to achieve high compliance.

Despite the intensive preparation, a few individuals were non-compliant. Activities within the KIVAP EPI PLUS Project were home-based, and were carried out by team of field workers on repeated visits to mothers within the project villages. The implementation of the project might have had certain impact on the lives of the people who were recruited into the study as well as on the lives of those who were not. This impact may be positive or negative. However, the social impact of the KIVAP EPI -PLUS Project on the lives of the community has not been evaluated and this study addresses these apparent deficiencies.

### 1.3 **OBJECTIVE**

Given the problem orientation, the main objective of this study is to evaluate the social impact of the KIVAP EPI-PLUS Project on the lives of the people in Kintampo District.

In furtherance of this objective, the following **research questions** are posed:

- (a) How much vital information was given to subjects prior to KIVAP Project and how much was remembered or recalled after a lapse of time ?
- (b) What are the factors which motivate people to participate in or withdraw from the KIVAP EPI - PLUS Project?
- (c) Did contact with KIVAP Project staff affect the knowledge and health consciousness of communities involved in the KIVAP EPI-PLUS Project ?
- (d) What perceptions do people have of the KIVAP Project?

### 1.4 **HYPOTHESIS**

The hypothesis which will be tested in this study is as follows:

- \* Attendance rate of Child Welfare Clinic (CWC) is expected to increase whilst the Out-Patient Department (OPD) for **children below five years** of age in the Project villages should decrease.

## 1.5 DEFINITION OF KEY CONCEPTS

### Social Impact of the KIVAP EPI-Plus Project

This will mean assessment of the effect of the KIVAP EPI-Plus Project on the social lives of the people as measured by their perceptions on the project, their health consciousness and their utilization of health services.

### Non-Compliance

In this context, this refers to a situation where a mother with a child eligible for enrolment in the project **does all or any** of the following:

- \* refuses to participate in the project/study.
- \* gives consent to participate in the study but withdraws before the end of the study period for reasons other than death of the child .
- \* gives consent to participate in the study, but refuses certain procedures, such as collection of blood samples.

### Health Consciousness

In this study, this refers to health messages given alongside the KIVAP EPI-PLUS Project with respect to immunization against the vaccine- preventable diseases, the recognition of the danger signs of severe acute lower respiratory infections, malaria, and diarrhoeal diseases as well as the management of "hot body" after immunizations, uncomplicated diarrhoeal diseases, simple cough and cough with difficulty in breathing.

## 1.6 METHODS OF DATA COLLECTION

Data collection is important in any study because its analysis will lead to making good or reasonable conclusions and subsequently, valid recommendations.

The Kintampo District in the Brong Ahafo region was chosen for this study because it is the district where the author was posted for field practice. Secondly, it is the district in which the KIVAP EPI-PLUS Project is being implemented . A detailed description of this project and district is found in chapters 2 and 3.

### *Study Villages*

For the purpose of this study eight villages were selected **purposively** using population size, location, ethnohomogeneity and social amenities. Also they were selected because they were easily accessible from Kintampo township (about thirty minutes drive) and health facilities are accessible to them. Besides, most of the inhabitants in these villages speak Brong, Twi , Kassem and Hausa languages which the author and her two graduate research assistants could understand and interpret. Using these criteria, four project villages and four non-project villages were selected. These were matched using one set of the villages from the KIVAP EPI - PLUS project area and another set from the non-project area. The latter were used as a control. Thus the following villages were matched. Babator was matched with Dawadawa. These are two large villages with population above five thousand. They both lie north of the Kintampo township along the Kintampo-Tamale trunk road. The common languages amongst them are Kassem and Hausa . There are

schools in both villages. The inhabitants seek health care from Kintampo District Hospital. Anyima was matched with Kunso. The population in each of these settlements is above eight hundred inhabitants. These two large villages are both off the main Kintampo Tamale Trunk road but are easily accessible. Each of the villages has a small health facility where curative and preventive (promotive) services are carried out. These villages lack electricity but have schools. The inhabitants are Brong. Akora Nkwanta was matched with Nyamebekyere. These villages are small and each has a population of about three hundred inhabitants. The inhabitants of these villages are ethnically heterogeneous. Both villages are accessible and the inhabitants seek health care either from Kintampo District Hospital or from Kunso Health Centre. Both villages lack schools and electricity. Finally, Techira No. 1 was matched with Sogliboi. These two small settlements of about 300 inhabitants are both situated along motorable roads off the main Kintampo-Tamale trunk road. The inhabitants are of Mo origin. There is no electricity in both villages but they both have schools.

### ***Preparation for fieldwork***

When the author went to Kintampo district to start this study, two graduate research assistants and two field workers at the Kintampo Health Research Centre (KHRC) were assigned to help in data collection. These together with the researcher formed the research team for this work. Before the field work, the team went to the eight selected villages to hold discussions with the chiefs and other opinion leaders (the assemblymen and linguists) about the objectives of the research and the level of involvement of the people. For this

purpose, the resident KHRC field worker in each village, was the contact person. After permission had been given by the chiefs and elders for the study, prayers were said for the success of the study. Gong-gong was beaten a day prior to the commencement of the main study.

Together with the two graduate assistants the field protocols (a questionnaire, focus group discussion and in-depth interview guides) were designed. The two field workers who later helped in data collection were trained for one week in the use of the protocols. These protocols were pre-tested after which modifications were made.

### *Type of study*

This study was exploratory in approach and descriptive in content. With the exception of analysis of data on trends in service utilization from health facility **for a year before and a year within the implementation period**, all the other data collected were cross-sectional with respect to time.

### *Methodological Approaches*

The orientation of this study called for the use of qualitative and quantitative methods in data collection. In the **qualitative approach**, focus group discussions (FGDs), and in-depth interviews were used. Structured questionnaire was used for the collection of quantitative data. Structured questionnaire presents only a snap-short imagery of a situation, if it is able to capture it [7]. Thus, to complement the information gathered from the questionnaire, FGDs and in-depth interviews were held with a number of people - young and old men,

nursing mothers and other women. FGDs and in-depth interviews filled what was lacking in the questionnaire because according to Senah [7], the mix of methodologies underscores the importance of triangulation to enhance data validity.

### ***FGDs***

At the community level a total of thirty-two FGDs were held in the four Project villages.

The distribution of FGD's groups were as follows:

- \* Ten groups of mothers (involving sixty people)
- \* Ten groups of fathers or heads of households (eighty people)
- \* Eight groups of teenagers (made up of fifty six respondents).
- \* Four groups of chiefs and opinion leaders (involving twenty people)

Thus, in all two hundred and sixteen people were involved at the community level.

Only the project villages were used in the FGDs because the data needed required being KIVAP EPI-PLUS study subjects.

In Babator and Anyima, nine groups each of FGDs held was made up of three groups of mothers, three groups of fathers or heads of households, two groups of teenagers and a group of the opinion leaders. However, in Techira No.1 and Akora Nkwanta seven groups each were interviewed. These were two groups each of mothers, fathers and teenagers and one group of chiefs and opinion leaders.

The fathers and male teenagers groups were chosen on the bases of "natural selection". These people were found playing ludo and draft underneath big trees in the villages usually late in the afternoons after farming activities. These groups were structured along age lines. The average age of the fathers was thirty five years and the male teenagers nineteen years.

During these times, the mothers and the teenage girls were busy preparing evening meals in the homes, but discussions were held with them. The mothers interviewed, were all subjects of the KIVAP EPI-PLUS Project. They were in two groups - either their children were still active in the project or the children have exited from the project. Their average age was twenty eight years.

In addition, five FGDs were held with thirty-two project staff. These were three groups of field workers with field supervisors (eight people in each group) a group of four supervisors who were mainly responsible for side effect activities and another group made up of three research assistants and the medical officer for the KIVAP clinical team.

Other health staff involved in FGDs were fourteen. They formed three groups - one group of five core members of the District Health Management Team (DHMT); a group made up of the heads of six sub-districts (except Kintampo sub-district) and finally a group made up of the three Community Health Nurses, seconded from the district health level to work with the KIVAP Project on attachment.

Thus, a total of forty FGDs were held involving two hundred and sixty-two people.

At times, one-on-one discussion approach was used in a study. For this study, fifty **in-depth interviews** were held. This involved twenty-two non-compliers, twenty-two compliers (as controls) and five people working with the KIVAP project. The latter were the Director, the officer for transport and logistics, the data analyst, the medical officer for clinical activities, and the financial administrator.

In addition the Senior Medical officer -in-charge of Kintampo district hospital was also interviewed.

All the interactions (FGDs and in-depth interviews) were tape recorded and also written down by the two research assistants who took turns to act as note-takers. The recordings on the tapes were later transcribed and analysed.

#### Limitations in the FGDs data collection

The FGDs had to be carried out in the late afternoons. This was because, the inhabitants were mostly farmers who leave early in the mornings to work on their farms. Since most of the villages did not have electricity, FGDs could not be carried out when it was dark because it was inconvenient for the note-takers.

In addition to this problem, interacting with the mothers and female teenagers was a problem because they had to prepare the family evening meals before nightfall and therefore some were not very keen on the FGDs.

Another methodology used in this study was the **quantitative approach**. To link-up people's knowledge with practices a questionnaire was administered to three hundred and thirty-six mothers in all the eight selected villages.

In the project villages two groups were formed. These were (a) study mothers groups or the groups that had **direct** contact with KIVAP staff. These groups were made up of mothers whose children were made up of mothers whose children were still active in the project at the time of this data collection, and mothers whose children have exited from the KIVAP Project.

The study mothers listings were obtained from the records of KHRC and twenty percent of mothers whose children were still active in the project were chosen using random digit tables. An equal number was chosen for the mothers whose children have exited from the

project. This twenty percent sampling criterion, could only be used for Babator and Anyima (because these villages had many mothers during the data collection period). In Techira No. 1 and Akora Nkwanta, the mothers were less than ten for the active and exited-out-child groups so **all** the study mothers with children were used. In all one hundred and twelve study mothers were involved from all the four project villages. This formed the basis for choosing the control numbers in both the project and non-project villages.

(b) The second group was made up of control mothers in the project villages. They were selected from neighbouring houses where there was no project active nor project exited-out child. In these houses, if any mother had a child aged between 24 - 59 months, then she was interviewed. Otherwise, the next house was chosen. Only one mother was interviewed per house. In all one hundred and twelve mothers were also interviewed.

In the **non-project villages**, another set of control groups of mothers was formed. This consisted of one hundred and twelve mothers who had children aged between 24 - 59 months. With the exception of Kunso, none of the sampled non-project villages had proper enumeration of the houses. The Kunso house-enumeration was done by the Safe-Motherhood project of KHRC.

