TRENDS OF BREASTFEEDING IN "LAINI-SABA" (KIBERA) AND THEIR RELATIONSHIP TO CHILD HEALTH.

BY

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Kennedy Ouko O.

(II)
DEDICATION

THIS THESIS IS DEDICATED TO MY FAMILY.

SOMEBODY HAD TO DO IT, NO ?

ABSTRACT

This study was carried out in "Laini-Saba" village of the Kibera slum area in Nairobi. It examined the prevalence of breast feeding among mothers resident in such an urban slum setting, and also attempted to understand the relationship between such factors as employment or educational level of a mother and her ability to breastfeed successfully. In the same vein, the study looked into the various reasons which slum-dwelling mothers may have for discontinuing breastfeeding and introducing other foods into their babies' diets. Having achieved the foregoing, the study attempted to establish how residence in a slum community affects the health of slum children vis-a-vis the nature of the diseases that usually ail them and how relevant breastfeeding is to the overall health of such children.

The study population consisted of mothers residing in "Laini-Saba" village of Kibera who had children below two years of age during the research period. They were randomly selected using the door-to-door enumeration process based on the principle of "snow-balling" and the system of statistical random numbers. Such selection was also guided by the mothers' willingness to participate in the interview process whose main tool was the questionnaire. The mothers were the study's respondents while the children and the residential units (houses) were the units of analysis. One hundred respondents were interviewed, fifty-eight of whom were breastfeeding during the research period and forty-two of whom had breast fed sometime hitherto but had now ceased

doing so.

Various hypotheses were tested during data analysis and this led to certain salient findings. The study confirmed that a mother's ability to carry her breastfeeding child to her work-place, and hence to be able to breastfeed without any hitches even after resumption of work depends, to a large extent, on the nature of her occupation. Those engaged in self-employment (such as hawking or market trading) may for example, be in a better position to carry their children to work than their counterparts who are employed in the formal sector.

The study also established that the decision to breastfeed a child depends partly on the mother's level of education since the level of education she attains may be the crucial determinant of what kind of employment she engages in, or her level of awareness of the basic requirements of successful child care such as breastfeeding.

Regarding the health of the children, the study revealed that the health status of the slum-dwelling children is not determined by the period during which such children were exclusively breast fed. Similarly, it was confirmed that the nature of the disease these children usually suffer from is not determined by whether they were breastfed or not.

Following such findings as the foregoing, it has been concluded that for the slum-dwelling mothers, breastfeeding may not be feasible, considering their occupational categories and that the extent to which such mothers practise breastfeeding is not really very important in improving the health of their

children, considering the squalid conditions in which such children are born. It was further concluded that level of education plays a relatively insignificant role in the promotion of awareness of breast feeding requirements as contrasted to word of mouth from neighbours, friends and midwives. For that reason, the failure of slum-dwelling mothers to breast feed consistently for lengthy periods of time was found to lie more with other factors such as nature of employment or various problems including breast infections and the child's rejection of breast milk.

In a slum village such as "Laini-Saba", therefore,it became apparent from the study that hardly any significant relationship seemed to exist between breast-feeding and child health. Rather, the state of the slum child's health is determined more by the environment in which he grows up and his mother's ability to provide good care even as she pursues economic-oriented goals which are supposed to improve this ability.

The study's recommendations mainly revolve around the need for action by the government towards improving living conditions in slum areas such as "Laini-Saba" in Kibera. These include improving the water supply, garbage collection services and health services. Only then can the chances of improving the child's overall health status and of undertaking breast-feeding successfully be enhanced in such communities.

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CHAPTER ONE

1.1. INTRODUCTION AND PROBLEM STATEMENT

Babies depend almost wholly on their mother's bodies to tell them that they are loved. During infancy, babies cannot be communicated to by speech because they are unable to comprehend it. They instead thrive on gentle holding, rocking, caressing and all feelings related to the sense of touch. One of the best ways a mother can provide such love based on the physical aspect, is by breast feeding her baby.

The fact that breast feeding enhances the emotional bonding between mother and child has been shown by research which revealed a decrease in the abandonment of the infants by mothers who had begun breast feeding immediately after delivery (Mata, 1983). Such a revelation is probably based on the fact that during the process of breast feeding, a mother usually cuddles her child in an almost protective manner and constantly gazes into his eyes. This introduces a feeling of closeness and achievement that helps negate attributes of child abuse such as abandonment. Further research has in fact revealed that consistent breast feeding reduces the levels of child abuse and failure to thrive among infants (Klaus and Kennel, 1976). Such a finding may not apply to a child born in the slum to a poor mother since failure to thrive is bound to be caused by malnutrition, or frequent diseases, among other factors. This study intends to shed light on the effect breastfeeding may have on a child in the face of such intervening factors.

Infants who have been breastfeeding apparently become attached to their mothers very early as shown by the fact that one week old babies turn their heads more often and are more likely to suck towards breastpads worn by their mothers as opposed to those worn by other women (Eiger and Olds, 1987). It would appear then, that breast feeding helps in the development of reflexes by the child and in effect may enhance emotional development in later life.

Human beings, like other mammals, are naturally endowed with mammary glands -this being a natural and biological justification for breast feeding. In these mammary glands, the baby's daily food prepares itself in its own natural and permanent containers. In this way breast feeding may be the best method of feeding the child born in the slum where chances of contamination are very high, considering the unclean environment. The insufficiency of the water supply in the slums may also hamper the maintenance of thorough cleanliness of the containers used to provide other foods to the baby. Breast feeding may, therefore, be the best feeding method available to poor, slum dwelling mothers who would then not need to bother with the purchase and mixing of baby foods or the sterilization of bottles and cups, at least in the first two to three months.

A fully lactating woman rarely ovulates, and in most cases, does not resume menstruation until after the sixth month from child birth (Eiger and Olds, 1987). Hence in breastfeeding, women may find a partial gurantee against pregnancy so soon after the previous baby. One may argue that with the availability of modern family planning methods such as the pill or the coil, even

mothers who do not breast feed have other avenues for birth control open to them. For the poor slum-dwelling woman, however, even access to family planning services may be very limited and such a natural one as is available in breastfeeding may be a more viable alternative. Such natural spacing of babies also provides a mother with the chance to provide better care for one baby before the arrival of the next.

In their book Human sexual Response, Masters and Johnson (1966) have shown that breastfeeding helps restore female sexuality. They interviewed one hundred and eleven women during and after pregnancy, twenty-four of whom reported experiencing sexual arousal while suckling their babies and three of whom reported actual incidents of orgasm while breastfeeding (Masters and Johnson, 1966 p.97). Such results may appear unpalatable, especially in the African context, but they do help to show the effects breastfeeding can have on mothers and their sexual needs. Barbara Seaman in her book Free And Female (1973) has infact described the nursing of a baby as" a sensual and sensuous experience unlike any other, somewhat related to and yet different from good sex "(Seaman, 1973, p.23). She proceeds to add that apart from restoration of sexuality, breastfeeding helps a mother to regain her figure faster after birth because it causes the uterus (which expands during pregnancy to about twenty times its normal size) to shrink faster. One may contend that in the African situation, a lactating mother is fed on such fattening foods that her figure may sway more towards obesity but it has been established that the contractions that occur in the uterus during breast feeding help in the expulsion of excess

tissues and enhance blood flow (Stanway And Stanway, 1978). Breastfeeding may be said, then, to suit African mothers very well. Manufacturers of infant feeding bottles struggle to reinforce the idea that the bottle's rubber nipple is very like the natural nipple and they proceed to model the bottle's nipple in the uncanny likeness of its human counterpart. For the baby, however, nursing from the mothers breast and suckling a rubber nipple are two entirely distinct actions. The baby has jaw muscles three times stronger than the adults' in relation to body size (Eiger and Olds, 1987). This is for the sole purpose of successful breastfeeding since the baby has to work on the mother's nipple with all the muscles of his mouth, cheeks, tongue and jaw (Jones, 1976). Such total involvement is not experienced by the baby who suckles a rubber nipple because the milk flows directly from the bottles into his mouth with hardly any effort on his part. It would thus appear to be against nature to take a baby off the breast and put him on the bottle.

According to available information, babies digest breast milk more easily than any other foods, even the milk of other animals (Eiger and Olds, 1987). Virtually all the protein in breast milk is assimilated by the baby while about half of the protein in cow's milk passes through the baby's body as waste (Schreiner, 1982). Research has also shown that iron and zinc are better absorbed by breast feeding babies because such vitamins as 'C' and 'E' that are present in breast milk help in their absorption (Stanway and Stanway, 1978). It is for this reason that an exclusively breastfed baby rarely becomes anaemic.

Other immunologic advantages exist for the breast feeding child. Human milk contains almost as many living cells as the blood itself- a fact that has seen the evolution of the term "white blood" in referrence to breast milk (Anderson, 1980). It is thus well equipped in combating disease causing bacteria, fungi and parasites.

In an urban slum in a developing country, such as the site of this study, sanitation is poor, water is scarce, cleanlines is at its lowest standard and congestion prevails. Babies born in such environments are hence bound to be highly susceptible to infection. Mothers in such areas should therefore ideally begin by adopting the most immediate immunologic guarantee, - breast feeding. It has in fact been stated that the immunologic value of breast feeding will be highest and most felt where the environmental infection load is very high (Huffman and Lamphere, 1984). It should be added here that such a statement apparenty holds all other factors such as mother's nutritional status or ability to breast feed, constant. This study intends to investigate the role some of these factors may play in undermining breast milk's immunologic value to the baby.

Proponents of breastfeeding proclaim it as the best way to feed one's baby. But in such a proclamation, they may be over looking or ignoring certain factors which may contradict and discourage even those mothers who may initially have been enthusiastic about breast feeding.

One such factor is employment. As women change roles to bread winners, an increasingly greater number of mothers are compelled to rise early and retire late in their homes due to

employment. Kenya, for example, now allows such working mothers only two months of maternity leave from work with the implication that on resumption of duty, such mothers find it almost impossible to continue breast feeding their babies.

It has also been suggested that breast milk is easier to digest because it forms curds that take only one and a half hours in the baby's stomach as compared to those formed by formula which may take upto four hours (Stanway and Stanway, 1978). Such observations mean, therefore, that the breast feeding baby inevitably requires more attention and women may find this very tideous. This overrules the convenience attributed to breast-feeding.

The baby growing up in the urban slum is exposed to many new communicable and vector-borne disease against which his mother may not have antibodies and against which breast feeding may have little therapeutic effect. Instead, such a baby's health may depend more on the steps his mother takes to maintain a clean environment around him than on whether she breast feeds for long or not. Yet another determinant may be whether the child's mother has access to medical care (or not) for such preventive measures as vaccination. The mother herself would need to constantly maintain a condition of extreme cleanliness especially around her breast lest she infects her baby during suckling. It may therefore be extremely hard, in the face of such intervening factors, to convince the poor slum-dwelling mother of the immunologic advantages of breast milk.

A related line of argument is that around the third or fourth month, babies appear to need supplementary foods in addition to breast milk. Such supplementary foods have to be prepared in an environment whose infection load is very heavy and therefore, the ingestion of infectious elements by the baby may seem unavoidable. Similarly, the breastfeeeding mother ought to feed on a rich, balanced diet for successful lactation (Oniang'o, 1988). Yet the poor slum-dwelling mother is hardly ever in a position to afford such a diet. Her poor nutritional status may eventually impede the production of breast milk in sufficient quantities and she would subsequently be faced with the equally onerous task of purchasing breast milk substitutes for her baby.

It becomes apparent, thus, that those in favour of breastfeeding may usually overstate their case. In the same vein, those opposed to the practise may undervalue the real advantages of breast milk to the baby. This is especially so with reference to the poor slum-dwelling families for whom many other factors are crucial for the survival of their children and indeed of the family as a whole.

1.2. OBJECTIVES

This study intends to examine such factors as mentioned above in relation to the prevalence of breast-feeding and has therefore set out with the following objectives;

(a) To establish the prevalence and extent of breast-feeding among mothers resident in a slum community.

(b) To gauge the relationship, if any, between such factors as employment or education and breast feeding and to find out

how these may relate to the health of the child.

(c) To study how the duration of breast feeding relates to the overall health of the child.

(d) To understand the reasons that make mothers introduce other foods into their babies' diet when they do and to see what kinds of foods these are among the poor slum-dwelling mothers.

(e) To find out the kind of diseases that ail children in a slum-community and how accessibility to and availability of health services relate to the health of the child.