Thus, in choosing the controls in the non-project villages, the sampling was done by locating the middle of the village and each member of the team going in one direction towards either North, South, East, or West. Team members were to enter every other house i.e. 1st, 3rd, 5th 7th etc. (systematic sampling) and interview mothers whose children fell within the control group criteria.

### Limitations of instruments

Almost all births from June 1995 were registered in these project villages and the choosing of controls was difficult. Interviewers had to comb/search houses to get the Controls and thus, the “neighbouring house context” could not be followed rigidly. Likewise, the systematic sampling used in the non-project villages could not work and team members had to search houses for respondents.

### *Secondary Data*

The secondary data were records from the selected health facilities in the Kintampo District where the inhabitants from the eight selected villages seek health care.

For the determination of Out-Patient-Department(OPD) and Child Welfare Clinic(CWC) attendance rates for children under five years of age, in both the project and non-project villages, records at Kintampo District Hospital, New- Longoro, Kunso, and Anyima Health Centres were used.

Until the latter part of 1994, health services was provided from only two Health facilities namely, Kintampo District Hospital and New-Longoro Health Centre. During that period, Kintampo Hospital served Sogliboi, Nyamebekyere, Dawadawa, Techira No.1, Akora Nkwanta, Babator and Anyima; and records on these villages pertaining to CWC attendance at the hospital were inaccurate, incomplete and did not reflect the true picture of events. For example, attendance books for Sogliboi and Nyamebekyere could not be traced for the entire period from June 1994 to May 1996. Likewise the CWC attendance books for

Babator could not be traced for the period covering June 1994 to January 1995 and those for Anyima were missing for the period June 1994 to November 1994.

The data from consulting room attendance books were slightly better than the CWC records. However, there were few lapses. For example, there were no ages stated for thirty eight patients (twenty two from the project villages and sixteen from non-project villages) who reported at the Kintampo Hospital in consulting room two from June 1994 to 4th July 1994. This posed problems for data analysis and affected overall results of the study.

Calculations for the OPD and CWC attendance rates for **a year before and a year within the implementation period** required knowledge of the size of populations in the various villages for 1995 and 1996. Since the annual growth rate for the district has been 3% since 1984 census, the populations for the various villages were projected using this growth rate. The KIVAP EPI-PLUS Project had information on the populations for the four sampled villages for 1995. This is because before the commencement of the project in 1995, compounds in all the sampled villages were enumerated and given numbers. Similarly, headcount was made to register all members of the households in each compound and these were computerized and updated on weekly basis for the number of new births and child deaths. The population for Kunsu was obtained from the Safe Motherhood Evaluation Project data for 1996. The populations for Sogliboi and Nyamebekyere were obtained from the Kintampo District Onchocerciasis Control Programme data when there was a headcount of family members in 1995. The population for Dawadawa was extrapolated from the 1984 Census figure.

Table 1 represents total populations as well as populations of under 5 years old children for the eight sampled villages.

**Table 1: The Population for Project and Non-Project Villages  
1995/96. (Total and under five years of age)**

1995 Total Pop.	Village	1995 <5 Pop.	1996 Total Pop.	1996 < 5 Pop.
	<b>Project Village</b>			
9957	Babator	1991	10256	2051
5384	Anyima	1077	5546	1109
338	Techira No.	68	348	70
341	Akora Nkwanta	68	361	72
	<b>Total</b>	<b>3204</b>		<b>3302</b>
	<b>Non Project Villages</b>			
6921	Dawadawa	1384	7129	1426
842	Kunsu	168	867	173
321	Sogliboi	64	331	66
342	Nyamebekyere	68	352	70
	<b>Total</b>	<b>1684</b>		<b>1735</b>

Children under five years represent twenty percent of the entire population in each village.

### 1.7 **Field difficulties**

During the initial interactions with the opinion leaders in the villages, it was agreed that the interviews and FGDs be organised in the mornings. This could not work out because most of the people left for their farms early and returned late in the afternoons. To solve this problem, the research team went out very early in the mornings to meet some of the respondents especially the mothers. The late afternoon interviews were, however, convenient for the male respondents. This was because whilst the mothers were usually busy preparing the evening meals, the males were entertaining themselves with ludo and draft.

The missing records books on CWC attendance (1994 - 1996) for most of the sample villages was a problem, because most of the MOH staff at these health facilities claimed they were new and did not know where the records books were. The old staff were traced to their new stations but nothing fruitful came out.

However, all the respondents co-operated and the data collected give a fair reflection of the events in the communities.

## CHAPTER TWO

### KINTAMPO VITAMIN A EPI - PLUS PROJECT

#### (KIVAP EPI - PLUS PROJECT)

To be able to appreciate the scope of this research, it is important to introduce the reader to Kintampo Health Research Centre and the Kintampo Vitamin A EPI - PLUS Project.

Kintampo Health Research Centre (KHRC) is one out of three field research centres under the Health Research Unit (HRU) of the Ministry of Health. KHRC provides a base for field epidemiological and other health research in the forest - savannah transitional ecological and cultural zone of the country. It was set up in collaboration with the Maternal and Child Epidemiology Unit of the London School of Hygiene and Tropical Medicine. The Centre has been engaged in three major research projects, namely:-

- (a) Kintampo Vitamin A (KIVAP) Dietary Interventions Project which aimed at increasing Vitamin A in children's diet. This was carried out with funding from the former Overseas Development Administration (ODA);
- (b) The Ghana Safe Motherhood Evaluation Project which was set up in January 1995 to evaluate the effectiveness of the different components of the National Safe Motherhood Programme. It is being carried out in collaboration with the Population Council of New York, with funding from the World Bank and the Canadian government.
- (c) Kintampo Vitamin A (KIVAP) EPI-PLUS Project was set up in November 1994. It is part of a three country project involving Ghana, India, and Peru, and researchers from the John Hopkins University in the United States of America.

It is this project which the author used for her study. For this reason, a more detailed description of this project is necessary.

## **2.1 Kintampo Vitamin A EPI-PLUS Project**

KIVAP EPI- PLUS Project (now referred to as the project) was a field trial of the effectiveness of giving vitamin A to mothers in the period immediately after birth, and to children at the time they received their immunization. This was a follow up project to one that was carried out in Navrongo from 1989 to 1991, which found that giving Vitamin A supplements to older children substantially improved their health and survival. The KIVAP EPI- PLUS Project covered thirty seven villages in the district and almost all new births since June 1995 in these villages were enrolled in the project. These thirty seven villages were divided into eight zones namely: North, South, Far-South, Central, East, Far-East, West and Far-West. Over three thousand mother-child pairs were recruited into the study. From December 1994 to March 1995, meetings were held by the project staff to brief and introduce the project to the district political administration and the District Assembly (the elected local “parliament”), and relevant organisations in the district including the district health services. Meetings were also held with chiefs and village elders, and the entire population in the study area. These meetings explained the objectives of the project and the background to these activities to be carried out, and the required support from the communities. Individual community meetings were held in each of the villages included in the project. These provided opportunity for relevant issues to be discussed. This was essential to obtaining individual consent from eligible mothers for good compliance in the study/project.

The project was home-based. That is to say, supplements and immunizations to children within the trial were delivered in the homes. Similarly, all the laboratory and clinical examinations were carried out at home by several co-ordinated mobile teams. All field workers making up the various teams for the project were trained and they interacted with the communities. The project had the following teams.

### ***Month Teams***

There were fifteen resident field workers and two floating field workers. These workers visited the various compounds every week, registered new births, conducted monthly interviews with the mothers who registered in the study and prepared the mothers for the other teams. These fifteen field workers covered all the thirty seven villages and their scope of work depended on the sizes of the villages and the distances between them. In addition, there were two supervisors who went out every morning to supervise the field workers. A graduate research assistant was the co-ordinator for these teams.

### ***Dosing teams***

At the peak of the project activities, there were four teams but at the time of this research there were only two teams. Each team was made up of one supervisor, a field worker, Community Health Nurse (CHN) and a female orderly. The CHN and the orderly were Ministry of Health (MOH) staff. This team was responsible for interviewing mothers about their children's illness for the past twenty four hours. The MOH staff was responsible for administering the immunizations to the children when the children were due for immunization as well as giving health education messages to the mothers. Growth Monitoring was also carried out. Anthropometric measurements of the children were taken

at six weeks, six months, nine months and at one year of age. The team members gave capsules (Vitamin A & placebo) to the study mother-child pairs. The team was also responsible for collecting breast milk samples from some mothers in the study.

### ***Side-Effect Teams***

These teams were four at the peak of the project's activities but two teams during the research period. The team members followed up the children for forty-eight hours after dosing them with the capsules.

### ***Laboratory Team***

This team was made up of one supervisor and a field worker. These workers took blood samples from a sub-sample of children within the entire study population.

The dosing, side effect and the laboratory teams had two office-based staff who acted as relieving officers. There was one graduate co-ordinator for these teams.

### ***Clinical Team***

It was a two-member team made of a medical officer and a supervisor. They visited and managed all children who experienced any side effect from the Vitamin A capsules that were administered. The clinical team visited six out of the eight zones every week.

This project (KIVAP EPI- PLUS Project) was funded and co-ordinated by USAID and the World Health Organisation, respectively.

## CHAPTER THREE

### THE KINTAMPO DISTRICT

#### 3.1 **Location**

The Kintampo District lies in the middle belt of Ghana. It is about 500 kilometres from Accra the national capital and 160 kilometres from Sunyani, the Brong Ahafo regional capital (refer Map 1).

#### 3.2 ***Geographical Features***

The Kintampo District is one of the thirteen districts in the Brong Ahafo Region of Ghana. It was created in 1988 out of the existing Nkoranza and Wenchi Districts. It is also one of the largest districts in Brong Ahafo Region with a total area of 7162 sq. km. It forms part of the Kwahu - Wenchi range. Geographically, the district is bounded to the North by the Black Volta, to the west by the Wenchi District, to the East by the Atebubu District and to the South and South East by Techiman and Nkoranza Districts respectively. The southern part is hilly whilst flat plains characterise the northern part. The land is well drained with several streams, most of which are perennial. The vegetation is mainly of the forest-savannah transition zone. There are two rainy seasons which influence the farming seasons. The major season starts from March to June and the minor from mid-July to November.

#### 3.3 ***Economic Activities***

Subsistence farming is the main occupation of the people. Yam, maize, legumes, grains, vegetables and tobacco are the main food and cash crops produced for consumption and for sale.