(f) To assess whether children who are breastfed require less medical attention than their counterparts who do not breastfeed.

1.3. JUSTIFICATION OF THE STUDY

In July of 1988, the then Director of Medical services, Professor Thomas Ogada issued a Government directive to Kenya's medical fraternity on infant feeding practises. The directive stressed the need for the encouragement of breastfeeding and banned the use of posters that promote breast milk substitutes and the distribution of free samples of such substitutes in the country's health institutions (GOK, 1988).

Such a directive may have been prompted by the increasing commercial onslaught on breast-feeding by Multi-National Companies that manufacture breast milk substitutes and also by a general decline of the practise. It, however, underscores the fact that breast feeding is considered to be of crucial importance to both baby's and mother's health and hence a practise that needs vigorous promotion by the country's health workers.

In studying the trends of breastfeeding, the present research hopes to establish the extent of the practise among the urban poor whose accessibility to maternity and other medical facilities is usually limited. The positive efforts by the Government and Non-Government organisations, and the damning efforts by formula manufacturing companies somehow seem to ignore the very poor stratum of mothers who reside in slums such as "Laini-Saba" and who neither have access to adequate medical facilities nor are able to afford breast milk substitutes such as formula. This study hopes to fill the gap by establishing the facts regarding the practise among such mothers.

In establishing whether slum-children who are breast feeding require less or more medical attention than their non-breastfeeding counterparts, this study will, in effect, be evaluating the assertion that breastmilk has a crucial immunologic advantage to the growing child.

Proponents of breast-feeding have called for its universal adoption by mothers, citing numerous advantages examined elsewhere in this study. But breast feeding remains a matter of personal choice by a mother and is governed by many other factors which determine a mother's overall ability to breast feed her baby. Consequently, the incessant statements about the advantages of breast feeding may do no good either to the mother who has to resume her role as family breadwinner or to the child who does not seem to ever get enough milk from his mother's breasts. What will surely help is to find out more about the factors that may impede successful breast feeding or how exactly the practise relates to child health in areas such as urban slums where health standards are evidently low due to poor sanitation, lack of clean water, overcrowding, lack of toilet facilities and the general state of poverty. This study intends to throw light on all this.

The subject of breastfeeding is neither taught in schools nor colleges in most parts of the world. Only a few medical school syllabusses such as in paediatrics or child nursing usually cover the subject at a professional level. Ordinarily, however, neither the obstetrician, nor the maternity ward nurse nor the community health worker would educate mother's about the

practise. Techniques and requirements of breast feeding are only effectively learnt from friends, neighbours, traditional midwives or auxilliary. Furthermore, the enormous amount of literature regarding breastfeeding that is available seems to be based on research done in the developed world. Relatively little has been done in the field of research locally, where social economic and environmental conditions may differ crucially from those obtaining in the developed world. This study therefore attempts to contribute in upholding or disproving the much stressed virtues of breastfeeding in the local context.

Max Charleswoth, in commenting about Kuhn, that great thinker, has stated:- "....the history of science is a study of the emergence and establishment of a new way of looking at phenomena. The gradual emergence and accumulation of anomalies with which the now-received view cannot cope and the break down of the accepted view and emergence of a radically new view ..."

(In "Science, Non-Science & Pseudo-Science" 1982, P.34)

In the light of the above, the present research was designed with the major purpose of studying the factors that govern an age-old practise (breast feeding) in the face of changes taking place in society such as the increasing participation of women in the labour force, the increasing numbers of single parents or the increasing rates of urbanization. Today for example, we live in such a scientific age that everyone can cite one friend with a perfectly healthy formula fed baby and another with a breastfed sickling. Due to such changes, fresh studies into the trends of those age-old practises should provide welcome new perspectives.

The gradual emergence of slums in the developing world may have brought along anomalies inherent in the almost inhabitable squalor with which the established view that breast feeding provides immunologic and therapeutic advantages may not cope. Other adverse conditions in the slums may even make mothers unable to breastfeed successfully. This study by taking place in one such slum area, intends to shed light on how conditions in these areas relate to breastfeeding and what effect it all has on the health of the child born in the slum.

CHAPTER TWO

2.1 THE LITERATURE REVIEW

The human female is naturally endowed with the ability to breast feed her young ones - Breastfeeding is a practise that poses numerous advantages both for the mother and her child but one that is hardly popular universally. This disparity in the prevalence of the practise on a global scale arises out of its demanding schedule, changing world views and modernization, among other reasons.

The process of social change has caused the gradual erosion of strong cultural traditions which hitherto reinforced the nursing of one's baby as a societal norm. Similarly, the present age of commercialization has seen to the mass production of breast milk substitutes with an accompanying vigorous promotion of their use. These have led to a decline in breastfeeding. The urban areas have especially experienced a decline in the practise since the erosion of cultural traditions is faster and more extensive in such areas where there is more access to the media, there is greater interaction between people from different backgrounds and there is greater participation in paid employment.

In the rural areas, economic activity by women is still concentrated on agricultural production which involves working the fields for only part of the day, (usually in the mornings) hence enabling such women more time for nursing their children. Furthermore, cultural traditions are still relatively stable in rural areas where interaction patterns are not as complex as they

are in the urban areas. This means that practises such as breast feeding that are embedded in traditional society as norms, are still prevalent on a greater scale.

The decline in Breastfeeding reached an all time low in America in the Seventies but has only recently began to take effect in developing countries such as Kenya (Winicoff et al, 1980). Such an observation may be based on the fact that most developing countries still have economies that are based on agricultural production. This means that most women only participate in agricultural production that leaves them time to nurse their babies unlike the women in the developed countries whose participation in salaried employment has been increased by the industrialization of their economies. A 1977/78 labour force survey, for example, showed that 87% of Kenyan women was engaged in agricultural production (GOK,1989).

Organizations that promote breast feeding such as the Breast-feeding Information Group (BIG) or the International Baby Food Action Network (IBFAN) have sprouted in the developed world with such fervour that mothers are again getting convinced that breast milk is the best food for the baby. Consequently, baby food manufacturing companies such as Wyeth and Nestle have now intensified their commercial activities in the developing world where ubanization and modernization are only just taking root. A recent survey in Nigeria, for example, revealed that most mothers opt for breastmilk substitutes because they think it is a sign of modernity (Clark, 1988).

In this section, attention is focused on the relationship between breast feeding and child health, the kind of problems and contradictions faced by breast feeding mothers and the main reasons why some mothers abandon the practise. These form the main issues in the present study and may shed light on the reasons why breast feeding may have declined despite its obvious advantages and why some mothers are now reverting to the practise.

2.2. Breast feeding and child health

Dr.John Gerrard, a Canadian researcher has written in "Paediatrics" (1974);

"We presumed that the function of breast milk was little more than the provision of nourishment. We now know that breast milk also provides effective protection; more effective than antibiotics, against certain common enteric pathogens and that it can also be expected to provide relative freedom in infancy from allergic disease..."

The consumption of breast milk is hence advantageous to the child not only for its nutritive but also for its immonologic value. The fact that breast milk is more effective than antibiotics against enteric infections such as Typhoid and other intestinal ailments holds even more promise for those children born and raised in urban slum conditions. This is so because such infections (They also include diarrhoea and Cholera) are easily conveyed in tainted food or unclean drinking water, cases of which abound in the slums. Furthermore, most of these diseases are highly infectious and hence spread faster in the

slum conditions where overcrowding prevails. For the poor slum-dwelling mother, breast feeding is both viable and essential because she cannot even afford the available antibiotics for these diseases comfortably.

Yet even for the child born in the more affluent neighbourhoods, breast milk still boasts virtually unrivalled advantage considering that it also provides relative freedom from allergies. Allergic diseases know no bounds and may bother such a child as much as they would the slum child.

It is therefore safe to argue that breast milk is a crucial contributor to the young child's immunologic system that mothers, poor or affluent should not ignore.

Human milk is not simply food. It is living tissue that includes many substances which affect not only the body's use of nutrients but also its immune capacity (Minchin,1985). Due to the fact that human milk contains almost as many living cells as blood itself, it is safe to assume that it is equiped to fight bacteria, fungi and parasites. This may be the reason why breast milk has been referred to as "white blood" (Anderson, 1980). The implication, thus, is that if a breast feeding baby is exposed to infection, his underdeveloped immune system will naturally be aided by his mother's own antibodies which he receives through breast milk. An underlying assumption here is that the mother herself has these antibodies and is not prone to infection yet it is a fact that mothers who reside in urban slums may gradually develop weak defence systems against disease due to the heavy infection load of such environments. Sanitation is poor, water supply is inadequate and toilet systems are underdeveloped in the

slums and thus even the breastfeeding slum-mother becomes prone to regular infections.

The consumption of breast milk by the baby in place of other foods helps to reduce the ingestion of certain infectious agents. This is so because breast milk is received by the baby directly off his mother's breasts thereby avoiding contact with the outside environment which would otherwise pose higher chances of contamination. In cases where the mother's personal hygiene is not upto very high standards however, the breast feeding baby may still get infected by his mother's unclean breasts. Still, proponents of breast feeding relegate such possibilities as inconsequential with claims that the very consumption of breast milk enables such a child to develop his own disease combating antibodies (Eiger and Olds, 1987). In fact, breast milk has been shown to contain over three thousand times the lysozyme (an enzyme extremely active in combating bacteria) found in other sources of milk (Lawrence, 1985). Lysozyme is reportedly very concentrated in human milk and is said to rise steadily from the second month upto the end of lactation.

The immunologic properties of breast milk are closely tied to its nutritional value. Good nutrition means plenty of components for the immune system of the baby. In a related manner, the resultant high capacity of immunity means better ability by the baby to absorb and utilise nutrients. This line of argument underscores the superiority of breast milk over other foods in ensuring a healthy being for the young and growing child. Yet it leaves open the question of how long breast milk

can effectively be used by mothers to feed their babies without the risk of starving them. Most mothers introduce other foods to their babies at the ages of three or four months. It all depends on the baby's body weight, level of activity (and hence metabolism) and the mother's supply of milk.

The nature of the foods introduced may be the overall determinant of the baby's health, again depending on how such foods are prepared and administered. Some mothers, being able to afford it, may introduce such foods very early but prepare them in the best possible way and administer the right proportions of each to ensure nutritional balance for the baby. Other mothers, being economically disadvantaged, may opt for cheap and readily available foods and prepare them in unclean sorroundings then proceed to administer them in unbalanced proportions, the criterion being something to fill the baby's stomach. It is therefore clear that the baby's immunology and nutrition may be well balanced even in the absence of breast milk. The crucial matters thus, are more the environment and economic well being of the mother than the plain and simple provision breast milk. For the economically disadvantaged, slum-dwelling mother, those factors may even be more crucial bearing in mind that breast milk can suffice on its own in the baby's diet only upto a certain time, afterwhich other foods have to be introduced.

Breast milk is said to boost the ability of a baby to fight off a number of diseases. A study by Hanson and Winberg (1972) revealed that the introduction of breast milk among infants in a nursery whose staff had failed to control an epidemic for six months eventually checked the said epidemic. The nature of the

epidemic was not specified in the report but once again, it would only be wise to validate such a finding having considered the sanitary conditions of the nursery as well as the nature of the outbreak. If say the epidemic involved a disease such as Measles, then vaccination may have been overlooked and would have to be effected as breast milk alone would not check the spread of the disease in the nursery. Other factors such as the number of children in the nursery relative to its size may also affect the outbreak and spread of disease.

If a similar analogy as the above is made for the slum areas in Kenya, then one realizes that for breast milk's therapeutic effect to be proclaimed, certain crucial factors such as the nature and size of dwellings in relation to number of residents or the slum mother's accessibility to health services such as vaccination would have to be seriously ascertained beforehand. It has been found that breast milk has such a powerful therapeutic effect that a solution with only three percent content of human milk killed half a culture of intestinal parasites in a test-tube within a period of only thirty minutes (Eiger and Olds, 1987). What one may wish to ask is if breast milk's therapeutic power is such that it is able to insure the child against the abudant health risks found in urban slums such as Kibera's "Laini Saba" village.

One of the most common infant ailments is diarrhoea. This is especially so in a situation where water is both scarce and unclean such that even the child who is exclusively breastfeeding still stands a risk of diarrhoea because his mother

is rendered unable to maintain proper levels of personal hygiene. In a study done in Western Ethiopia Ketsela and Asfaw (1989) found out that the incidence of diarrhoea diminished considerably with the practise of exclusive breastfeeding. Apart from the issue of personal hygiene, exclusive breastfeeding appears to provide the baby with a "safety-valve" against infections that may arise from the contamination levels in environment. What needs to be investigated, therefore, is the length of time that mothers can keep their babies on breast milk alone. This is part of the concern of this study.

Mother's milk has been found to combat other diseases as well. These include Polio, Bronchitis, influenza, Rubella (German Measles) and other bacterial infections. (Eiger and Olds, 1987) . Infants aged between one to four months who had meningitis, septiciemia and urinary tract infections but were receiving breast milk were studied by Winberg and Wessner (1971) who compared them to matched controls vis-a-vis the amount of breast milk consumed. Results revealed that the sick infants consumed significantly less breast milk than their healthier counterparts. Such diseases as measles and meningitis have always plagued Kenyan children and the validation of such statements related to breast milk's ability to protect children against them would be particularly important to mothers who can breastfeed.

Yet another disease whose spread is causing concern among mothers and health workers alike is paediatric Aids. Information now reveals that the infant mortality associated with HIV infection acquired through breast feeding is much lower than the mortality associated with diseases of infancy which would result

if breast milk were withheld (IBFAN Newsletter,september, 1990). Further information shows that bottle-fed HIV infected infants have a two to five times greater risk of dying than breastfed ones (Africa Health, Vol.12 no.5, 1990). Aids among adults and children alike, is a disease that has caused global anxiety mainly because of the unavailability of a proven cure. Any ray of hope that usually appears based on research such as Kenya's "Kemron" tablets is usually regarded with much acclaim. Mother's who are able to breast feed may have just such a ray of hope should their babies join the growing number of Aids infected children.

Breadley *et.al.*, (1987) stated at a Nairobi workshop on improving young child-feeding that a child off the breast may become ill and stay so longer because the breast milk substitutes he is being fed on are unable to protect him during the vulnerable period from birth to twenty-four months of age. Furthermore, the child is more likely to become ill than his breastfed counterpart since the substitutes he is fed on stand a greater risk of contamination during preparation. Such risks, coupled with environmental factors soon as poor sanitation, make the child born to the slum-dwelling mother more prone to ailment, than his counterpart born in more affluent neighbourhoods. This further underscores the fact that the child born in the slum may benefit more from prolonged breast feeding as this would be one of the few sure guarantees against all manner of infections.

Huffman and Lamphere (1984) have in fact stated that the immunologic value of breast milk will be highest and most felt

where the environmental infection load is heavy. This may explain why research has revealed that in the developing countries, (where such conditions are commonplace), the survival rate for the breastfed baby is over six times greater than that of his bottle fed cousin (Eiger and Olds, 1987).

The foregoing findings should be pondered over with particular reference to the conditions of life that prevail in the urban slum of a developing country such as Kenya. Slums are known to be sordid and dingy even in developed countries where infrastructure is advanced and amenities such as water or electricity are supposedly more accessible. The situation is almost the reverse in slums found in developing countries where infrastructure is rudimentary and accessibility to water, electricity or health services is severely limited. Invariably then, mothers in slums of developing countries would appear to need to breastfeed their children more and for longer periods if the therapeutic value of the practise is as reliable as it seems.

Breast milk has also been found to improve dental health among the children who receive it (Stanway and Stanway, 1978) This finding may be based on the very difference between breast and bottle feeding. During breast feeding, milk is ejected at the back of the baby's mouth by the natural working of his jaw and throat muscles as he suckles. When the baby has had enough, the mother's teat retracts immediately, hence preventing any over flows of milk that may pool in the baby's mouth as is the case during bottle feeding when milk continues flowing from the rubber nipple even after the baby has stopped suckling. In such a manner, the bacteria that usually causes dental decay is avoided

among breast fed babies since the remnants of milk in which cultures of such bacteria would grow is hardly ever there in such babies mouths (Minchin, 1985) It has also been established that the levels of flouride in breast milk naturally adjust in accordance with the levels of flouride in drinking water available to both the breast feeding mother and child (Stanway and Stanway, 1978). Such a natural regulation process would therefore ensure that dental problems are limited even in areas where the levels of flouride found in drinking water are such that its users would suffer from decay or staining of their teeth. Such a property is unvailable in cows milk, for instance, where the level of flouride usually corresponds to that found in the water that the cows had drank (Stanway and Stanway, 1978).

During breast feeding, the nipple and the aveola (the coloured area surround the nipple) are taken into the baby's mouth. The baby relies on the friction created by pulling of the nipple back and forth onto the top of his mouth and pushing with his tongue from underneath to get milk (Jones, 1976). In contrast when a rubber nipple is used, milk flows directly down the baby's throat with barely any effort on his part. He now has to push his tongue forward, rather than backward and his lips have to be pursed outwards rather than tightened downwards. This abnormal tongue thrusting and swallowing pattern that goes with bottle-feeding is what usually causes lisping and incorrect use of the tongue during speech (Jones, 1976). Children who are breastfed therefore stand less chances of speech impairment or slack jaw muscles that would cause the mouth to stay open most of

the time. Slack jaw muscles can cause a baby to keep his lips apart most of the time as he would find keeping his mouth properly closed requires great effort. Such a baby therefore stands a greater chance of inhaling infectious agents than his breastfed counterpart who needs no effort to clasp his lips together because of well developed jaw muscles (Reynolds and Storey, 1979).

Breastfeeding, in the light of the argument articulated above is thus particularly advantageous to the child born and raised in the slum where even the atmosphere is loaded with infectious agents. He stands a relatively lesser chance of swallowing infectious agents such as flies becaues his lips can easily stay together. Furthermore, the bottle or cup fed child has been shown to have greater tendency to suck his thumb (Stanway and Stanway, 1978). This means that in the slum, where the levels of cleanliness are particularly low, the thumb sucking baby becomes more exposed to infection since he transfers the dirt on every thing he touches with his thumb into his alimentary system.

From the foregoing, It is evident that breast feeding has been shown beyond doubt to be related to the health of the new born baby. What stands to question however, is the extent to which such a relation can be positive in the face of external factors which virtually put the young children on " red - health - alert" throughout their lives. The attempt to answer such a question forms part of the motivation for the present study.

2.3. The problems associated with breast feeding

The practise of breast feeding is, however not an all rosy story. Some mothers who may have desired to breast feed find themselves unable to do so due to reasons beyond their control or due to some reasons which they could avoid but are rendered unable to because of many factors that stand in their way.

Most breast feeding mothers usually encounter the problem of breast infections. These include mastitis, thrush, blocked ducts and engorgement. Mastitis is a common kind of breast infection whose sysmptoms include headache, redness of the nipples, painfully swollen and hot breasts or even a flu-like feeling (Stanway and Stanway, 1978). Mastitis usually occurs between two to six months after delivery of the baby and can sometimes lead to nausea or vomiting (Lawrence, 1985). Women are rarely hospitalized for this problem but it usually causes a drop in milk supply. This forces most mothers to cease breast feeding their babies both because of the pain and the fact that babies do not receive enough milk from feeding sessions.

Thrush is a yeast infection to which many babies are exposed during birth through the vaginal canal. It is a fungoid infection of the throat in children. When thrush organisms are present in the new born's throat, they may be transmitted from his mouth to the mother's teats (Woessner *et al*, 1987) and this can appear as some white patches on the mother's teats which subsequently causes her to experience persistent soreness. Thrush normally fails to respond to treatment and may thus force the affected mother to stop breast feeding (Lawrence, 1985).

The ducts in the breast may also block due to external pressure from ill fitting brasseries or other forms of clothing. This usually causes milk to accumulate in the duct behind the blockage thereby creating a lump that brings about a swollen tender area on the breast (Stanway and Stanway 1978). The usual result is that such an area on the breast becomes inflammed and painful, especially when the affected mother attempts to suckle her baby. Such painful discomfort may make some mothers abandon breastfeeding.

Breast engorgement is the balloon-like swelling of the breasts that occurs when milk, blood and other fluids in the breast tissue accumulate for long periods (Oniango, 1988). When such an accumulation occurs the flow of blood and lymph is inhibited by the increased pressure of milk in the ducts (Woessner *et al*, 1987). This problem usually confronts working mothers who are still breast feeding because they have to stay away from their babies for long hours. Milk production in the breast naturally continues, and for this reason, the mother's breast becomes full and distended and this may lead to a further problem of leaking breasts when the accumulated milk slowly begins to trickle out of the teats. The pain and embarrasment mothers face because of engorgement thus prompts them not only to introduce other foods into their babies diets but to cease breast feeding altogether.

When living conditions are not so favourable such as in the case of a slum village, the children are more prone to disease and usually do suffer from a wide range of ailments that may force them off the breasts. During such bouts of illness, the

child's mother invariably suffers from engorgement and if the baby stays ill for too long, this may lead to the eventual failure of her milk producing reflexes.

Babies have also been known to temporarily reject the breast especially between four to ten months of age the baby just refuses to suckle and instead claws the breast or chews on the nipple as he simultaneously pushes it out of his mouth with his tongue (Saunders *et al* , 1988). Alternatively the baby nurses peacefully for a short while then suddenly throws back his head, arches his back and cries. The mother who faces such a situation becomes disillusioned and begins to think that her milk is no good or that her baby does not like her breasts (Stanway and stanway, 1978) Such a mother would naturally stop breast feeding and opt for available sustitutes. Yet such behaviour may have been only because the baby is sick (commonly from gripping belly pains) or because he is so wildly hungry thas he cannot wait for the milk to let down.

The use of the bottle in baby feeding has also brought its fair share of problems for those mothers who adopt it. Those mothers who introduce the bottle to their children while they are still very young and are actively breast feeding usually encounter the problem referred to as "nipple confusion" in their babies. The baby becomes unable to grasp the mothers soft nipple in his mouth (Saunders, *et al*, 1988). As has been explained earlier in this section the rubber nipple elicits a different type of tongue action from that of breast suckling. The baby eventually gets so used to the easier flow of milk from the bottle

that he finds it difficult to involve his lips and tongue in the more difficult process of suckling from the breasts. This problem is also referred to as "negative" or "flutter" sucking *(sanders et al* 1988)

Some natural processes of behaviour have also contributed to the problems mothers experience during breast feeding. Some babies may seem to prefer one breast to another and may completely refuse to nurse form one of the mother's breasts (sanders et al 1988). One probable reason for this behaviour may be that the mother usually holds her baby more confortably in one arm than in the other hence the baby gets more relaxed and enjoys his suckling while on one breast but he gets irritable and uncomfortable on the other breast. Most mothers may not understand this simple fact and may get upset or anxious over the baby's ability to get sufficient milk from only one breast. Such anxiety further impairs their ability to provide milk. Further more, the other breast may begin to get painful due to engorgement causing such mothers to abandon breast feeding.

The foregoing comprise some of the most common physiological problems encountered by breast feeding mothers and their babies. They contribute singly or plurally to the early cessation of breastfeeding even among the most willing mothers.

The process of social change has also contributed to the probems faced by breast feeding mothers. Many mothers for example now think that the practise is out moded and even find it embarrasing to breast feed their children in public places. This is partly due to the fact that the use of breast milk

substitutes, especially branded formula, has become so widespread that most mothers attempt to introduce them into their babies diets as a sign of keeping "in step" with "modern" trends. For the mothers who have other obligations to attend to single-handedly (may be because they cannot afford to hire help), the widespread availability and use of breast milk substitutes provides them with a viable and convenient alternative to being tied down by the "feed on demand" requirement of breast feeding (Gunther, 1976)

Social change has also seen to the diffusion of the hitherto Western idea that a woman's breasts are part of her sexual organs and should neither be seen in public nor get ruined in terms of shape and firmness. For this reason, many mothers in the developing countries today avoid breast feeding for the fear that it will ruin their breasts (Stanway and Stanway, 1978) On the other hand, some mothers just get too nervous and dismiss the whole affair as too complicated even before they begin (Minchin, 1985).

On the economic front, social change has contributed to the fact that most women have now shed the image of the traditional housewife and have instead progressively assumed the role of bread-winners. Consequently, the world's work force today has its fair share of women who have to rise early and retire late because of employment or related economic activity. The percentage of Kenyan women employed in the public (formal) sector has, for example, risen from 14.5% to 19.2% of all the persons employed in that sector between 1970 and 1982 (GOK/UNICEF,1989). Other sectors have even larger shares of women participants;

According to the 1977/78 labour force survey, 87% of the entire adult female population in Kenya was employed in Agricultural occupations (GOK, 1989).