Poultry and livestock are kept for domestic purposes. However, interest in small scale commercial poultry and livestock farming is picking up steadily in the district. In addition, there is also a large number of civil/public servants (mainly teachers) and small-scale traders.

### 3.4 *Population*

The population of the district is estimated as 148,802 with a density of 19.1/sq. km. (Population was projected from the 1984 census). The Annual Growth Rate is 3%.

The Brong and the Mo are the dominant ethnic groups in the district. A large immigrant population of Dagomba, Dagarba, and Konkomba have also settled in the district as farmers. Dangbe and Ewe speaking peoples have settled mainly along the banks of the Volta for the purpose of fishing.

The District is made up of about one hundred and fifty settlements with numerous scattered hamlets. The settlements are mainly concentrated in the southern part along the Tamale, and Wa trunk roads. The district is demarcated in seven sub districts with the following populations as shown in Table 2 .

Table 2: **Population distribution per sub-districts**

District	Population
Kintampo	48,784
Dawadawa	23,148
New-Longoro	20,417
Kunso/Apesika	16,001
Jema	15,904
Amoma	13,241
Anyima	11,307
<b>Total</b>	<b>148,802</b>

**Source:** 1997 Projections using 1984 census population.

### 3.5 *Transport and Communication*

Transport and communication network is fairly adequate. The Kumasi - Tamale trunk road runs through the district from the south to the north. The district is linked to other parts of the country by telephone, radio, television, fax (at the research centre) and motorola (at the regional medical stores). There are postal services at Kintampo, the district capital, and at New - Longoro.



### 3.6 *Housing and Sanitation*

There are approximately 8,500 houses in the district of which twenty five percent (2125) are found in Kintampo township. About ninety percent of the houses in Kintampo are of the type A - cement block housing roofed with galvanised iron/aluminium roofing. Most of the houses (seventy percent) in the rural communities are type C - built of either earth block or wattle and sub-roofed with thatch.

The entire district has no access to conventional water supply. Reliance has therefore been on rain catchment (2%), bore holes (5%), hand dug wells (10%), dams/ponds (13%), spring water (20%), rivers and streams (50%). Toilet facilities range from ventilated improved pit latrines (VIPs), pit latrines to bucket type latrines. According to the 1996 District Annual Health Report, the Kintampo township has only seven VIPs with only a few individual houses having their own latrines of the bucket type. Seventy percent (70%) of rural facilities are pit latrines. Indiscriminate defecation is still practised. Refuse disposed sites have been encroached upon for residential purposes. Open dumping is mainly practised.

### 3.7 *Education*

There are one hundred and twenty one primary schools, forty two junior secondary schools and two senior secondary schools in the district. There are also a few day nurseries in the Kintampo township.

#### Kintampo Rural Health Training School:

This training school has been responsible for the production of medical assistants, technical officers (separate for disease control and for nutrition) as well as the production of medical field workers.

With the focus now on a multipurpose field worker (MPFW), the emphasis is on the production of medical assistants with public health orientation and community health officers trained for challenges in both disease control and nutrition. The new programme was initiated in 1993 and the first batch of this cadre of health staff graduated in September 1996.

### 3.8 *District Health Services*

The district has been zoned into seven sub-districts, each of which is provided with both curative and preventive services. These are Kintampo, Anyima, Jema, New-Longoro, Dawadawa, Kunsu/Apesika and Amoma sub-districts (refer Map 2 ).

Until the latter part of 1994, health services was provided from two health facilities (Kintampo and New-Longoro).

The Kintampo facility is now a district hospital which operates 24 hours but the brisk hours are from 8:00 a.m. to 5:30 p.m. daily and the peak days for consultation are

Wednesdays and Thursdays. With the exception of Kintampo health facility, all the others are manned by staff-midwives (formally referred to as enrolled nurse/midwives).

There are no mission health facilities in the district. However, there are two private clinics in Kintampo - one manned by a retired medical assistant and the other by a retired nurse, as well as four private maternity houses - one in Jema, two in Apesika and one in Kintampo township.

Out-reach services are carried out from the health facilities in each sub-district to selected communities within their catchment area. In all, ninety one communities out of one hundred and fifty (60.7%) are provided with out-reach services. These services include growth monitoring, immunization, health/ nutritional education (including environmental and family planning) and common ailment treatment.

In 1990, village health committees (VHCs) were formed in ninety one villages in the district, but these have been defunct. There is the need to re-vitalise them.

Records from the Brong Ahafo regional pharmacist's outfit shows that there are thirty seven registered chemical shops in the entire Kintampo district of which thirty three are operational. There are no pharmacy shops in the district. Chemical shops are operated by someone who is barely literate and should be able to offer first aid whereas pharmacy shops are supposed to run by a person of good character, and should hold a degree, diploma or other higher qualification approved by the drug and pharmacy board.

Officially, in the four selected project villages for this research, only Babator is known to have four operational chemical shops and in the four selected non- project villages, Dawadawa has two and Kunsu has one. However, what is actually happening on the

ground is very different because in all the eight villages chosen for this research study, each village had a source where drugs could be purchased. These are facilities one may term "stationary drug peddler/shop". The dealers buy drugs and store them in their rooms and other inhabitants then buy from them. These were the places some of the mothers interviewed referred to as "drug store". There were also the usual roaming about drug peddlers who move from village to village to carry out their activities. They are indeed "ambulant drug stores" as referred to by Senah [7]. For the purpose of this research, all such people will be grouped together as chemical or drug stores and drug peddlers.

### **3.9 *District Health Administration***

There is a district health management team (DHMT) office in Kintampo, the district capital. The District Director of Health Services (DDHS) and other core members form the DHMT which sees to the administration of health services in the district. This involves supervisory and monitory activities.

The Kintampo Health District has a cordial relationship with the District Assembly. There is the existence of the social services sub-committee, of which the DDHS is an ex-officio member.

### **3.10 *Observations and Suggestions***

Teamwork prevails at the district and this should be maintained for others, especially visitors to the district, to learn from this rich experience.

The district even though it turns out a lot of medical assistants from the Kintampo Rural Health Training School, does not have enough medical assistants to help in the health

delivery system. The attention of the DDHS and the entire DHMT was drawn to the manpower situation which unfortunately is not a local problem.

### 3.11 *Conclusion*

From the description above, one realises the rural nature of Kintampo District with a relatively small population. It has few amenities such as schools and accessible roads. However, a large proportion of the district lacks potable water and electricity. These deficiencies affect the socio-economic status of the people.

## CHAPTER FOUR

### DATA ANALYSIS

In this chapter both qualitative and quantitative data are analyzed against the background to the objective of the study. As stated earlier, the main objective of this study is to evaluate the social impact of the KIVAP EPI-PLUS Project on the lives of the people in Kintampo District.

The **research questions** are:

- (a) How much vital information was given to subjects prior to KIVAP Project and how much was remembered or recalled after a lapse of time ?
- (b) What are the factors which motivate people to participate in or withdraw from the KIVAP EPI - PLUS Project?
- (c) Did contact with KIVAP Project staff affect the knowledge and health consciousness of communities involved in the KIVAP EPI-PLUS Project ?
- (d) What perceptions do people have of the KIVAP Project?

The analysis begins with an attempt to find out how much information people could recall on the KIVAP EPI- PLUS Project.

#### 4.1 Recall

The success of any community- based study or project, depends on how much knowledge people retain on the project. Before the commencement of the KIVAP EPI-PLUS Project, community meetings were held in all the selected thirty-seven villages. Individual household meetings were also held to explain the project's objectives and activities. The

importance of Vitamin A Supplementation and what the study mothers were expected to do in the project were also discussed. After two years of KIVAP intervention, the crucial question is **how much information** is being retained?

Focus group discussions held indicated that the people could remember only the normal or usual activities that were routinely carried out by the resident field workers - the dosing, side-effect and clinical teams. This was because these team members visited the community quite often.

The study mothers also remembered their **role** for the success of the project. The majority of study mothers interviewed said they had to make time available in the mornings to receive the project staff on the days their children were due for visits.

The study again sought to examine how much knowledge parents had of possible **side-effects of Vitamin A Supplementation**. The majority of study mothers and the fathers interviewed could remember that Vitamin A made the children grow healthy and strong but could not remember the side-effects of Vitamin A Supplementation even though they were told about the various side-effects before the commencement of the KIVAP EPI-PLUS Project. It appears that their inability to recall may be attributed to the fact that Vitamin A side-effects did not occur very often.

Data on side-effects at KHRC showed that at the time of data collection, only three out of three thousand and fifty-two registered children (representing 0.10%) had developed genuine side-effects of Vitamin A of either bulging fontanel or vomiting. This was confirmed by the project medical officer. According to him there were other conditions of

febrile malaria and anorexia reported by some field workers as “side-effects” but these were not side-effects.

Reasons for specific **scientific procedures** that were performed in the KIVAP project were poorly recalled. The majority of respondents did not remember the reasons for the collection of breast milk and blood samples from a sub-set of the study population in the KIVAP EPI - PLUS Project. The respondents were worried why the results have not been communicated back to them.

However, two mothers, one in Anyima and one in Babator could connect investigations of Vitamin A concentration in breast-milk and blood samples with the procedures.

The Anyima mother said:

*" They take the samples both breast-milk and blood, to check whether the Vitamin A medicine they gave to the mother or child is working."*

#### 4.1.1 *Discussions*

In achieving their roles for the successful implementation of KIVAP EPI-PLUS project, the mothers had to make a lot of sacrifice. Dealing with a similar phenomenon in Britain, Williams and Anderson [8] observed:

“It is untrue to assume that money is the only thing consumers have to give up in order to obtain a good or service. Consumers may additionally have to give up other things that they value such as time, comfort and convenience”.

In the communities studied, most of the mothers were farmers who needed to work on their farms early mornings before it became hot by mid-day. The usual practice was for them to leave their homes for their farms around 5.30a.m. The project staff, however,

could only get to the villages around 7.30a.m. There was, therefore, the necessity to arrive at a compromise in fixing an interaction time more congenial to the study mothers and the project staff. In their study, Williams and Anderson [8] suggested that the appropriate time with regards to rural activities be in the evenings or weekends. However, this suggestion meets with pragmatic difficulties in the area of this study. This is because first, electricity is available in only two out of the thirty seven villages of the KIVAP Project and the project staff could not have worked late evenings. Secondly, the study mothers would not have made time because of involvement with household chores after returning from farms.

Ability to recall possible side-effects of Vitamin A Supplementation was necessary for this project since the study mothers were given enough information on the signs of possible side-effects of Vitamin A supplementation. The mothers inability to remember the side-effects of Vitamin A could have affected compliance. This is because in the event of manifestation of side effects, they would not have known how to manage it.

Nazzar and others [6] observed that community education especially concerning health issues must be openly presented at durbars and publicly debated and openly endorsed by the traditional and the opinion leaders. This is essential especially when "scientific procedures" are to be performed on a sub-set of the study population. First, it dispels fears and rumours about the scientific procedure and secondly , continued discussions among the members of the study group could have informed even those not in the sub-set and their neighbours.

In addition there should be regular meetings and continuous dialogue with the selected sub-set subjects to re-inform and educate them about the essence of scientific procedures [4].

When such meetings and dialogues are lacking, then the study subjects may tend to forget why the procedure is being undertaken.

The lesson here is that, for any project or programme to be successful in any set-up, there is the need to have “appropriate time” for the subjects in order to carry out the objectives of the project or programme especially concerning scientific manipulations.

Prior information must be given to people about researches and projects. This was necessary and essential but continuing or regular education of the study population is a must if one expects them not to forget the messages given.

#### **4.2 Compliance with procedures within the Project.**

People’s participation in events or activities depend on their own personal reasons, often influenced by peer pressure and societal demands. In this study, it was found that a total number of twenty two people were non-compliant with processes within the KIVAP EPI-PLUS Project. This represents 0.72%(22 out of 3052) and may seem quite insignificant. But the reasons for becoming non-compliant need not be overlooked since such reasons will help re-shape future KHRC projects.

The non-compliers were in three categories:

- . Those who totally refused to be part of the project;
- . Those who registered initially with the project but refused further participation with reasons other than death of the study child;
- . Those who took part in all the project activities except allowing the project staff to take blood sample from their children for analysis at a particular point within the study period.

These twenty two non-compliers were scattered throughout the entire study area, but they were all interviewed. As a control, people who complied with all the project's activities including allowing the project staff to take blood samples from their children were also interviewed in the same villages as the non compliants.

The twenty-two non-compliers stated they were present when the project staff came to their compounds to discuss the objectives and activities of the Vitamin A Project. They knew when to expect the project staff for the administration of capsules and immunizations. They knew some participants gave their breast-milk samples and blood samples of their children to the project staff.

However, the majority of them ( 20 out of 22 i.e. 90.0%) did not know why the compliants did so. As observed by one respondent in Amoma;

*"I do not know why they take blood samples from children but I know the Vitamin A people cannot do anything bad with it."*

They were aware their children will be treated by the project's medical officer when they developed any side-effects from the capsules. They indicated there were opportunities to

ask questions about the project during the community meetings or anytime during the project period. However, there are reasons why people became non-compliant in the projects. Those who **refused total participation** were ten. Three of them said their husbands were against their participation. To buttress this point, one respondent in Anyima said:

*" Oh it is not me o o, but my husband. Because he did not approve, I could not have allowed myself and the child to be registered with your Project."*

Another respondent refused with the reason that certain traditional rites were supposed to be performed before the child could be injected (immunized). She continued thus:

*"Now the way is clear because all rites have been performed. My child can participate in whatever you want to do."*

A mother in Weila said when the project staff came to her to register the child, the latter was ill and they were using traditional medicine and they could not combine that treatment with "**Obroni aduro**" (white man's medicine.)

Two out of the ten respondents said they refused to be part of the project because they knew they would not be available throughout the entire study period.

The project message explaining the importance of Vitamin A was wrongly perceived by two mothers in Jema, because a family friend who had travelled from La Cote d'Ivoire to pay them a visit confused them. One of them lamented:

*"Our friend has deceived us. This your medicine is making the children grow well and healthy contrary to our friend's advice that if the children took the medicine they would be infertile in future. Come, come, now and let our children be enrolled with your Project."*

However, a thirty- five year old mother of six children of which four are alive had genuine reasons for refusing to be part of the project.

She said:

*"I am a mother with four living children including this **only boy**. I lost my two previous sons (4th and 5th children) after they had been given injections by nurses few weeks after their births. Because of that, my husband and I refused to register this our son lest we lose him also the same way."*

These were the responses of the women, but what about the husbands?

First, a husband in Anyima who did not allow the wife and the child to be registered gave his reason as religious . Another husband from Apesika said his first wife and child were registered with some project years ago but they became non-compliant, and so he felt there was no need allowing this second wife and child to be in the EPI-Plus Project because he could not guarantee full compliance. Another husband observed that usually children get ill from birth until five years of age. Since the EPI-Plus was to follow any child for only the first year of life, there was no need to participate. In his words:

*" Afterall, my child will be ill after the first year of life and where will the Project Staff be to cater for him?"*

The next group of non-compliants were those who registered with the project **but stopped along the way**. They were four in number. Three mothers said their husbands told them to discontinue. In Nante, another mother had to travel outside the district to care for an ailing father and therefore could not participate fully in the project.

Blood, whether it is of animal or human beings, is significant in social and religious realms. This section deals with respondents **who refused blood sampling of their children**. Taking blood samples from study children for analysis involved a sub-set of the study population. Out of six hundred and five persons, only eight (i.e. 1.3%) refused to comply with this procedure at the time of data collection.

A mother in Apesika said she refused that procedure because the husband was not around and she could not decide alone. Another mother in Ampoma said she belonged to the Jehovah Witness Sect and therefore refused that procedure on religious grounds.

In Babator, a registrant refused this procedure because:

*"The child is a god child and until the child was shaven, no metallic object including needles, was supposed to be used on him. Now the blood can be taken if you are ready because all necessary traditional rites have been completed."*

The other remaining five mothers refused because of their children's condition at the time of the procedure. They claimed their children were anaemic and weak.

As a control, twenty two other **participants who complied** with all the KIVAP EPI-Plus activities including blood sample procedures were interviewed.

They all complied because they believed Vitamin A would help their children to grow well. A mother in Apesika said:

*"Vitamin A has helped this child and she does not get sick often like my other previous children. Above all she was able to walk at eight months of life instead of fourteen months like her older brothers and sisters."*

The majority of mothers could not offer any reason why other participants refused to comply with certain procedures. As one mother in Apesika put it:

*"Everybody and her mind but why others should refuse I cannot tell or imagine."*

Another participant in Ampoma, aged forty years, and a mother of eleven children said:

*"I am a member of the Jehovah Witness Sect. Because the Vitamin A people said they were going to look into the blood for illnesses and other things, I agreed to offer my child's blood. If they were to give blood to the child, then I would have refused. There is a difference between "take blood away" and "give blood", so I cannot understand why certain people of our Sect should refuse."*

However, a mother in Amoma felt some people refused the blood sample procedures because they feared their children would not be able to walk. This was because the blood was taken from the heel of the child. But she said she complied because *"I know this procedure will not affect my child"*.

To buttress the above fact, another thirty eight year old mother of five in Jema said:

*"If people from hospital or organisation like yours are taking blood samples from children, how can the children die? Why then should others refuse to comply?"*

On the question posed to this group why they thought some people became non-compliant especially when they had allowed their children's blood samples to be taken for analysis, one man in Anyima speaking in English said: *"I think such people have primitive ideas."*

Another man also contributing in English said:

*"Some husbands are afraid that maybe the children's blood may contain HIV which will indicate that the fathers are infected with the deadly AIDS disease. Otherwise, why should people refuse such a procedure?"*

#### 4.2.1 *Discussion*

From the various reasons given by the respondents, it is clear that the position and decision of the head of household or husband is essential in family matters even including the health of a child and the fate of other family members.

For instance, one woman who was a grandmother to a non-compliant study child said:

*"My grandson is two years and yet cannot even walk. How I wish I have powers to let the Vitamin A people take over and look after him. I wish my son-in-law was in. I would have talked to him to change his decision."*

Fayorsey [9] and others found that despite the current changes in female roles in Ghana, Kasena Nankana women are subordinate to their male counterparts. Women if married and residing with their husbands, cannot take independent decisions especially concerning family and reproductive issues. This finding is not different from what pertains in most Ghanaian societies, like the villages in the KIVAP EPI - PLUS Project. Thus, Parry [10] observed that those who hold traditional authority in the family or compounds should be involved in all decision making processes.

Traditional ceremonies or customary rites that need to be performed as a sign of purity are viewed by the ordinary Ghanaian as mandatory. There is a belief that when such rites are ignored, calamity will befall the particular family. If a child was begotten by the intercession of the gods, such a "god-child" needs some purification before he becomes a "normal" child.

Kloos [11] working in Ethiopia suggested that to improve people's utilization of services and procedures there is the need for the removal of socio cultural barriers.

However, Parry [9] observed that where culture is concerned, the health worker has to come to grips with a subject much wider than a few traditional habits relating to disease and there is the need to respect people's culture and beliefs by society.

The participants who did not allow the project staff to take their children's blood sample for analysis should not be regarded as "primitive" even though their actions may seem so to others. Parry's observations is that any health programme, however beneficial it may appear to be, may fail if it is seen to be challenging beliefs or practices that are central to the culture of the society concerned. This can be inferred from Shakespeare's thought that there is a method in every madness.

Extended family relations are integral part of the Ghanaian society. If a child does not cater for his parents in their old age, it is believed that he will be treated the same way when he grows old by his children. So, abandoning a project to cater for an ailing, frail father may be viewed as normal practice and even as a duty and a must.

Religion is a powerful influence on the lives of people. The beliefs and dogma of a particular religion may influence the health seeking behaviour of its persuaders. The Jehovah Witness Sect does not supposedly allow its worshippers to accept blood donation and that was why one mother refused the blood sampling process.

In conclusion, one can say, that the factors which influence people to either participate or refuse participation in projects or procedures do vary but some of these can be linked to religion, culture and belief as well as the decision making patterns in the system.

### 4.3 Perceptions on Projects

Usually one predicts future occurrences from present situations. Since KHRC would carry out more projects in the future, it was found necessary to assess reactions from the communities, the project staff themselves and from other health staff on the project.

Many **benefits** of the KIVAP EPI-PLUS Project were perceived by the people. These included the numbering of houses in the villages. One member of the opinion leaders group in Techira No. 1 said:

*"The Vitamin A people have numbered our compounds. Now we can know when our village is expanding by the number of new houses which have no numbers on them"*

The project also offered employment to sixty-eight local inhabitants. As one male teenager remarked: *"Some of our friends now have jobs. We wish the project will expand to offer all of us jobs."*

Others were appreciative of the door-to door services of the KIVAP project staff and anticipated that the Ministry of Health (MOH) would continue in the same way.