In view of the foregoing trends, it has become increasingly difficult for women to reconcile breast feeding with their economic activities. Seasonal activity in Agricultural societies has for example conflicted with breast feeding because working in the fields during planting weeding or harvesting is one area where women participate actively.

Research has shown that in Bangladesh, breast feeding was considerably reduced, even ceased, during peak harvest seasons when women were busy with rice - processing activity *(Chen et al* 1979). In the Gambia, mothers reportely reduced breast feeding with increased demand for work in the fields *(Lunn et al 1979)*. Similar observations relating the decline of breast feeding with increased demand for outdoor activity have been made in Kenya (Van Steenbergen et al 1978). Such findings present the case that most mothers have to stop breast feeding so as to be able to support both themselves and their families by engaging in the pursuit of economic obligations.

From the foregoing argument, one may question the validity of the argument of convenience which has been repeatedly stressed by the proponents of breast feeding. Eiger and olds (1987) have for example written;

" You dont have to mix formulas. You dont have to scrub and sterlize bottles and nipples You never have to make up an

extra bottle at the last minute or throw out formula that your baby doesnt want. Working on the time honoured principle of supply and demand, Your mammary glands provide the amount of milk your baby wants."

(Eiger & Olds, 1987, p.63)

Yet one may argue that bottle-feeding is more convenient to mothers (especially those who have to work), because they are able to go about their pressing duties while just instructing someone elso to feed their baby using the bottle. This would not be possible with breast feeding because the baby should be fed on demand and this requires the constant presence of the mother.

It has also been stated that breast milk is more advantageous than other foods because it is easly digestible (Stanway and Stanway, 1978). This implies, however, that breast milk last for a shorter period in the babies stomach and the Mother has to avail her milk frequently. Women may find this tideous and inconvenient especially for the working ones who desire to nurse their babies.

Successful breast feeding requires that the mother be able to feed on the nutritious and well balanced diet as this enhances the production of milk by the baby on a continous scale. In such a requirement lies an almost insummountable problem for the poor slum-dwelling mother whose economic status can hardly allow for the consumption of such a diet during the entire period she may be breast feeding. Such a mother may soon see her milk supply dwindling and, in an effort to keep her baby satisfied, introduce other foods, subsequently weaning her baby earlier than she would have probably desired

A similar problem that may be faced by the slum dwelling mother who is breast feeding is the fact that due to the heavy infection load in the slum, such a mother may often be taken ill. During such a bout of illness, breast feeding may be affected either by the fact that the mother is too ill to nurse her baby or that her milk supply dwindles because of the illness, forcing her to provide other foods to her baby.

It is due to such problems and contradictions that the present study intends to find out what prompts mothers to introduce other foods into thier babies' diets sometimes rather too early or what reasons cause such mothers to cease breast feeding altogether. From the realization that certain alternatives to breast feeding may have to be sought by those mothers who have to stay away from their babies for long hours, it would only be reasonable to study the trends of breast feeding among a certain group of women with such pre-conditions in mind.

2.4. Contradictions Regarding Breast Feeding.

Advocates of breast feeding proclaim it,almost dogmatically, as the best way to feed one's baby. But in presenting such a case, certain conditions and complexities which arise for the breast feeding mother have either been overlooked or simply ignored. This section examines some of those contradictions and how the study integrates them into its goals.

Bottle feeding has for example, been shown to contradict breast feeding in certain ways. In a Malaysian study, Thomson and Black (1975) showed that the type of feeding had no statistically significant effect on the frequency of minor

respiratory or alimentary diseases in infants. A study of infant feeding in the United Kingdom also found that bottle fed infants, in contrast to breast feeding ones tended to weigh more (Roberts, 1982). Yet another study in Sheffield , England revealed that bottlefed babies gained weight faster in the first six weeks of life than breast fed ones (Taitz, 1976).

Such results, as the foregoing, may make mothers assume, perhaps incorrectly that bottle feeding can be even better for the baby than breast feeding. Weight 'per se' may have little to do with actual organic growth, mental development or overall bodily health but to an under educated slum dwelling mother, it may be the sole indicator of a healthy baby. The contradiction thus arises in the fact that such a woman would tend to wonder why she has to tie her self down to the inconvenience of breast feeding when her baby can thrive equally well on substitutes. But perhaps the type of substitutes provided to the child may play a crucial role in their bodily development and this, in turn, is determined by the mothers' ability to afford suitable substitutes for her baby.

It is with such a contradiction in mind that the present research probes into the kinds of additions that mothers in the slum would provide to their children together with or in place of breast milk.

The argument about the convenience of breast feeding presents a further contradiction to the mothers in the sense that they never really get to known exactly how much milk it takes to satisfy their babies. On the contrary, the graded bottle or cup

will enable the mothers to known, after a certain duration, exactly how much it takes to satisfy the baby. Even the mother who always uses the ungraded cup or bowl will soon 'boast' of this knowledge and be able, for example, to leave someone behind with her baby and provide precise instructions regarding how much the baby is to be fed. For the working mothers therefore, it would seem reasonable to begin early use of other feeding mothers so that when they have to resume work, their babies can stay behind and not starve or over stuffed with food.

Trends of and attitudes towards breast feeding in the developed countries have also been the source of a major contradiction to mothers in the developing countries. It has been argued earlier in this section how the latter category of women are more bound to breast feed their babies; the practice was part of societal norms gorvening nursing of children. Processes of social change such as diffusion and comercialzation, have seen to the Popularisation of the bottle as the alternative method of feeding ones' baby. Yet suddenly, there seems to have occured, an about-turn in regard to breast feeding in the developed world; it is now being said how "breast is best" and non-govermental organizations are sprouting in support of this cause. Naturally, mothers in the developing countries have been left feeling confused as to the source of or explanation for such contradictory stances.

Breast feeding therefore, is a practice that boasts numerous advantages both to the mother and her child but also presents contradictions even to its very enthusiastic "disciples". For that matter, one could say that for breast feeding to be

practiced successfully, many other factors ought to be considered and problems have to be overcome just as contradictions have to be resolved. Subsequently, it would help to carry out a research such as the present one and ascertain of sure the trends of the practice and its relationship to such factors as mother's employment, enviromental conditions or avvilabity of amenities instead of simply " hot gospelling" its superiority over the other feeding methods.

2.5. OPERATIONAL DEFINITIONS.

1. Breast feeding.

In this study, breast feeding refers to the giving of the breast to the baby in response to his needs for food, drink or soothing. It is understandable that most mothers tend to introduce other foods into their babies diets from the age of four months and hence this definition includes "giving the breast and some foods for the period upto twenty-four mothers after birth".

2. Breast-milk substitutes

These, in the study, refer to those foods, other than breast milk which are given to the baby during his first twenty-four months of life. Such foods may either be home-made or industrially prepared and thus include potatoes, porridge ("uji"), water, tinned cereals, cow's milk, eggs, juices, powdered milk and fruits.

3. Accessibility to medical attention

In the present study, this has been defined as the

respondents' ability to receive health care, at the hands of doctors or nurses who man the particular clinics or hospitals to which the respondents take their babies. Hence the opening question in section D is "how long ago was (baby) examined by a health officer?" and the closing question in that section is "do you receive due attention at the hospital when you take your baby"?.

4. Slum Village

A slum village is herein understood to be a disorganised area of sub-standard housing which is decadent, squalid and overcrowded. Such a slum village is also understood to be lacking in facilities such as tapped water, electricity and toilet, drainage and sewage systems. it has therefore been assumed that those who inhabit such an area are the human derelicts who belong to the lowest economic status.

2.6 THEORETICAL FRAMEWORK

HOW MODERNITY HAS AFFECTED BREASTFEEDING: AN APPLICATION OF SOCIAL CHANGE THEORIES

Breastfeeding, like most other practices is constantly undergoing change. This is the reason why this study had to focus on the "trends" the practise is undergoing before attempting to relate it to such issues as child health. This was also the reason why it was felt that certain theories of social change would best provide a suitable framework for this study.

Social change is the process by which alteration occurs into the structure and function of a social system (Rogers, 1971). Social change consists of three sequential stages viz: invention, diffusion and consequences. Invention is the process by which new ideas and practices are created. Diffusion is the process by which those ideas and practices are communicated. Consequences are reflected in the changes that occur due to adoption or rejection of the innovation.

Infant formula and the bottle could be viewed as examples of invention. The manner in which mothers get to know about them (such as through salesmen or the mass media) can be seen to entail the diffusion process. Consequences, then would be the resultant trend that breast feeding has taken due to the introduction of infant formula and the feeding bottle.

Social change can be discussed vis-a-vis the source of change. When change originates from within a society, it is referred to as "immanent change". When change occurs as a result

of interaction between two systems (from one society to another), it is referred to as "contact change".

Immanent Change

Certain factors such as rapid urbanization and rising levels of education have contributed to immanent change among Kenyan women. Women are increasingly becoming involved in Kenya's industrial sector. Statistics from the Government's Annual Census of Employment and Earning in the Modern Sector (CBS, 1983) show that female participation in industries has increased at a faster rate (83.2%) than that of men 46.5%)

Once settled in the urban areas, women realize a greater degree of independence due to the absence, for example, of the inhibiting traditional extended family. One scholar summarized it thus; "women are making use of opportunities of the urban area to become economically independent by supporting themselves..." (Hellman, 1948). Because of this new-found independence from male patronage, certain examples of immanent change can be noticed among Kenyan women.

One such example is single parenthood. The urban (and probably modern) independent woman realizes that she can avoid being the traditional African housewife and that she can earn a living for herself, on her own. Shoud such a woman beget a child, by plan or by accident, she would justificiably feel equipped to bring up her child on her own. Such an urban woman will have less time for child care because of her entrepreneural or careerist tendencies. Invariably, she nurses for a short period and resorts to breast milk substitutes.

Single parenthood can also result from divorce, abandonment by one spouse or death. This study, in emphasizing the marital status of the respondents hopes to discern any significant differences arising from such a relationship between single parenthood and breastfeeding.

Other examples of immanent change shall be sought from the results of the study and shall be used to shed light on the trends of breastfeeding in Kibera.

Contact change

Contant change occurs as notions and practises are diffused from one society to another. Breasts, for example, have increasingly been viewed as sex-symbols in the western countries of the world. This perception has seemingly been taken up by certain women in developing countries such as Kenya and has gained forceful stature especially among the younger generation of mothers who subsequently cease breast feeding as early as possible to prevent their breasts from losing their form and firmness in the process of nursing babies. Contact change can be "selective" or "directed".

"Selective contact change"

"Selective contant change" occurs when members of a society are exposed to some external influence and adopt (or reject) it. The coming of the British into Kenya had profound effects on the traditional make-up of the Kenyan society. Perhaps the most notable was the introduction of formal education by the missionaries. Naturally, women also took part in the education

process - the percentage growth rate for women enrolling in primary school between 1950 to 1990 was 10.0% compared to 6.9% of male enrollment (Robertson, 1985). In 1963, girls constituted 34.0% of the total number of students, the figure rose to 47.0% in 1978 (GoK, 1978).

It thus becomes evident that more and more of the Kenyan female population gained access to education because of the colonization process, a process Neil Smelser aptly equated to the modernization process (Smelser, 1963). This exemplifies "selective contact change" because the choice to seek education is usually personal.

The educated woman usually becomes pre-occupied with the desire to further her achievements beyond the traditional child-bearing and child rearing roles. With education, such a desire is usually fulfilled in formal employment or well-planned entrepreneurship. Consequently, such a woman will have little time for breast feeding her baby well into the second year after delivery.

Even where education levels are evidently low, other avenues of "selective contact change" present themselves to the Kenyan woman. Neil Smelser (1939) also listed the shift from the agricultural type of economy to the more commercial and industrial as a modernization process. The effect such a shift has had locally is that the women who hither to actively participated in agricultural activities in the rural area now increasingly migrate into urban areas and seek other means of livelihood.

Directed contact change

This is the kind of change caused by outsiders who intentionally seek to introduce new ideas in specific ways in order to achieve pre-defined goals. In pursuing such a line of thought, we wish to introduce the concepts of imperialism and dependency.

James O'connor defines imperialism as the "formal or informal control over local economic resources in a manner advantageous to the metropolitan power and at the expense of the local economy" (O'connor, 1970).

Dos Santos has defined dependency as " a situation in which a certain group of countries have their economies conditioned by the development and expansion of another economy to which their own is subjected" (Dos Santos, 1970).