The community felt that the KIVAP Project offered good services.

A male teenager in Babator remarked:

*"Because of Vitamin A, now the children are not getting ill. Before this project we often hear our mothers complaining that our little brothers and sisters were getting diarrhoea, convulsion and other illnesses"*.

The Opinion Leaders group in Anyima attributed the decrease in illnesses both in quantity and magnitude/severity to the benefits of the KIVAP project. The head of New -Longoro sub-district health centre remarked:

*"Before this KIVAP EPI-Plus Project we used to get many cases of diarrhoea and pneumonia, but now such cases are few and not so severe"*.

Generally **communication** is an important element in the success of any project. The majority of people interviewed claimed that if prior information on outreach services were given, mothers will patronise health services.

As put by a man in Babator:

*“ Money may be necessary but the most important thing for our mothers to attend outreach clinic is information. If the nurses give notice that they would be coming, the mothers would go. For afterall what is money?”*

Prior information as to where to meet is very important. In the KIVAP project, the resident field workers in the villages reminded the study mothers of their scheduled appointments. The KIVAP project also provided medical care in the homes and drugs were given free in six out of eight zones.

Some of the project staff felt mothers might not patronise the MOH outreach services when the project comes to an end because of the user-fees that the mothers will have to pay when they visit out-reach clinics.

But one CHN working with the project observed:

*"I think everything good should be paid for. Once it is free, people do not value it and that is why we sometimes have to visit a particular study compound many times before we get some study mothers to carry out KIVAP activities."*

However, the majority of community members interviewed ( 87.5%) perceived that the Ministry of Health Staff should be able to take over the KIVAP project. They proposed that the KIVAP EPI-PLUS Project staff should work more closely with the MOH staff, such that there would be no period when the mothers and children would not be attended to.

Most of the respondents especially at the community level interviewed, said the government should support either the KIVAP or MOH staff to continue with Vitamin A Supplementation to children at the time they receive their immunizations and this should be extended to all parts of the country.

On the **relationship with other health personnel** in the district, core members of the District Health Management Team (DHMT) felt they should be consulted regularly for all future KHRC Projects in order to improve the quality of health services. They suggested that progress of any KIVAP future studies should also be communicated to the DHMT regularly at least on quarterly basis. This would help solve unforeseen problems at the field sites in order to achieve full compliance.

#### 4.3.1 *Discussion*

Health services delivered close to the people, that is, door- to -door services is very beneficial to communities. This finding is supported by the studies of Habib and Vaughan[12] in Iraq in which they indicated that the most important factors affecting utilization were the level of perceived sickness in the household and the distance to the nearest health centre or out- reach clinic. O'Connor[13] working in eastern Bolivia also confirmed that at the community level, accessibility was positively associated with use. Those advocating for home- to -home services relate it to time and cost. Charles and Webb[14] observed that the general element of cost will depend upon the length of time the patient is likely to spend in hospital. If mothers are reminded of health team visits and they gather together to wait for the health personnel, then they would save time. Members of the village health committee could remind mothers of such visits just like the KIVAP field workers.

Another form of communication could be the gong- gong beating in our Ghanaian village set-up. This is equivalent to utilizing the spoken word (radio and TV) which is vital for disseminating the message of health programmes[15].

As observed by one woman in Akora Nkwanta:

*“The nurses should improve upon their monthly out-reach services. They should send messages round that they would be coming. When the gong-gong is beaten all women would obey the chief and therefore attend.”*

All these efforts will help since the government cannot provide enough staff in all situations as observed by Azevedo and others in the Cameroon[16].

A study by Mwabu[17] in Kenya showed that a household 's response to an illness depends among other things on its perceptions about the illness and on its ability to afford a visit and that people find it difficult to leave their homes or their farms to seek medical care. This was because of the loss of income for the day or the inability to find someone to cater for the rest of the family when the mother was away with the sick person. Habib and Vaughan[12], however stated that household income did not appear to be an important factor when seeking health service. Waddington and Enyimayew[18] observed in Ashanti Akim district of Ghana that when user fees are introduced, there is an initial downward trend in the attendance rates of patients seeking health care. However, people get used to the situation and utilization patterns return to normal within a short period.

Cochrane and Fisher [19] summarized these observations in this way:

“If we care to listen to our patients and learn what kind of health services they would like at a local level then we shall be making progress.”

#### 4.4 Health Consciousness

A person's behaviour and attitude to issues or problems can be influenced by the people he interacts with. During home visits which involved the administration of capsules and vaccines to the mothers and children, the mothers were told which diseases the vaccines were protecting their children from by the end of the first year of life.

They were also advised on how to manage “hot body” (that is, fever of the children after immunizations) how to treat uncomplicated diarrhoeal diseases and when to report to health facilities with other ailments that they could not manage in the home.

In the study an attempt was made to find out the knowledge and practices of study mothers and these were compared to mothers who were chosen as controls either in the project and non project villages.

The data were obtained from two sources:

First, knowledge and practices of the mothers interviewed. These were analyzed using EPI-INFO to find whether there was any statistically significant difference between the groups. Secondly, the stated hypothesis was tested to find how contact with project staff has affected the people's health consciousness and their level of utilization of health services.

Initial comparison was made among the study mothers, that is, those who were still active with the project at the time of data collection for this research, and those who have exited from the project. It was found that their educational profile, their level of knowledge about the vaccine-preventable diseases, how they managed " hot body" after immunizations, how they treat diarrhoeal diseases and manage simple cough or cough with breathing difficulty were similar ( P value >0.05) in all the above variables.

These two groups were therefore considered as a single group (53+59 = 112) and referred to as the "study mothers" group or the group that had **direct** contact with the project staff.

The study mothers group was compared to 112 control mothers in the selected project villages and another 112 control mothers in the selected non-project villages.

These control mothers had children aged between 24 and 59 months but were not registered with the KIVAP EPI-PLUS Project.

The comparison was done for:

- \*study mothers versus control mothers in non- project villages.
- \*study mothers versus control mothers in project villages.
- \*control mothers in project villages versus control mothers in Non Project villages.

Table 3 below indicates the educational profile of all three hundred and thirty six mothers.

**Table 3: P Values for Educational Level**

<b>Educational Level</b>	<b>study mothers vrs controls in non- project villages</b>	<b>study mothers vrs controls in project villages</b>	<b>control in project villages vrs controls in non project villages</b>
No Education	0.72	0.77	0.55
Primary Education	0.64	0.10	0.25
Middle/Continuation school	0.72	0.47	0.88

The educational profile of these mothers were found to be similar (P Value >0.05).

Therefore, it was concluded that differences, if any, found in their health consciousness could not be attributed to their educational background, but to chance variations or other factors.

On the knowledge of these vaccine preventable disease, the results of the mothers who spontaneously responded “yes” to the vaccine preventable diseases, were analysed and all the other responses like *prompt yes, don't know*, etc. were considered as “negative.”

These results are represented by Tables 4 and 5.

Table 4: P Values for variables by vaccine preventable diseases for 'spontaneous yes' responses.

Vaccine Preventable Diseases	study mothers vrs controls in non project villages	study mothers vrs control in project villages	controls in project villages vrs controls in non project villages
TB	0.00*	1.00	0.00*
Polio	0.00*	0.00*	0.43
Diphtheria	0.65	0.56	0.31
Tetanus	1.00	0.23	0.23
Whooping Cough	0.00*	0.88	0.00*
Measles	0.00*	0.88	0.00*
Yellow Fever	0.01*	0.43	0.07

\*significance at 0.05 level

Table 5: Spontaneous "Yes" Responses Only for the Number of Respondents

Vaccine Preventable Diseases	study mothers (n=112)	control in project villages (n=112)	controls in non project villages (n=112)
TB	46	46	14
Polio	1	17	13
Diphtheria	2	1	3
Tetanus	26	34	36
Whooping Cough	52	59	27
Measles	83	82	52
Yellow Fever	28	23	13

From Tables 4 and 5, it was clear that a high proportion of mothers knew measles, whooping cough, tuberculosis, tetanus and to some extent yellow fever as the diseases their children could be protected from by the first year of life, if their children were immunized. However, this level of knowledge on the part of the mothers varied from group to group for each of the above variables.

All the mothers shared similar views/knowledge about tetanus. This probably could be attributed to their past experiences from farming activities and occasional injuries which might have been managed with anti-tetanus toxoid at various health facilities.

The mothers in the KIVAP Project villages ( i.e. both the study mothers and the controls mothers ) have similar knowledge about tuberculosis, whooping cough, measles, diphtheria and yellow fever and more mothers in these groups responded "yes" spontaneously than control mothers in the non-project villages.

The level of knowledge about diphtheria was similar in all the three groups of mothers but the total number of respondents were few. Only six out of the entire three hundred and thirty six that is (1.8%) knew that diphtheria could be prevented by the first year of life when children are immunized. This is not so surprising because diphtheria is a very rare disease seen even by health workers.

The level of knowledge on poliomyelitis was similar in the two control groups and study mothers had less knowledge on poliomyelitis than the mothers in the other two control groups.

The level of knowledge on poliomyelitis of all these mothers interviewed was 9.2%(that is 31 out of 336). This finding appears strange as there has been a lot of nationwide health education and campaigns aimed at polio eradication in the country by the year 2000. This is unacceptable and the District Health authorities need to strengthen its health educational programme to improve level of knowledge. However, knowledge alone cannot be used as a criterion of judgement. A person's behaviour or practice in health issues is very important.

For the comparison of the health consciousness of these three categories of mothers, the management of certain conditions and ailments were considered. Tables 6 and 7 showed the details of this analysis.