An economy such as Kenya's in its developing state, is virtually conditioned and shaped by its dependence on the technological, financial, political and ideological trends of the industrialized nations. The historical roots of imperialism have had the purpose of ensuring that we receive technological and financial support (aid) based on our political and ideological alignment to the donor country. Such a trend has led to the deeper entrenchment of multi-national corporations (MNCs) in this (and other) developing economies.

Of particular concern to this tudy are such MNCs as Nestle and Wyeth that have used all means to flood the local market with convenient breast milk substitutes bearing such brand neames as "Nan", "SM", "Lactogen", "S-26" and so on. Such cultural

diffusion based on commercial proposes has become so widespread that even the poor rural or slum dwelling mothers struggle to feed these artificial infant feeding formulas to their babies either simply to be seen "to be with the times" or as alternatives to nursing these babies during the day-time whe other obligations stand in the way of breast feeding. .

Wyeth has, for example, published a book ("The Baby Book, 1988") which is distributed free to mothers either through private clinics, chemists or even through shopkeepers. In this book, the MNC casts subtle doubts on the superiority of brest milk in determing child health and proceeds to advocate alternative infant feeding formulas, like their own "S-26". The effect has been so devastatingly successful that it has prompted vigorous anti-formula campaigns from such pro-breast feeding groups as "The International Baby Food Action Network" (IBFAN) and The Breastfeeding Information Group (BIG).

It ought to be noted that the effects of such organized and direct contact change have been such that even low income slum dwelling mothers begin to doubt the overall importance of breast milk. Therefore, in circumstances where they can ill-afford branded infant formula, they struggle to do so and in the process even misuse them, for example, by over-dilution.

Using the foregoing theoretical framework, the present study intends to establish, among other things, the prevalence of breast feeding among slum-dwelling mothers and how their ability to breast feed is related to their educational levels or work statuses. The study also hopes to shed light on the relationship between breast feeding and child health and to understand what

reasons usually compel some mothers to abandon breast feeding despite its numerous advantages to both mother and child.

CHAPTER THREE

METHODS OF THE STUDY

3.1 SITE DESCRIPTION

This study was carried out in "Laini-saba" village of the Kibera slum area. Its main concern was to understand the prevalence and trends of breast feeding among low income slum-dwelling mothers, as well as what effects those had on the health of children born to such mothers.

Kibera was chosen for the purposes of this study because it is one of the two largest slum areas in Nairobi (the other being Mathare). It comprises of upto nine "slum villages" namely Makina, Lindi, Mashimoni, Soweto, Kisumu-ndogo, Katwikira, Kianda, Silanga and Laini-saba. Kibera is a peri-urban area that is about six kilometres south-west of the city centre. It is bounded on the south by Nairobi Dam and the Mutoini river; on the west by the Jamhuri Park and the Kibera Railway Station and the north-west by the Ngong Forest.

The relative proximity of the city centre and the industrial area has made Kibera an attractive residential area for the low income groups (even the jobless) for they can more easily walk the shorter distance to and from their places of work as compared to the further distance they would have to cover from Nairobi's other slum areas such as Mathare, Kawangware or Kangemi.

"Laini-saba" village in Kibera was chosen particularly because it is the largest of the area's nine villages. This being the case, sampling was bound to be more representative as it would cover a larger number of residents compared to

be more representative as it would cover a larger number of residents compared to the other villages. Such a large number would ensure better cross-sectional representation of the low income class usually found in slums. Since the study also intended to gauge the impact, if any, of such factors as education, employment or accessibility to and availability of health services on breast feeding, it was felt that "Laini-saba" typically inhabited by "the down and out" (Gist and Halbert, 1979) was bound to provide a better picture of how such factors would relate to breast feeding as they normally prevail in their extremes under squalid conditions as "Laini-saba's".

Furthermore, a slum village such as "Laini-saba" is not bound to be paid much attention to in terms of the provision of basic services such as health care, piped water or toilet facilities by city authorities because it is considered "transitional and decadently sub-standard" (Clark, 1971). This fact, coupled with the emphasis on breast milk's immunologic and therapeutic value to children (see literature review), made this slum village a suitable site for a study of the relationship between child health and the existence of such facilities. The squalid conditions in "Laini-saba" would also enhance a study of the value of breast feeding to a child born in the slum.

Kibera was first settled in 1912 when it was still a military reserve under the direct administration of the city authorities (Clark, 1971). The area mushroomed as a slum during the state of emergency when many workers from western Kenya streamed into Nairobi to replace the hitherto Kikuyu labour force which had been depleted when most Kikuyus fled Nairobi during the

emergency (Ibid, 1971). These new workers settled in such areas as Kibera, Kariobangi and Mathare by building makeshift houses on self-allocated land. The lack of control by the colonial administration of the sprouting of these slums, would appear to be a deliberate oversight as the sudden influx of people from otehr parts of Kenya was a welcome source of labour and how or where they lived was secodnary to their presence in the City.

Eventually, residence in Kibera assumed the clustered form especially due to residence in groups based on ethnicity and areas of origin. This led, for example, to the Luos clustering in one area, later to be known as "Kisumu-ndogo", the Luhya's settling in another areas now called "Silanga" and the Nubians occupying what is now called "Mashimoni" (Aseda, 1990 - see footnote)*. One cannot however take it that the said villages are the reserve of the respective ethnic groups. Kibera's slum villages, like in all urban slums, reflect great ethnic diversity.

"Laini-saba" village comprises of small and numerous housing units most of which appear makeshift and temporary. The majority of the structures have roofs of corrugated iron sheets and straightened tins. The dominant wall material is earthen and even where some cementing has been done, it is usually so roughly finished that mud can still be seen at the sides where the walls meets the roof.

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* This information was provided to the researcher by an old man named Aseda Mark who claims to have resided in Kibera's "Laini-saba" since 1969. He is about 75 years old and lives in a self-constructed shack

Most of those structures have earthen floors and are one-roomed. The research team was made to understand by the residents how those makeshift houses usually collapse especially during heavy down-pours or strong winds. This goes to show how weak and temporary they really are and the probable desperation of the residents who apparently inhabit these structures with the knowledge of their inability to stand the pressures of time.

In the village, houses are so closely knit together that walking is made very difficult, especially so when it rains. One is forced to pass very close to the resident's doorways and to stoop low, since, in most cases, roofs are quite low and virtually join another. The residents of ;the village seem to know one another by name. This knowledfe is probably enhanced by the fact that the houses are so close to each other and they share walls. There is a definite lack of privacy which encourages the kind of interpersonal relationship evident in kthe village. In fact some doorways of houses in adjacent rows are directly opposite each other such that when one's door is open, he can easily see and talk to the other person in the house directly opposite. This kind of "intimacy" enhanced the discovery of answers to questions about which some of the respondents had proved elusive such as marital status or persons with whom children were left behind during the day.

There are no proper roads or pathways in "Laini-saba" . Rather, passages exit which connect one row of houses to another. When it is hot and dry, the dust rises almost ankle-deep as one walks and the wind blows it directly into the houses; when it

rains, the mud penetrates doorways and forces one to wade through while carrying shoers in the hands. Such conditions also enhanced the choice of site since it was felt that it would be very difficult to maintain high standards of cleanliness here and hence young children become more exposed to health hazards especially if their food is prepared externally i.e, if they are not breast feeding exclusively. Even the sterilization of bottles or cups for feeding the babies would be an almost futile exercise by "Laini-saba" mothers under such condition as the above. Consequently if breast feeding indeed provides a "safety-valve" effect to the baby's health vis-a-vis his environment, then such an effect should be felt more in slums than any where else.

"Laini-saba" is filthy. It is littered all over with used and waste material which because of lack of organized collection by city authorities is thrown anyhow by the residents.Young children, who are unable to use the few existing pit-latrines defecate in any open space. For such reasons, "Laini-saba" is characterised by an unpleasant smell at most times especially when it is hot and dry.

Water is scarce. When it rains, therefore, residents collect rain-water by the pail which is placed strategically below the edge of the roof from where rain-water slides down. For that reason, the residents are also exposed to water-borne diseases such as typhoid since such water brings with it all the filth that accumulates on the roof during the dry season. Such risks are heightened by the fact that some residents collect water from the only river (Mutoini) which flows between the slum village and

the neighbouring Langata area. This same river also drains away sewage from the nearby Langata women's prison. A few taps exist which have been installed by certain people who sell water to the residents by the pail and later settle the water bills from the city authorities. Such an exercise may be illegal but it is the only way through which "Laini-saba" residents can receive clean, treated, tapped water since the city autholrities consider the slum transitional and temporary, unworthy of the installation of tapped water for everybody's use.

There are many small kiosks and open air stalls, that serve residents. From these, such foodstuffs as fish, "sukuma-wiki", tomatoes, onions, cabbages or potatoes can be purchased.

3.2. SAMPLE SELECTION:

To select the sample, this researcher made a one week tour of "Laini-Saba" village for the purposes of familiarization with both the village and its residents. It was also meant to help in the demarcation and targeting of the actual boundaries of this study as well as the eligibility of the mothers and children intended for research. For this purpose, the services of one person who works in the Chief's office were employed. He is also a resident of the neighbouring "Kisumu Ndogo" village and knew the Kibera area very well, having lived there for the past seven years.

A list of all the residents of "Laini-Saba" village was obtained from the KANU (Youthwingers') office. This researcher was made to understand that the list was recently compiled during the national recruitment exercise in the first quarter of 1989 when the Youthwingers had gone from door to door asking residents to enlist in Kenya's sole political party, the Kenya African National Union (KANU).

It was decided by the researcher that a sample size of one hundred would be appropriate considering the time and resource limits of the present study. This sample would include:

(a) Those mothers with children below twenty-four months of age and were breast feeding during the study

and

(b) Those mothers who had children below twenty-four months of age but had either stopped breast feeding or had never actually breast fed in the immediate past.

Originally, a door to door survey meant to identify houses with mothers who had children below twenty-four months was undertaken by the researcher. The technique of "snow-balling" was applied based on the fact that most slum residents tend to know one another well due to the inter-personal interaction which is facilitated by the close-knit nature of their residential units. In a row of ten houses, for example, a visit to one or two of the houses was usually enough to reveal the presence of other women in the remaining houses and if those women had babies below twenty-four months of age or not. In such a manner, the whole of "Laini-saba" was covered by the survey in a fortnight after which the researcher had a list of about six hundred and fifty "eligible" households (those with children below twenty-four months of age Who were either breastfeeding or had stopped breast feeding).

Each name on the said list was given a numerical identification ranging from 0 to 650 in accordance with the statistical table of random number (see Appendix two). Using the said table, the elementary method of random sampling (choice of a number by random pin-pointing) was used to select one hundred and fifty households comprising both the mothers who were presently breast feeding and those who had stopped, in or never breastfed the immediate past. A number would be pin-pointed on the table and the corresponding name (of mother) on the list was noted on a separate sheet of paper. This proccess was repeated one hundred and fifty times with the extra fifty being used as a reserve sample from which an alternative could be drawn in cases of sudden change of residence or other occurrences that would

eliminate the prospects of an interview during the actual research. Out of the final one hundred selected for the present study, fifty-eight were breast feeding during the study while forty two had ceased breast feeding in the immediate past.

When the sampling process and the process of testing the eligibility of mothers and children was complete, a further ten eligible mothers were randomly picked from the reserve sample of fifty, for the purposes of pre-testing the questionnaire intended for use during the study. A few questions from the questionnaire were randomly asked and any one that proved ineffective was re-structured before the final copies of the questionnaire were printed.

Some instances of such restructuring occurred in the following instances:

(a) Section B, Question No. 9, where the original question had sought to know how many times a respondent ate each day. It was found out that this would not reflect a true picture of the household's ability to afford a given number of meals since a respondent may eat away from her house, or more commonly, may prepare a meal for her children and go without food herself. The question was thus changed to read, "How many meals do you prepare per day ?". Coupled with an ensuing question which sought to know if there usually was enough food for everyone in the house, it was felt that a better picture of affordability would emerge. Sometime, food may be cooked to last the whole day or for two days but usually an accompanying portion such as ugali, rice or potatoes would still have to be prepared.

(b) Section C I, Questions No. 3 and 4, where the original question had sought to know only if the respondent fed her child "on breast milk all the times or for just some parts of the day". It was realized that responses here would not reveal the true picture for those respondents who were breast feeding but also giving their babies other foods. Hence, the question was separated into two (No. 3 and 4) the first of which only sought to find out the basic feeding pattern and mother's participation. The second question then sought to find out if such mothers fed their children only on breast milk or some other foods.