Table 6: P values for the management and knowledge of certain ailments

Management of disease	study mothers vrs controls in project villages	study mothers vrs controls in project villages	controls proj. Village vrs controls in non-proj villages
<b>HOTBODY</b>			
Drugs from EPI facilities	0.06	0.47	0.25
Drugs from drug stores	0.01*	0.01*	0.18
<b>DIARRHOEA MANAGEMENT AND KNOWLEDGE</b>			
ORS	0.00*	0.00*	0.36
Traditional medicine	0.03*	0.00*	0.29
Drugs from drugs store	0.52	0.33	0.11
Send to health facility	0.01*	0.12	0.31
Knowing ORS is used for diarrhoea	0.00*	0.06	0.00*
<b>SIMPLE COUGH</b>			
Drugs from drug store	0.27	0.01*	0.14
Traditional medicine	0.31	0.20	0.78
Combination of Orthodox and Trad. Med.	0.00*	0.00*	0.10
Send to health facility	0.01*	0.01*	1.00
<b>COUGH WITH DIFFICULTY IN BREATHING</b>			
Drugs from drug stores	0.15	0.27	0.01*
Traditional treatment	0.25	0.18	0.18
Send to health facility	0.03*	1.00	0.03*

\*Significance at 0.05 level



**Table 7: Management of ailments by the various mothers**

Ailments	study mothers (n=112)	controls in proj. Villages (n=112)	controls in non-proj. Villages (n=112)
<b>HOTBODY</b>			
Drugs from EPI facilities	96	92	85
Drugs from drug stores	1	10	9
Traditional Medicines	0	0	2
Send to health facility	0	0	4
<b>DIARRHOEA MANAGEMENT AND KNOWLEDGE</b>			
ORS	38	20	15
Drugs from drugs store	34	57	50
Traditional Medicine	11	7	11
Send to health facility	11	19	25
Knowing ORS is used for diarrhoea	108	101	84
<b>SIMPLE COUGH</b>			
Drugs from drug store	38	57	46
Traditional medicine	3	7	6
Combination of Orthodox and Trad. Med.	35	2	7
Send to health facility	7	19	19
<b>COUGH WITH DIFFICULTY IN BREATHING</b>			
Drugs from drug stores	14	9	22
Traditional treatment	5	10	2
Send to health facility	90	90	76

In the management of hotbody, that is fever after immunization, it was realized from Tables 6 and 7, that the mothers in all three groups similarly utilized facilities in the Expanded Programme of Immunization (EPI) for the management of their children who developed "hot body" after immunization, either by getting drugs from the KIVAP Project staff or from nurses on outreach clinics. A higher proportion of control mothers (9 out of 112) in the non project villages and (10 out of 112) in the project villages bought drugs from chemical shops and drug peddlers to manage "hot body" conditions as compared to only one (1 out of 112) study mother.

Diarrhoeal diseases are found often in children under five years of life and the management of simple forms of diarrhoea in the homes is essential. The emphasis in diarrhoeal diseases management has been the promotion of Oral Rehydration Salts (ORS) and the avoidance of other drugs.

The project offered free ORS in sachets to the study mother whose children had diarrhoea whereas control mothers could purchase these from chemical shops/drugs peddlers or from health facilities.

More than 87% ( i.e. 293 out of 336) of mothers interviewed in the three categories knew that ORS is used to control diarrhoeal diseases. The study mothers and control mothers in the project villages had similar knowledge about the use of ORS. However, the study mothers and the control mothers in the project villages had significantly more knowledge about the use of ORS than the control mothers in the non-project villages. However, knowledge is different from practices because all these mothers managed diarrhoeal diseases differently.

Seventy three of all the mothers interviewed (73 out of 336 i.e. 21.7%) used ORS to manage diarrhoeal diseases.

In this research, one hundred and forty one of all the mothers (141 out of 336 i.e. 42.0%) bought other drugs apart from ORS from chemical shops or drug peddlers to manage diarrhoeal diseases. The drugs they bought varied from Flagyl (Metronidazole), Septrin (Co-trimazole), capsules of different shades of colour (red and yellow for Tetracyclin or red and black for Ampicillin) and white liquids (kaolin mixture). Some dealers of the chemical shops and drug peddlers in the selected villages were interviewed. It was found that most of them offered kaolin mixture and sulphur-based tablets for sale for the treatment of diarrhoeal diseases. They claimed, they sold out ORS only when the buyer requested for that in particular.

The same proportion of mothers (i.e. 42.0%) interviewed, said they bought drugs from drugs store/drug peddlers for children with cough. The utilization rate was however similar for the two control groups and also for the study mothers and the control group in the non-project villages.

The drugs the mothers bought for the cough treatment were Ampicillin, "Tablet M&B" and "Tablet 760". It was later found from the regional pharmacist (Brong Ahafo region) that "Tablet 760" and "Tablet M&B" were the same and that they were sulphur-based tablets originally manufactured by May and Baker companies.

Some mothers also treated children with cough with traditional medicine such as honey mixed with herbal preparations. Some of these preparations were from herbs or the bark of a certain tree “Nyamedua” and were administered as drinks or enema . Two out of one hundred and twelve, that is, 1.8% control mothers in the non-project villages offered these herbal concoctions in the form of a drink to their children who developed “hotbody” after immunizations. Another 5.1% mothers (17 out of 336) in all the three groups offered children with cough with difficulty in breathing with traditional medicine ranging from honey and ginger, shea butter oil to smear or rub the child’s body, or ginger, honey and palm kernel oil concoction. More over, some mothers combined the traditional medicine with orthodox medicine in the form of honey and Tablet 760 for the management of cough.

The number of mothers seeking health care at health facilities depended on the severity of the illness. For example, four control mothers representing 3.8% in the non-project villages sent their children with “hotbody” after immunizations to health facilities for management. Another 16.4% (54 out of 336) of all mothers interviewed also sent their children with diarrhoea to health facilities for treatment whereas in the case of cough with breathing difficulty, out of three hundred and thirty-six mothers interviewed, two hundred and fifty-six representing 76.2% sent such children to health facilities for management.

#### 4.4.1 *Discussion*

Contact with health workers in general exposes communities to health needs. Studies done in Egypt by Abu-Zeid and Dann [20] showed that a substantial proportion of household expenditure was spent on purchase of drugs, with antibiotics, cough sedatives and analgesics being the most frequently purchased medicaments.

However, Blaum [21] and others whilst working in America found that there was a wide disparity in the frequency with which medical attention was sought for specific acute conditions.

In the study area, most people knew that ORS is used to control diarrhoeal diseases but few of them utilised it during diarrhoea episodes. This is similar to the cross-sectional studies carried out in 1988 by Victora and Barros [15] using 8,000 sampled families in India. They found that diarrhoea was present in 12% of the children under 5 years of age. Oral rehydration therapy was an effective treatment, but only 30% of the children from the Metropolitan region and 20% of those in the interior received it .

However, Mehari [22] and others found in their study in Ethiopia that there were differences in practice of treating diarrhoea according to knowledge of ORS. Out of the 33% of those with knowledge of ORS, almost 90% reported use of ORS for treating their child's diarrhoea, showing a positive attitude towards modern health care.

Again in Abu-Zeid and Dann's [20] study it was found that households in Egypt relied predominantly on the private sector and traditional practitioners for health care.

This finding is supported by Engelkes[23] working in Colombia who found that traditional healers were still consulted even though modern services were ranked higher with respect to utilization of health services.

Although the above findings are true, the authors perceptions smack of Western orthodoxy which expects people to use only allopathic facilities in case of ill health.

Van-der Stuyft and others [24] working in Guatemala found that antibiotics were the remedy of choice against diarrhoea (63%), antipyretics in the case of fever (83%) and cough syrups with expectorants or antitussives against cough (65%).

Contact with KIVAP EPI-PLUS project staff had a positive influence on the communities in the Kintampo district. The people became aware of their health needs. This is supported by studies of Okojie [25], in Nigeria, which suggested that lower child mortality is a result of greater utilization of modern health care and O'Connor[13] also confirmed that individuals were more likely to use health services if they had severe illness.

#### 4.5 Hypothesis Testing

The hypothesis that was tested in this study was as follows:

Attendance rate of Child Welfare Clinic (CWC) was expected to increase whilst the Out-Patient Department (OPD) for **children below five years** of age in the project villages decrease.

Results from this research study showed that when people have more contacts with health staff, it affects their level of utilization of health services and that the opposite of the hypothesis postulated was obtained.

The KIVAP EPI-PLUS Project offered free medication to study mothers. The mothers were told how to manage simple ailments in the homes and to attend Child Welfare Clinic (CWC). Therefore, it was assumed that such study children would not get ill often and that their mothers would utilize health facilities to a lesser extent than the mothers in the control villages, but that the mothers in the project villages will attend CWC more than those in the non-project villages.

As already stated in the data collection, most of the records on CWC attendance were not available for some of the sampled villages for this research. This was because the books could not be found and health staff were new to these health facilities. The CWC data collected therefore gave little information for comparison of utilization rate and therefore they not analyzed (refer to Appendix 5 for the details of data collected).

The OPD attendance rate for children aged between 0-59 months were obtained from all the health facilities in the district from which the inhabitants of the eight villages could seek health care. The summary is shown in Table 8.

Table 8: OPD Attendance rates in Project and Non Project villages from June 1994 to May 1996.

Villages	Pop. Of <5 in '94-'95	OPD attendance of <5 in '94-'95	Rate in %	Pop of <5 in '95-'96	OPD attend.. of <5 in '94-'95	Rate in percentage	% change
<b>Project</b>							
Babator	1991	98	4.9	2051	143	7.0	
Anyima	1077	26	2.4	1109	70	7.0	
Techira No. 1	68	10	14.7	70	17	24.3	
Akora Nkwanta	68	0	0.0	72	11	15.7	
<b>Total</b>	<b>3204</b>	<b>134</b>	<b>4.2%</b>	<b>3302</b>	<b>249</b>	<b>7.5%</b>	<b>3.3%</b>
<b>non-project</b>							
Dawadawa	1364	31	2.2	1426	55	3.9	
Kunsu	168	82	48.8	173	78	45.0	
Sogliboi	64	1	1.6	66	3	4.5	
Nyamebekyere	68	2	1.9	70	4	5.7	
<b>Total</b>	<b>1684</b>	<b>116</b>	<b>6.9%</b>	<b>1735</b>	<b>140</b>	<b>8.1%</b>	<b>1.2%</b>

Using chi-square analysis of comparison of proportions, the significant level was found for the project and non project villages for one year before the project began (June 1994 to May 1995) and one year within the project period (June 1995 to May 1996). These are represented in Table 9.

Table 9: Comparison of OPD attendance rates for project and non- project villages. (June 1994 - May 1996).

Village	Percentage in rates	Sample size of children <5 years	Chi-squared	P value
<b>Project Villages</b>				
June 1994 to May 1995	4.20	3204	31.91	0.00*
June 1995 to May 1996	7.50	3302		
<b>Non-project villages</b>				
June 1994 to May 1995	6.90	1684	1.89	0.17
June 1995 to May 1996	8.10	1735		

\* Significance at 0.05 level.

The above analysis indicates that people in project villages used health facilities for their children below five years of age significantly more after a specific time during the KIVAP intervention whereas those in the non-project villages used health facilities at the same rate during the two periods under review.

This could be that the people in the project villages are now aware of their health needs probably because of their contact with KIVAP EPI - PLUS Project staff. This finding is similar to that of Leyva et al [26] in Mexico which showed that febrile patients living in communities where Primary Health care Centres (PHCs) were available used these facilities eleven fold more than those without PHCs. In contrast, Van-der - Stuyft and others [24] observed that despite considerable efforts made in Guatemala to cover rural areas with health centres and health programmes to treat and prevent the most important childhood diseases, utilization was low for about two decades.

It should, however, be noted that there was an increase in utilization in the non-project villages over time (time trend) although the difference was not significant.

There are however, deficiencies in this analysis. First, only the study children should have been used for the comparison. Secondly, differences in utilization of health services could best be compared some years after the KIVAP intervention. This is because a year within a project's period could give a false high utilization rate than say five years after the intervention.

To conclude, one realises that contact with the KIVAP EPI- PLUS Project staff had a positive health impact on the lives of the people within the study area. Even though the hypothesis sought to prove that such people might not visit health facilities often, the opposite was obtained. The people who were in direct contact with the project staff had a high level of health consciousness and ,thus, sought medical care for even minor ailments for their children.



## CHAPTER FIVE

### CONCLUSIONS AND REFLECTIONS

Community-based researches or projects the world over, are supposed to be problem-oriented. In other words, they are generally supposed to unearth social problems and to find solutions to these. However, as it often occurs, the objectives of these researches or projects do not always address the felt needs of the communities. Besides, they have some impact on their study communities often unknown to the researchers. In this regard, project staff tend to concentrate on the objectives of the project, leaving the cost of any project impact to the communities.

This study was carried out in the Kintampo district of Brong Ahafo region with the main objective of evaluating the social impact of Kintampo Vitamin A EPI-PLUS project. This project involved 3052 mother-child pairs. It was a field trial of the effectiveness of giving vitamin A to mothers in the period immediately after birth, and to children at the time they receive their immunization. This research was carried out in eight villages namely Babator, Anyima, Techira No. 1, Akora Nkwanta, Dawadawa, Kunsu, Nyamebekyere, and Sogliboi. In conducting this study some important findings were made. It was found that respondents had difficulty recalling information given them before the commencement of the project. This difficulty may be due to the fact that some anticipated reactions from Vitamin A did not occur. Hence, respondents inability to recall information in this regard. It is argued that such loss of vital information can negatively affect compliance and sustainability to the extent that in the event of the occurrence of

side-effect respondents would have management difficulties. It is recommended, therefore, that in studies of this nature, continuous education of the community is necessary to enhance compliance and sustainability.

It was also learnt from the study that in spite of education, people can refuse processes or procedures if these are contrary to their religious beliefs and cultural practices. For this reason, it is important that before any project is launched, a careful study must be undertaken to understand the cultural usages of the study community. Also, programme managers or organisers should understand that in a study community not everyone would register or comply with project directions. This is because compliance is influenced among others by socio-cultural and economic factors.

The KIVAP EPI-PLUS project has involved intense interactions with members of the community. Through frequent house to house visitations of the project staff, members of the community have gained increased health consciousness with its resultant increase in the utilization of health services. It may be argued, therefore, that community health practices may significantly change for the better if communities interact with health care providers often.

KIVAP had additional unintended effects on a rural community like Kintampo where job opportunities in the formal sector are almost non-existent; KIVAP has provided sixty-eight young persons with employment. Clearly the continued existence of KIVAP is ultimately linked up with the economic and social fortunes of a number of people. It could be expected, therefore, that the commitment of such persons to the progress of KIVAP will be high.

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Appendix 1**LIST OF QUESTIONS:**

1. What do you know about the Vitamin A people working in Kintampo District?.
2. What is the importance of Vitamin A?.
3. When will the mother and child receive the Vitamin A capsule?.
4. When are the children supposed to have the full dosage of Vitamin A Supplements?.
5. When do the Project Staff visit the children after giving them the Vitamin A capsule?.
6. Why do they have to make such visits?.
7. What are some of the signs/side effects you were told about when a child is given Vitamin A capsule?.
8. What do you expect from the Vitamin people when your child develops any side-effect?.
9. At what intervals do you expect the Vitamin A people who come about on bicycle to visit you?.
10. What is expected of mothers whose children are enrolled in the study to do in order to make such visits possible?.
11. What advice do the Project Staff give to the mothers concerning other health activities within their vicinity?.
12. What are the reasons why the Vitamin A people take breast milk samples from certain mothers and what they do with these breast-milk samples?.
13. What are the reasons why blood samples are taken from some children in the study and what happens to these blood samples?.

**Appendix 2****A. Those who refused to Participate in the Project:**

1. Were you present when the Vitamin A Project staff came to your compound/village to discuss the Project?.
2. What are some of the things they told you about?.
  - \* What Vitamin A does to children?.
  - \* When the mothers and children are supposed to receive the Vitamin A capsules?
  - \* Why blood samples will be taken from some children in the study for analysis?
  - \* What activities were you not satisfied with and why?
  - \* Did they tell you why they take the breast samples and what do they do with them?
3. What activities were you not satisfied with and why?
4. Were you given the chance to ask questions about the Project?
5. What made you refuse to be part of the Project?
6. Do you now wish you had not withdrawn from the project? and why?
7. What advice would you give to relatives and friends about the Project interventions?
8. Any other comments you wish to make?

**B. Those who started the Project but did not complete:**

1. Were you present when the Vitamin A Project staff came to your compound/village to discuss the Project?.
2. What are some of the things they told you about?
  - \* What Vitamin A does to children?
  - \* When the mothers and children are supposed to receive the Vitamin A capsules?
  - \* Why blood samples will be taken from some children in the study for analysis?
  - \* Did they tell you why they take the breast samples and what they do with them?
3. What made you decide to register with the Project?
4. How long did you stay in the Project?
5. What are some of the activities the Project Staff discussed with you before you registered with the Project?
6. Were you given the chance to ask for clarifications on all issues you did not understand during the first meeting/encounter?
7. During the time you were enrolled in the study what were some of the issues you wanted to discuss with the Project Staff and were there opportunities to do that?
8. Why, then, did you not complete the study period?
9. How would you feel if you were given the chance to complete the Project and why?
10. What advice would you give to relatives and friends about the Project interventions?
11. Any other comments you wish to make?

C. Participants in the Study who refused to provide their children's blood sample for analysis:

1. Were you present when the Vitamin A Project people came to your compound/village to discuss the Project?.
2. What are some of the things they told you about?
  - \* What Vitamin A does to children?
  - \* When the mothers and children are supposed to receive the Vitamin A capsules?
  - \* Why blood samples will be taken from some children in the study for analysis?
  - \* Did they tell you why they take the breast samples and what they do with them?
3. What made you decide to register with the Project?
4. For how long have you been enrolled in the Project?
5. Were you given the chance to ask for clarifications on all issues you did not understand during the first meeting/encounter?
6. For all these times you have been enrolled in the Project, what have been some of the issues you wanted to discuss with the Project Staff and were you given the chance to do so?
7. Has your child's blood sample been requested in a hospital or clinic before?
8. Did you allowed your child's blood to be taken in that hospital or clinic?
9. Why, then, did you refuse to provide your child's blood samples for analysis?
10. How do you feel if you were now to give your child's blood sample for analysis?
11. What advice would you given to relatives and friends about the Project interventions?
12. Any other comments you wish to make?



**D. For mothers who complied with all activities in the Project:**

1. Were you present when the Vitamin A Project people came to your compound/village to discuss the Project?.
2. Can you remember some of the things they told you about?
  - \* What Vitamin A does to children?
  - \* When the mothers and children are supposed to receive the Vitamin A capsules?
  - \* Why blood samples will be taken from some children in the study for analysis?
  - \* Did they tell you why they take the breast samples and what they do with them?
3. What made you decide to register with the Project?
4. How long did you stay in the Project?
5. Can you remember some of the activities the Project staff discussed with you before you registered with the Project?
6. What were some of the things/factors that made you to comply/fulfil all the activities of the Project?
7. In your opinion, what do you think prevented other participants:-
  - \* To be registered in the Project?
  - \* To complete the Project?
  - \* To provide their children's blood sample for analysis?
8. Would you like to share your encounter with any of those categories of persons?
9. What advice will you give to such groups of people?
10. Any other comments you wish to make?

STRUCTURED INTERVIEW

	FORMNO
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BASIC DATA

Date of Interview: ----- 

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 DATVIS

Code of Interviewer: ----- 

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 FW

Name of Village: ----- VILLAGE

Head of Household: ----- COMPHD

Compound Number: ----- 

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 COMPNO

Mother's/Guardian's Name: ----- MOTHER

Child's Name: ----- CHILD

Status of the Child

1. Active	2. Completed Study	3. Not in Study	STATUS
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Highest educational level reached:

None	2. Primary School	3. Middle/Continuation School	EDLEV
Technical/Commercial/Secondary School			
Post Middle/Teacher Training College			
Post-Secondary College Nursing Polytechnic			
University	8. NK		

IMMUNIZATION

Have you heard about Immunization?