3.3. DATA - COLLECTION

The face-to-face interview was the main technique used for data collection in the present study. This was based on a questionnaire which consisted of both structured and unstructured questions. Data collection was carried out by the researcher and two female assistants in Kibera area who were both form six level school leavers. These assistants were chosen on the basis of their experience in assisting researchers in Kibera area and one of them especially because of her residence in "Laini-saba" village. Furthermore, it was felt by the researcher that since breast feeding is a feminine practise, respondents would find it easier to converse with female interviewers about it.

The questionnaire (see Appendix one) was divided into sections A to D. Section A was aimed at gaining demographic information of the respondents. Section B was concerned with the households headed by the respondents and also sought information regarding the surrounding environment. Section C dealt with the practise of breast feeding and was divided into two sub sections. The first part was aimed at respondents who were breast feeding during the study while the second part dealt with respondents who had breast fed sometimes before the study but had now stopped doing so. Section D focused on the health status of the respondents' babies and also sought information on the respondents' accessibility to the available health care servies.

Some parts of the questionnaire, especially the initial part of section B which involved the nature of the houses occupied by the residents, did not require conversation with the respondents

and were effectively completed by observation. In most instances, the questions were of the structured, closed type, providing certain categories of responses in the form of multiple-choice. Nevertheless, in the majority of these instances, the last choice was often left open (categorized as "other") in cases where respondents had answers that did not appear among the provided categories.

It was only a few of the questions, such as numbers (17-19) of section CI,that were of the unstructured ,open-ended type. These were made so because they dealt with issues for which the respondents could not be expected to provide similar answers which could be structured in expected categories. Such issues included the problems breastfeeding mothers faced and what they did to resolve such probems as well as the nature of support mothers received, from different sources, toward breast feeding. It was expected that such unstructured questions would enable the respondents to "open up" and answer in their own terms.

The research team divided, among themselves, a given number of households for each member. Interviews were then carried out on a door to door, daily visit basis. Early morning visits, which proved unpopular with many of the respondents, were used for introduction and familiarization purposes and it was during such visits that appointments would be made with the respondents for later interviews most of which took place in the evenings or during lunch hours (between 5.30 pm to 7.pm and between 12.30 pm to 1.45 pm) Such durations mostly proved insufficient for the completion of one interview and re-visits were subsequently arranged for.

Data collection took a period of upto six months. This was mainly because respondents could not answer all the questions at one sitting and had to be revisited more than once. Each respondent was usually visited two to three times before the interview was completed. The approximate length of each sitting being between forty to fifty minutes, it can be said that it took the researchers about one and ahalf hours to complete each interview. Furthermore, it was discovered that for free and honest responses to questions, it was better that the respondents be visited more than once and that interviewing take place on a piece-meal basis. When respondents were bombarded by thirty or so questions at one sitting, they tended to become progressively disenchanted and therefore unco-operative.

3.4. DATA -ANALYSIS

The study employed both descriptive and inferential statistics in data analysis. The statistical package for the social science (SPSS) program was used to feed raw data into the computer. The subsequent computer processing included simple counting and tabulating, transformation of various variables used in the study, recording, sampling, selecting and weighting the data as well as cross -tabulating the variables.

During counting and tabulation, the researcher used the computer to arrive at means, modes, medians variances, standard errors, standard deviations and skewness. These were then translated into descriptive data by interpreting the various tables obtained (see chapter on data description).

Having accomplished the foregoing, analysis was shifted to cross tabulations which were again done by the computer using both the chi-square (x^2) and the correlation coefficient (r) tests to arrive at inferential and interrelated analysis of the data. Such cross-tabulations were carried out in order to test the study's hypotheses.

3.5. THE STUDY'S HYPOTHESES

The following hypotheses were constructed for testing during data analysis:

1. The nature of a mother's occupation is unrelated to her ability to breastfeed on resumption of work.

2. The level of education attained by a mother does not influence her decision to breastfeed.

3. The health status of a child is independent of the period during which that child was exclusively breastfed.

4. The nature of disease which a child suffers from is not determined by whether he was receiving breastmilk or not.

3.6. PROBLEMS ENCOUNTERED DURING DATA - COLLECTION

Various problems were encountered during the period of data-collection, most critical of which included :-

(a) Language barrier

Despite the fact that an overwhelming number of mothers could understand English, and thus comprehend the interview questions, cases were encountered where Kiswahili or some ethnic language was the only open avenue for mutual communication. The research team was thus compelled to construct a Kiswahili translation of the questionnaire. In four cases it was discovered during pre-testing that respondents could not understand both English and Kiswahili and this forced the researcher to pick altenative respondents from the reserve sample.

Yet a greater degree of confusion arose in the use of local names for diseases such as Bronchitis, Tetanus or Anaemia appearing in section D of the questionnaire. Quite a number of the respondents apparently referred to the same disease by more than one different local name. Meticulous care thus had to be taken to avoid confusing for example, Bronchitis, Flu and Respiratory illness all of which are reffered to as "Homa" in kiswahili. Malaria and fever also fell in the same category especially because it is hard to differentiate the two in the affected baby without diagnosis. The researcher would therefore have to ask for the affected babies' medical cards to ascertain the precise nature of ailment. Some twelve mothers had misplaced their babies' medical cards and the researcher had to visit the

Lang'ata dispensary where they had taken those babies and peruse the records kept there. The staff were justifiably uncooperative in this exercise because of the inconvenience of having to dig into past records.

(b) Employment (Work Status):

Over half of the respondents selected happened to be engaged in some form of employment or another and hence had to be leaving their houses early every morning only to return later in the evenings. For ample access to such respondents, the research team would stay in the village till later everyday. Weekends and holidays proved bestfor interviews as the respondents were available and usally more relaxed than during the weekdays when upon their return, they would be visibly exhausted or very busy with household chores.

The availability of respondents proved to be something of a dilemma even for those unemployed respondents because they hardly stayed in their houses. Some claimed that they were job -hunting while others relegated staying at home as a boring venture not to be dared and probably just went visiting or loitering around the city. In such cases, the research team would make arrangements with these potential respondents and carry out interviews on days or times decided upon by appointment.

(c) Recall and judgement:

Gathering data in section D of the questionnaire (morbidity of the babies) was especially difficult due to the twin problem of recall and judgement. Mothers found it

particularly difficult to recall,exactly , the last ailment that their babies had suffered from and how long the bout lasted. Furthermore, it was discovered that judgement as to what ails one's baby is subjective. The same disease may be judged differently by mothers such that whereas one mother whose baby suffered from a bout of mild Pneumonia may report a severe case of fever, the other may report a case of malaria, for a similar ailment (mild Pneumonia).

In such cases, the researcher sought the affected baby's medical card and confirmed the nature of ailment from the written records.

(d) Mistrust and fear of Victimization:

Some of the repondents viewed the research team with the kind of caution that almost bordered on outright mistrust. Infact some were non-starters in the interview process, either becoming plainly elusive or giving excuses that roughly translated into a declaration that they did not wish to be treated as Guinea-pigs for research. Some even considered breasting -feeding such a private matter that they would have nothing to discuss about it, especially with a member of the opposite sex (this researcher).

In cases where potential respondents declined to participate for reasons based on suspicion and mistrust, all efforts were made to convince them about the pure academic orientation of the present study and how its findings could possibly be used to implement programmes that would be to the benefit of "Laini-Saba" residents. If such efforts failed, new respondents would be

sought from the reserve sample.

Even where there was consent for an interview, responses to certain questions were deliberately watered down or persistently avoided. This problem was specifically noted in section C and D of the questionnaire. When respondents were, for example asked to evaluate the medical facilities and personnel which they had access to, some expressed the fear that since this study may extend to those personnel, it would be almost self-destructive to be revealed as having victimized the very people who helped their babies during sickness. Furthermore, the majority of the clinics in Kibera are privately owned and the proprietors are under no strict obligation to attend to these mothers. The situation is almost similar to that of the hotel industry where "the management reserves the right of admission".

Faced with such problems, the research team tried to convince the respondents about the absence of any ill_intentions with the results of the interviewing process, the idea being to reinforce and expand the services for the community's overall benefit rather than to displace any one involved in the provision of these services.

(e) Marital Status And Age disclosure:

Those respondents who were married but did not have husbands in residence with them seemed to be hesitant about disclosing their marital status at first. Another such hesitant category consisted of single parents who had children telling the researchers about an "uncle" or two who usually visited but no "daddy" despite reports by the respondents that their husbands were away somewhere.Two divorcees originally told of how sad it

was that their children's fathers were "dead" but it was later learnt, in one case through a neighbour and in another, through a maid, that the respondents were actually separated from their spouses.

Marital status was important as part of the demographic information on the respondents and as a partial indicator of the possibilities open to a lactating mother in continuing breast feeding while her husband or "resident guardian"(e.g boy friend) fulfills economic obligations of the household. Such possibilities would, for example, be very limited to a single mother who being the sole-breadwinner has to abandon breast feeding in her search for economic means.

Having realized the stigmatization that African women dread over having no husband, the researchers would chat casually but probingly with neighbours, children or maids about the elusive respondents. Disclosure was also restrained when it came to age,with some respondents even wondering aloud about the relevance of their ages to a breastfeeding study. At times, respondents would quote an age that sounded like a ridiculous fabrication judging from their physical,particularly facial features. It being rather difficult to know somebody's exact age, the use of such features was only applied to cases where the respondents disclosures appeared obviously misleading.

The foregoing formed the core of the main problems encountered during the process of gathering data. As with every research, other minor obstacles and doubts prevailed such as the

fact that it is usually almost impossible to know if a respondent is telling the whole truth in answering interview questions but such instances were covered by the positive assumption that honesty prevailed and the study proceeded to its conclusion.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

The findings in this report are based on randomly selected samples of fifty-eight (58) mothers who were breast feeding during the study and forty-two (42) mothers who were not breast feeding during the study. These samples form the total population frame of one-hundred (100) mothers who had been randomly selected from "Laini-saba" village in Kibera, as described in the preceeding chapter on methodology.

This chapter combines both presentation and analysis of data. General observation based on tabulations as well as analytical statements based on cross-tabulations, regressions and correlations are thus herein presented

4.1 DEMOGRAPHIC ASPECTS

AGE.

Most of the mothers were between 21-30 years of age (66%) with only a paltry 4% being over thirty-six years old.

Table 1. Age Distribution of "Laini-saba" mothers.

Age (Yrs)	No	%
15 - 20	18	18.0
21 - 25	30	30.0
26 - 30	36	36.0
31 - 35	12	12.0
36 - 40	4	4.0
	100	100.0

This reveals that most women who live in Laini-saba" are only now in the prime of their lives.

MARITAL STATUS.

The data gathered on marital status revealed that most of the women interviewed were married (43.0%) even though 30.0 were still single. Divorce claimed 17.0% of the sample, while 10.0% were widowed women.

Table-2 Marital status of "Laini-saba" mothers

STATUS	NO	%
Unmarried	30	30.0
Divorced	17	17.0
Widowed	10	10.0
Married	43	
	100	100.0

Of the 57.0% who were not married during the study, 16.0% turned out to have some kind of male associate (e.g. a boy friend) while 41.0% reported that they did not have any attachment to particular male associates. The latter figure appears unrealistic and may only mean that such respondents were either being elusive about their marital association or did not have any stable relationship to report about. For the age category of the women encountered in the research, it is unusual that such persons would not have any attachment to some male figures.

35.4
9.6
45.0
41.9
86

Table-3 Residence & Employment of Husbands/Guardians.

Response Category	Husband/Guardian in residence		Husband/Guardian Employed	
Yes	41	(41.0%)	48	(48.0%)
No	18	(18.0%)	11	(11.0%)
Not Applicable	41	(41.0%)	41	(41.0%)
	100	(100.0%)	100	(100.0%)

Of the 59.0% who were either married or attached to some man, 41.0% had these men in residence with them in "Laini-saba" while 18.0% were residing on their own. Forty-eight percent reported that their men were employed while 11.0% were attached to unemployed men.

EXTRA OBSERVATION ON MARITAL STATUS, RESIDENCE AND EMPLOYMENT.

In most cases, either the respondent was employed and residing on her own (without a husband or guardian) or the respondent was unemployed but sharing residence with a man. Alternatively residence was shared and both respondent and husband or guardian were employed. It was thus fairly easy to comprehend how such households managed to survive in the city. Such preliminary observations also shed light on the extent to which such households could afford child care (as is articulated later in this chapter).

In some cases, however, a respondent was unemployed and had no man for a husband or a guardian and yet still managed to live no houses for which they paid rent monthly. Four percent of the respondents fell under this category. A further 2.0% were

unemployed and had no men but were living in inherited or purchased houses.