1. Yes	2. No	8. NK	IMMUNIZE
--------	-------	-------	----------

Answer to 2.1 is Yes continue with the rest of the }  
 NA from question 2.2 to 2.4 }

2.2. Has your child ever been Immunized?

1. Yes	2. No	8. NK	9. NA	CHIMMZE
--------	-------	-------	-------	---------

2.3. Where?

1. At home	2. Outreach point	3. Clinics/Health facilities	WHIMMZE
9. NA			

2.4. What diseases do immunization prevent by first year life?

2.4.1	Tuberculosis	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	TUBERCUL
2.4.2	Poliomyelitis	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	POLIO
2.4.3	Diphtheria	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	DIPHT
2.4.4	Tetanus	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	TETANUS
2.4.5	Whooping Cough	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	WHCOUGH
2.4.6	Measles	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	MEASLES
2.4.7	*Yellow Fever	1 Yes	2 Yes Prompt	3 No	8 NK	9 NA	YEFEVER

2.5. Do some children get a "hot body" after Immunization?

1. Yes	2. No	8. NK	GETHOTBODY
--------	-------	-------	------------

{If answer to 2.5 is yes ask question 2.6 otherwise}  
{circle 9 for 2.6}

2.6 What do you do with a child with a "hot body"?

1. Health facilities for Treatment	2. Offer Traditional medicine	HOTBODY
3. Drugs from drug Store	4. No treatment	
5. Drugs from drug peddlers	6. Drugs from nurses on outreach ser.	
7. Drugs from KIVAP EPI-PLUS staff	9, Not applicable	

2.7. Does your child get diarrhoea?

1. Yes	2. No	8. NK	GETDIARHOEA
--------	-------	-------	-------------

{If answer to 2.7 is yes, ask question 2.8 otherwise}  
{circle 9 for 2.8}

2.8. What do you do when the child gets diarrhoea?

1. Health facilities for Treatment	2. Offer Traditional medicine	DIARHOEA
3. Drugs from drug Store	4. No treatment	
5. Drugs from drug peddlers	6. Give O.R.S.	
9. Not applicable		

2.9. Do you know about ORS?

1. Yes	2. No	8. NK	ORS
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{if answer to 2.9 is yes ask question 3.0 otherwise}  
{circle 9 for question 3.0}

3.0. What is it use for?

1. Diarrhoea and Vomitting	2. Other diseases	USEORS
8. Not known	9. Not applicable	

3.1. Should you continue to breast feed a child with diarrhoea?

1. Yes	2. No	8. NK	BRSTFED
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3.2. Does your child get cough?

1. Yes	2. No	8. NK	GETCOUGH
--------	-------	-------	----------

{If answer to 3.2 is yes, ask 3.3 otherwise}  
{circle 9 for 3.3}

3.3. What do you do when the child gets cough?

1. Health facilities for Treatment	2. Offer Traditional medicine	COUGH
3. Drugs from drug Store	4. No treatment	
5. Drugs from drug peddlers	6. Traditional and Orthodox medicine	
9. Not applicable		

3.4. Does your child at times suffer from cough with difficulty in breathing?

1. Yes	2. No	8. NK	GETCGHDIF
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3.6. What do you do when any child suffers from cough with difficulty in breathing?

1. Health facilities for Treatment	2. Offer Traditional medicine	CUGHDIFF
3. Drugs from drug Store	4. No treatment	
5. Drugs from drug peddlers	6. Traditional and Orthodox medicine	

**END OF INTERVIEW, THANK THE RESPONDENT.**

## Appendix 4

**FOCUS GROUP DISCUSSION GUIDE****A. FOR COMMUNITIES:**

1. What do you know about the Vitamin A Project people working in Kintampo District?.
2. What activities are undertaken by the Vitamin A people?.
3. What are the general benefits or difficulties you have about the Project?.
4. What suggestions would you give to MOH staff on how they can continue with the activities of the Vitamin A people should the Project ends in a year's time?
5. What advice would you give to the government on extension of the Project to other communities in the district and the entire country?.
6. Any other comments you wish to make?

**FOCUS GROUP DISCUSSION GUIDE****B. PROJECT STAFF:**

1. Why did you choose to join the KIVAP EPI-PLUS Project?.
2. What activities in the Project do you need some improvements in achieving?
3. How does the future of the Project and the Centre look like?
4. What is your opinion on the District Health Management Team integrating the activities of the Project into its main schedule?
5. How will you be affected if the Project is integrated into the MOH activities?.
6. Any other comments you wish to make for the success of future projects by KHRC?.

**FOCUS GROUP DISCUSSION GUIDE****C. OTHER HEALTH WORKERS:**

1. What do you know about the Vitamin A people working in the Kintampo District?.
2. What activities are carried out in the Project?.
3. How have these activities influenced the health services you deliver?.
4. In what ways do you think the communities are benefiting from the Project's activities?.
5. Given the opportunity do you wish to work with the Project in future?.
6. How do you think it will be easy to fully integrate the Project into the existing health delivery system?.
7. Any other comments you wish to make?

## Appendix 5

OPD ATTENDANCE AT THE VARIOUS HEALTH FACILITIES IN KINTAMPO DISTRICT FOR CHILDREN AGED BETWEEN 0-59 MONTHS IN SAMPLED PROJECT AND SAMPLED NON-PROJECT VILLAGES FOR A YEAR PERIOD BEFORE THE EPI-PLUS PROJECT (JUNE 1994 - MAY 1995)

MONTH	PROJECT VILLAGES				TOTAL
	BABATOR	ANYIMA	TECHIRA NO. 1	AKORA NKWANTA	
JUNE	2	0	0	0	2
JULY	1	3	0	0	4
AUG	4	5	1	0	10
SEPT	7	1	0	0	8
OCT	11	0	1	0	12
NOV	12	4	1	0	17
DEC	11	0	2	0	13
JAN	12	2	0	0	14
FEB	6	2	3	0	11
MAR	8	2	1	0	11
APRIL	10	0	1	0	11
MAY	14	7	0	0	21
TOTAL	98	26	10	0	134

MONTH	NON-PROJECT VILLAGES				TOTAL
	DAWADAWA	KUNSU	SOGLIBOI	NYAMEBEKY ERE	
JUNE	1	0	0	0	1
JULY	0	2	0	0	2
AUG	3	1	0	0	4
SEPT	3	18	1	0	22
OCT	3	9	0	0	12
NOV	2	13	0	0	15
DEC	5	13	0	0	18
JAN	0	8	0	1	9
FEB	3	1	0	0	4
MAR	1	7	0	0	8
APRIL	2	2	0	0	4
MAY	8	8	0	1	17
TOTAL	31	82	1	2	116

**OPD ATTENDANCE AT THE VARIOUS HEALTH FACILITIES IN KINTAMPO DISTRICT FOR CHILDREN AGED BETWEEN 0-59 MONTHS IN SAMPLED PROJECT AND SAMPLED NON-PROJECT VILLAGES FOR A YEAR WITHIN THE EPI-PLUS PROJECT (JUNE 1995 - MAY 1996)**

PROJECT VILLAGES					
MONTH	BABATOR	ANYIMA	TECHIRA NO. 1	AKORA NKWANTA	TOTAL
JUNE	12	7	1	2	22
JULY	9	1	2	1	13
AUG	13	7	2	2	24
SEPT	19	10	2	0	31
OCT	13	8	4	0	25
NOV	7	3	2	0	12
DEC	8	7	0	0	15
JAN	11	7	0	1	19
FEB	13	8	2	1	24
MAR	9	10	2	0	21
APRIL	11	7	0	3	21
MAY	18	3	0	1	22
TOTAL	143	78	17	11	249
NON-PROJECT VILLAGES					
MONTH	DAWADAWA	KUNSU	SOGLIBOI	NYAMEBEKYERE	TOTAL
JUNE	5	8	0	1	14
JULY	7	2	0	0	8
AUG	3	14	0	0	17
SEPT	3	9	2	0	14
OCT	6	9	0	0	15
NOV	1	8	0	1	10
DEC	3	2	0	0	5
JAN	7	11	0	0	18
FEB	5	7	1	1	14
MAR	5	3	0	0	8
APRIL	5	3	0	0	8
MAY	5	3	0	1	9
TOTAL	55	78	3	4	140

**CWC ATTENDANCE AT THE VARIOUS HEALTH FACILITIES IN KINTAMPO DISTRICT FOR CHILDREN AGED BETWEEN 0-59 MONTHS IN SAMPLED PROJECT AND SAMPLED NON-PROJECT BEFORE THE EPI-PLUS PROJECT (JUNE 1994 - MAY 1995)**

PROJECT VILLAGES					
MONTH	BABATOR	ANYIMA	TECHIRA NO. 1	AKORA NKWANTA	TOTAL
JUNE	NA	NA	32	3	35
JULY	NA	NA	NA	NA	NA
AUG	NA	NA	NA	NA	NA
SEPT	NA	NA	NA	4	4
OCT	NA	NA	NA	6	6
NOV	NA	NA	NA	1	1
DEC	NA	114	NA	NA	114
JAN	NA	39	NA	15	54
FEB	30	9	NA	8	47
MAR	22	9	NA	23	54
APRIL	59	NA	NA	11	70
MAY	51	11	NA	NA	62
<b>TOTAL</b>	<b>162</b>	<b>182</b>	<b>32</b>	<b>71</b>	<b>447</b>
NON PROJECT VILLAGES					
MONTH	DAWADAWA	KUNSU	SOGLIBOI	NYAMEBEKYERE	TOTAL
JUNE	20	NA	NA	NA	20
JULY	28	NA	NA	NA	28
AUG	5	7	NA	NA	12
SEPT	NA	NA	NA	NA	NA
OCT	NA	NA	NA	NA	NA
NOV	NA	NA	NA	NA	NA
DEC	NA	NA	NA	NA	NA
JAN	NA	88	NA	NA	88
FEB	26	41	NA	NA	67
MAR	29	73	NA	NA	102
APRIL	NA	77	NA	NA	77
MAY	16	74	NA	NA	90
<b>TOTAL</b>	<b>124</b>	<b>360</b>	<b>NA</b>	<b>NA</b>	<b>484</b>

NA = NOT AVAILABLE

**C.W.C. ATTENDANCE AT THE VARIOUS HEALTH FACILITIES IN KINTAMPO DISTRICT FOR CHILDREN AGED BETWEEN 0-59 MONTHS IN SAMPLED PROJECT AND SAMPLED NON-PROJECT WITHIN THE EPI-PLUS PROJECT  
(JUNE 1995 - MAY 1996)**

PROJECT VILLAGES					
MONTH	BABATOR	ANYIMA	TECHIRA NO. 1	AKORA NKWANTA	TOTAL
JUNE	NA	11	24	NA	35
JULY	9	7	NA	9	25
AUG	5	18	NA	NA	23
SEPT	4	NA	NA	NA	4
OCT	8	1	NA	NA	12
NOV	NA	5	NA	NA	5
DEC	NA	NA	NA	NA	NA
JAN	41	163	20	NA	224
FEB	79	15	NA	NA	105
MAR	NA	31	NA	11	31
APRIL	9	NA	NA	NA	9
MAY	NA	26	NA	1	27
TOTAL	155	277	44	24	500
NON PROJECT VILLAGES					
MONTH	DAWADAWA	KUNSU	SOGLIBOI	NYAMEBEKYERE	TOTAL
JUNE	18	73	NA	NA	91
JULY	NA	76	NA	NA	76
AUG	NA	NA	NA	NA	NA
SEPT	NA	94	NA	NA	94
OCT	1	NA	NA	NA	1
NOV	NA	NA	NA	NA	NA
DEC	NA	NA	NA	NA	NA
JAN	28	NA	NA	NA	28
FEB	NA	99	NA	NA	99
MAR	NA	104	NA	NA	104
APRIL	NA	NA	NA	NA	NA
MAY	NA	NA	NA	NA	NA
TOTAL	47	446	NA	NA	493

\*NA =NOT AVAILABLE