This study did not venture into finding explanations for such occurences but possible explanations include the fact that this 2.0% could consist of widows and divorcees who may have inherited the houses from their spouses. Other striking cases were where an unemployed repondent had a husband or a guardian who was employed but did not seem to be sharing her residence. A possible explanation here may be that the husband or a guardian was providing, from whenever he was, the said respondent with money to meet her monthly obligations.

Such cases have been mentioned to highlight the complicated nature of life in the slums. It is among such cases where one may find suggestive evidence of slum residents engaged in such vices as prostitution or thievery, to make ends meet. Such cases may also point out the inevitable fact that some slum dwellers may not feel entirely easy about telling the truth about themselves to an outsider.

RESIDENCE

Data was also gathered on how long the repondents had lived in Lain-saba and for how long they expected to stay in this slum. It was discovered that 33.0% of the respondents had not resided in the village for more than two (2) years.

Table-4 Period of Residence in Laini-saba"

Period (Yers)	0	1	2	3	4	5	6	7	8	9	10	11	
Number	3	16	14	17	6	6	8	9	6	7	5	3	100
%	3.0	16.0	14.0	17.0	6.0	6.0	8.0	9.0	6.00	7.0	5.0	3.0	100

Without going into the migratory background of the respondents, it would appear that "Laini-saba", like most other slum villages is characterized by what one may refer to as "stability of residence" wherein residence is more permanent than temporary hence the fact that only 19.0 of the respondents had not resided in Laini-saba" for more than one year. To put such an argument in perspective, data was collected on the expected duration of residence with the result that most of the repondents (49.0%) were not expecting to leave in a year or two hence stating "indefinite" as their answer.

Table 5 period of expected inhabitance in Laini-saba"

Period (Yrs)	No .	%
1	9	9.0
2	5	5.0
3	3	3.0
4	6	6.0
Indefinite	49	49.0
No Answer	28	28.0
	100	100.0

It is evident that only 23.0% ot the respondents were able to forecast into the future and predict change of residence in under four (4) years. The remaining 77.0% showed that typical uncertainly that characterizes people of this economic group. No major positive changes are expected in the immediate future life to warrant change of residence. In fact one resident epitomized this by stating that she expected to stay in "Laini-saba" until her death.

4.2. ECONOMIC ASPECTS

EMPLOYMENT

It was found that 66.0% of "Laini-saba women were employed in some way or another . The other 34.0% were unemployed and it turned out that most of them lived with (or had) employed men as husbands or guardians hence largely depended on their "spouses" for survial.

Occupation

Those who said they were employed reported a wide range of occupation categories ranging from cleaners to traders.

8.5
21.2
29.7
39.3
69.0
25.6
94.6

Table 6 - Occupation categories of "Laini-saba" mothers

Occupation	No .	%
Cleaner	5	7.6
Casual labourer	11	16.7
House girl	25	37.9
Trader	9	13.6
Hawker	6	9.0
Clerk	5	7.5
Messenger	5	7.5
	66	100.0

The largest category of those employed (37.9%) happended to be housemaids while the second largest category (16.7%) consisted of casual labourers. It is noteworthy that only 7.6% of those women were engaged in clerical duties. This reveals that avenues for white-collar jobs are almost closed to them probably by virtue of low levels of education as shown below:

Table 7 - Years spent in school

Years in school	0 -3	4- 6	7 - 9	10-12
Number	20	33	36	11
%	20.0	33.0	36.0	11.0

Table 8 - Education level attained

Level of Education	STD 0 - 4	STD 5 - 8	FORM 1 - 2	FORM 3 - 4
Number	36	49	4	11
%	36.0	49.0	4.0	11.0

One can immediately discern that most of the respondents did not go beyond primary school level, with the greatest concentration being between the standard five to eight level which 49.0% of them reported having attained. Only 15% of them had gone through secondary school education and this may explain why only 15.2% reported securing office related jobs (clerks and messengers) where such levels of schooling are usually a prerequisite. In fact all the five who said they were clerks had secondary educuation of between forms two and four. Low levels of education and blue collar, poorly paying jobs are thus features that plague the slum-dwellers of this urban village.

OCCUPATION AND CHILDREN

When the working mothers who were breast feeding during the study were asked if they usually carried their children to their work places, only 12.5% answered in the affirmative, the remaining 87.5% said they were not able to carry their children to their work-places. Cross tabulation analysis based on the chi-square and correlation coefficient rejected the hypothesis that the type of work a mother does is unrelated to her decision to carry her child to her work-place and hence the length of time that she continues breast feeding.

Table 9 Occupation and ability to carry breast feeding child to work

Occupation	Is child carried to work		Reasons ?			
	Yes	No	Not allowed	Inconveniet (to mother	No alter. No choice	Impossible
Cleaner	--	3	2	--	--	1
Casual labr	--	3	1	--	--	2
House girl	3	11	6	5	2	1
Trader	3	2	--	2	1	--
Hawker	2	--	--	--	1	--
Clerk	--	5	1	1	--	2
Massenger	--	5	1	--	--	4
	8	29	11	8	4	10

$X^2 = 7.35$ * = .02 cv = 6.12 r = 0.89

NB. Those respondents who were working but had stopped breastfeeding and those who said they usually carried their children to work are excluded from the second part of the table (Reasons)

From the results of the foregoing analysis, it can therefore be deduced that the type of work a mother does detemines her ability to carry her child to work and hence her ability to continue breastfeeding after resumption of work. It can be seen at a glance that all the cleaners, casual labourers, clerks and messengers were unable to carry their children to work. Four out of the five messengers said it was impossible to do so and this is probably due to the fact that a messenger's job involves

moving from one place to another carrying parcels or running errands and hence they would still have to leave their children unattended to even if they were to carry them to their work places.

All the respondents employed as clerks were not able to carry their children to work, the obvious reason being that clerks usually have to share office space with fellow clerks and for one to carry her child into such offices would imply a dusruption of the work of her work-mates. Hence between them, clerks provided such reasons as "not allowed" and "not possible".

The various reasons provided by the respondents who never carried their breastfeeding children to work reflect the stark reality that children born to working mothers have to contend with: being inevitably separated from their most natural source of nourishment for most parts of the day.

The few mothers who said that they usually carried their babies to work were all traders, hawkers of housegirls. Traders and hawkers represent the category or respondents who were self, employed and who could easily carry their children to their market stalls or "kiosks" and watch over them as business went on. It is possible for house girls to adopt similar tactics, as was the case with the two respondents who said they usually carried their children with them to work of course with the approval of their employers.

It is for such reasons, therefore, that the alternative hypothesis that the nature of a mother's occupation is related to her ability to carry her child to work and the period she breast feeds was accepted.

For those mothers who were compelled to leave their babies behind as they pursued their duties elsewhere, alternaive providers of child care had to be sought and breastfeeding was rendered virtually impossible.

Table 10 - Persons children stay behind with

Persons	No .	%
Maid	8	14.3%
Relative/Neighbour	16	28.6%
Own/with other children	5	8.9%
No Answer	27	48.2%
	56	(100.0%)

The fact that only 14.3% of the respondents who were employed could afford maids is a revelation of these women's inability to afford competent or suitable child care. This revelation is further underscored by the fact that 37.5% said they left their children with relatives, neighbours or with other children. The remaining 48.2% gave no answers - a fact that may mean they would rather not discuss it. To provide no answer to such question may also be an implicit admission that those children were actually left on their own.

Generally then, it can be concluded from this data that the levels of child care in "Laini Saba" village are quite low and that for this reason, children born in this slum village are exposed to greater risks in their ability to thrive. It also ought to be noted that even viable alternatives to breast-milk may not be available to those children considering that some of

them are left on their own, (or with fellow children). For such children just as for those left in the care of neighbours, no proper feeding schedule is maintained.

Data collected on the ages of the minders with whom "Laini Saba" mothers usually left their children revealed that the majority were between twenty one and thirty years (46%) with a sizeable proportion aged between five and fifteen years (33%). The latter category spells a worrying trend since they may be too young to provide good care to babies left in their custody. It is for this reason that a cross- tabulation analysis was carried out to test if the age of the child minder reflects on the care given to the child as perceived by that child's mother:

Table 11 - Age of minders and child care

Age of child minder (yrs)	Mothers' evaluation of child care provided		
	Good	Moderate	Bad
5 -10	--	1	2
11 - 15	--	2	5
16 - 20	--	1	--
21 - 25	2	3	2
26 - 30	--	3	2
31 - 35	1	--	1
	3	10	12

It is immediately apparent that none of the minders under 15 years of age provided good care to the children they were left behind with. In fact, the majority of those minders under 15 years of age (70% of them) provided care that was described as

"bad" by the children's mothers. It would appear that a minder who is too young may be unable to comprehend the real essense of child care.

4.3. THE CONTRIBUTION OF EDUCATION TO CHILD CARE

It has already been said earlier in this chapter how low-levels of education prevail among "Laini saba" mothers. A hypothesis was designed to test the existence of a relationship between the level of education attained by a mother and her decision to breast feed. The latter variable was based on the respondents' perception as to whether their own levels of education had contributed to their decision to breastfeed their children.

Table 12 - Educational levels and perceived influence on breastfeeding

Level of education	Has education helped in your decision to breastfeed		
Std 2-3	--	5	3
Std 4-5	5	5	13
Std 6-7	12	8	16
Std 8	3	1	1
Form 1-2	5	---	2
Form 3-4	4	1	--
	29	20	35

Lamda = ** 36.6% ** = .01 r = 0.46

The hypothesis that a mother's level of education is not related to her decision of breastfeed her child was rejected vy a Lamda Computation which showed a 36.6% level of dependence between the factors. Computation of the correlation coefficient("r) also suggested the existence of a relationship between the two factors (r=0.46). It can be concluded, therefore that a mother's decision to breastfeed may depend on her level of education.

Basically a more educated mother will be in a better position to comprehend and probably comply with most of the hygienic and other crucial requirements of child care such as breastfeeding. Furthermore she will probably be able to secure a better- paying job than her less educated counterpart and hence be in a better position to afford competent child care and related requirements such as "napkins" "safety pins" or even clothing. This argument has been supported by the fact that the few respondents who could afford maids for their children in "Laini Saba" were clerical officers who had attained secondary school education.

Furthermore, among the mothers who answered that they thought education had enhanced their decision to breastfeed were all those respondents who had attained secondary level education with the exception of one who had gone upto third form but answered that she did not think education had influenced her decision to breastfeed. Two respondents who had gone upto forms one and two said they were "unsure" about the existence of a relationship between education and breastfeeding. Save for the

one case mentioned above, all the mothers who had answered "No" were those who had not been beyond Standard Eight Primary level.

Such responses may be an overall pointer to the fact that these mothers were actually aware of the contribution of education to decisions related to child care and hence only the better educated explicitly admitted the correlation while the less educated either saw no correlation or implicitly admitted that their lower levels of education contributed to the lack of better child care among their ranks.

HOUSING

It was found that 76.0% of the respondents lived in rented houses and therefore, only 24.0% did not have to pay monthly rent for their houses.

Table 13. - House Ownership in Laini-saba

Category	No.	%
Rented	76	76.0
Purchased	9	9.0
Constructed	5	5.0
Inherited	10	10.0
Total	100	100.0

It may be hard to comprehend how some of the respondents could have possibly purchased the houses but what is clear is that most of the sub-standard, run down housing units in this slum are being used as a means of economic gain by whoever constructed them. Considering the nature of the houses, one can easily understand how some respondents could have constructed their own units.

A greater number of the 10.0% who reported inheriting houses were widows. This may hold the implication that their deceased husbands had owned the houses and this ownership was naturally passed to them following the demise of their husbands. It is also noteworthy that, with the exception of one, all the respondents who reported living in purchased houses also said they were unemployed. The possibility exists that these respondents were among the persons who owned houses in this slum village and were renting them for economic gain.

The majority of houses in "Laini-Saba" were found to be typical of the slum type: earthen walls, tinned roof, earthen floor and single roomed.

Tables 14 Nature of "Laini-saba" House

Material	Roof		Wall			Floor			
	Iron sheet or Tin	Cardboard or plastic	Earth	Wood	Cement	Stone Block	Earth	Cement	Wood
No.	96	4	72	11	11	6	71	23	6
%	96.0	4.0		11.0	11.0	6.0	71.0	23.0	6.0
Total	<----100	--------->	<--------100		-------->	<---------100		--------------->	

Such houses are a reflection of the squalor that "Laini-Saba" residents have to live in. The National Housing Corporation (Kenya) defines a descent house as one consisting of at least two rooms, a Kitchen, toilet and shower (GOK, 1985) and hence it would be appropriate to conclude that the residents of "Laini-Saba" inhabit indecent housing, because 83.0% of the respondents lived in one-roomed houses. Only 13.0% and 4.0% inhabited two and three roomed houses respectively, but none had an internal toilet or shower.

The number of residents per housing unit in "Laini-Saba" was haphazard, conforming to no particular pattern or trend. Some households had up to eleven residents while some had only two. A greater proportion, howeve, had between two and four residents (58.0%) while only 7.0% had more than eight residents per house. These figures probably show that life being hard as it is in the slum, most dwellers would usually tend to limit the number of mouths they have to feed. Sufficient food, water, space and sleeping facilities are never a guarantee for these residents of the slum village.

Table 15 -Residents per House in "Laini-Saba"

No. of Residents	2 - 3	4 - 5	6 - 7	8 -11
No. of respondents	42	33	18	7
%	42.0	33.0	18.0	7.0

In their response to this question, these mothers did not include the children who were under study. This was on the advise of the researcher based on the fact that from this question, what was being assessed was congestion in the households in relation to the existence of young children in these households. The existence of more than three adult residents in a single-roomed house is a sign of congestion. Hence, a majority of the households can be said to have been congested since 68.0% of the respondents reported four or more residents in their houses. Even the 14.0% who had earlier reported residing in houses with two to three rooms can be said to have been congested because it is within this proportion where respondents reported upto eleven residents in a house.

Congestion is a feature of urban slums, especially because of the size of the housing units. It is a feature that is, detrimental to the well-being of young children born to residents of slums. There usually is lack of sleeping confort for both mother and child, the distribution of the available food has to be spread over a larger number of nmouths and children are exposed to greater risks of infection due, for example, to what Lindsay (1976) calls "germ importation" by adults from without the house.

Subsequently, mothers under such conditions can hardly afford specilal diets to facilitate lactation, nor are they able to achieve the kind of comfort required for a breasfeeding mother. Breastfeeding duration is thus invariably shortened. For the children, the immunologic value of breast milk is usually undermined by the greater exposure to infectiions. They hence exhibit higer frequencies of ailment as compared, say, to their counterparts in the more affluent neighbourhoods. In this way, the nature of housing may undermine both the prevalence and positive effects of breastfeeding.

4.4 FOOD & EATING PATTERNS

As has already been mentioned above, food in living conditions such as those that exist in a slum like "Laini Saba", is not a daily guarantee. Yet because it is a basic necessity, it represents one of the most crucial measurements of a people's economic status. In an effort to shed light on this crucial aspect, respondents were asked how many meals they usually had per day.

Table 16 - Meals Per Day

No. of Meals	No respondent	%
One	7	7.0
Two	31	31.0
Three	27	27.0
Irregular (only whenever avaiable)	35	35.0
	100	100.0

It becomes apparent from the above table, that the majority of the respondents either had only two meals per day (31.0%) or ate only whenever the food was available (35.0%). One may either be led to conclude that most "Laini-Saba" residents are hardly able to afford a steady stream of the standard three meals each day.

In an attempt to verify the eligibility of such a conclusion as the foregoing, the respondents were asked questions regarding food satification. It became more apparent that the respondents could hardly afford to feed themselves to satisfaction, as 62.0% of them reported that they hardly ever or never (at all) got satisfied from the food they ate. Twenty-two percent of the respondents declined to answer the question, either deeming it no business of the researchers or probably out of too much bitterness and shame over the fact that they were unable to feed themselves to satisfaction.

Table 17 Food Satisfaction

Response	No	%
Yes, always	16	16.0
Hardly	46	46.0
Never	16	16.0
No Answer	22	22.0
	100	100.0

For a complete picture, more data was gathered on the methods these mothers used to cook. It turned out that the majority of the respondents could only afford to use charcoal burners "(jiko)" or firewood to prepare meals. This is reflective of the low-income economic group who are usually unable to afford other cooking methods.

Table 18 - Cooking Methods in "Laini Saba"

Method (Apparatus)	No.	%
Charcoal(jiko)	48	48.0
Firewood	30	30.0
Stove	15	15.0
Gas	5	5.0
Jiko & Stove	1	1.0
No Answer		
	100.0	100.0

Herein lies another host of problems confronting the breastfeeding mother and her child in a slum community. Meals are uncertain and irregular, there is hardly ever any food satisfaction due to availability of food in insufficient quantities and most have to use either charcoal or firewood as a cooking method.

The inherent implications that accompany such problems include the fact that those mothers' milk supply will usually dwindle faster than that of their better off counterparts who are not only able to afford regular meals but may also easily adopt special diets to boost lactation. Hence slum-dwelling mothers may usually wean their children quite early and subsequently subject these children to the vicious cycle of poverty that makes meals irregular and uncertain. Furthermore, the predominants use of charcoal and firewood to prepare meals expose such children to greater health risks resulting from dirty charcoal handling hands or stray burnt waste from firewood.

4.5 WATER SUPPLY

The data collected on the sources of water for residents of "Laini-Saba" revealed that not a single household had an internal water system. This is most probably due to the temporary nature of the houses and the fact that based on their economic conditions, these women cannot afford to pay for the installation of internal water-tap systems, let alone the ensuing monthly bills.

Table 19 Water Sources in "Laini Saba"

Source	No.	%
Exterior tap	77	77.0
Bore-hole	12	12.0
River & Tap	2	2.0
Well	5	5.0
River & Well	2	2.0
Tap & Well	2	2.0
	100	100.0

Most of the residents (88.0%) reported that they usually have to pay for their water. Off-the-cuff enquiries revealed that some landlords pay for the taps to be installed by the city authorities and then turn those taps into profitable ventures as residents purchase water from them. The 12.0% who said they never paid for their water were either far removed from a central tap or may have opted for water from the wells or river because they could ill-afford to purchase water daily.

Water supply is not wholly fulfilling to "Laini-Saba" residents. Only 31.0% of the respondents admitted to a sufficient supply of water while 56.0% said the supply was moderate and 13.0% said water was actually scarce.

Table 20 - water supply in "Laini saba

Supply	No.	%
Sufficient	31	31.0
Moderate	56	56.0
Source	13	13.0
	100	100.0

Water is one of most basic human requirements. It is fundamental for cooking and crucial for hygiene. It is hence very worrying to realize that these slum dwellers hardly have enough water at their disposal. They have to purchase it and store it in their houses for use. This exposes the water to contamination and subsequently poses a health risk for the mothers and childre who use it. Furthermore, the ordeal of fetching water by the pail or jerrican and transporting it to one's house can be quite exhausting to breastfeeding mothers, in effect hampering their efforts to breastfeed successfully.

For the mothers who had said that they have to fetch water from bore-holes, wells or rivers a further dilemma is presented. This water is usually not very clean and it is recommended that it be boiled before use. But considering that they would have to use charcoal or firewood to achieve this, and that they would still have to store it makes it hard for them to conform to this recommendation.

Lack of storage space or storage facilities and the cost or inconvenience of having to purchase water all the time may impede the liberal use of cleaning, bathing and cooking. Subsequently,

levels of personal hygiene will be lowered, material used by the children for sleeping, clothing or eating will stand less chances of being cleaned thoroughly and general sanitation will be downgraded.

There is only one river that flows in the valley between Kibera's slums villages and the neighbouring Lang'ata area estates. This river, from where some respondents said they fetch water for use, is the same one that drains away waste from the nearby Langa'ata women's prison and army barracks. Yet because some of these slum women cannot afford to purchase water daily and also because the river water appears deceivingly clean, the same water ends up in some houses for domestic use. It has become such a health hazard (especially as a source of such diseases as typhoid), that city authorities and, at times, KANU Youthwingers keep vigil along the river banks to prevent the slum residents from collectiion this water.

4.6. THE BREAST FEEDING MOTHERS.

Data collection in this section began by ascertaining ages of those children who were receiving breastmilk during the research period.

Table 21 Breast Feeding Children's Mothers.

Baby Age (ms)	No.	%
1 - 5	28	48.3
6 - 10	15	25.9
11 - 15	6	10.0
16 - 20	8	13.8
21 - 25	1	1.7
	58	100.0

The greater proportion of the children who were breastfeeding during the study were ten months old or less (74.2%). Only one of the children was reportedly still receiving breastmilk at the age of twenty-three months. This may point to the fact that most "Laini-Saba" mothers breastfeed their children to just under one year after delivery then cease.

Of the fifty-eight breast feeding mothers, 51.7% confirmed that they had breastfed exclusively for at least one month and only 15.5% practised exclusive breastfeeding for upto three months. The general picture that emerges thus, is that the majority of these mothers wean or introduce other foods too early in the lives of their babies.

Various explanations may exist for this trend. Most women today find themselves in a situation where they have to play the role of family head. This may be either because their husbands reside elsewhere pursuing other interests or simply because they are unmarried but have brought forth children for whom they have to provide life's necessities. This trend was exhibited in this study where 30.0% and 17.0% of the respondents were unmarried or divorced repectively but had children to take care of.

Breastfeeding may be especially hit by single parenthood among the low-class, slum dwelling mothers because they have to resume their search for economic means after birth sooner than their married counterparts whose husbands may take care of them during the post partum, " maternity leave" period. Furthermore, employment among these mothers is usually concentrated in the informal sector where such benefits as paid maternity leave are non-existent. To be able to survive, these mothers have to resume economic activity thereby jeopardizing their ability to carry consistent breast feeding beyond two months after delivery. Of the employed mothers in this study, for example, 77.2% were either housegirls , traders, hawkers or labourers (see Table 6). All these are forms of employment that demand the presence of these women at all times if the flow of earning is to be maintained.

Other reasons may exist for this trend and hence, the breastfeeding mothers were asked why they usually weaned or introduced other foods into their babies diets (see Table 22.) The greatest proportion said that breastmilk became insufficient

(36.2%) while the second commonest reason was the that the mother had to be away from her baby (25.9%). These results may serve to confirm the line of reasoning expounded above - Breastmilk may be insufficient because the child can only be breastfed in the mornings and evenings or because the child just never seems to get satisfied with breastmilk alone. The questionaire, in asking this question had provided, as one of the alternatives, "Baby never seemed satisfied", an alternative that was not provided in the questionnaire. This implies that it is because the mothers were unable to provide breast milk to the quantities sufficient to keep the baby satisfied. The main reason for this is probably that they had to pursue other obligations and barely had time to breast feed.

Table 22 Reasons for weaning or Providing other Foods

Reason	No.	%
Breastmilk Insufficient	21	36.2
Advised to do so	10	17.2
Customary	4	6.9
Had to be away	15	25.0
Baby not satisfied	1	1.7
No Answer	7	12.1
	58	100.0

"Had to be away" here is a more obvious mainfestation of these mothers' dilemma. To be able to survive they have to go to work away from their houses and cannot thus breastfeed during the day. They therefore, become victims of such problems as

engorgement or leaking breasts, associated with staying away from the baby for a long period of time, and discussed elsewhere in this study.

The third largest proportion (17.2%) said that they had introduced other foods into their babies diets due to advice from various sources. This may represent the process of diffusion as a mode of change. Diffusion, as elaborated in the theoretical framework, is the second sequential step in the process of change and refers to the communication of ideas, from various sources, that eventually lead to certain consequences. In this case the agents of diffusion included medical personnel, friends, husbands, and to a smaller extent, salesmen. The apparent consequences included the finding that exclusive breast feeding was relatively diminished as confessed to by the fact that 77.6% of the breast feeding respndents were feeding their babies on both breast milk and other foods. Another consequence may have been manifested in the finding that the majority of these mothers stopped breast feeding their babies after only ten months.

The breast feeding mothers provided a wide variety of "other food" to their babies. These included "uji" (porridge), potatoes, bananas, eggs, formula and beans. The most popular combination of foods given was that of "uji", milk, and formula which was given about 15.0% of mothers. Observation and off-the-cuff questions revealed that the milk predominantly used was that contained in the tetrapak and prepared by the Kenya Co-operative Creameries (K.C.C). This is probably so since it is most easily available to the urban mother who is unable to get

access to cow's milk direct from the cow as may the rural mother Some mothers reported that they used powdered milk which is purchased in packets and also prepared by the Kenya Co-operative Creameries. It is relatively cheaper and easier to store but its use may have been limited by the difficult in mixing it with water and sugar to taste.

The most commonly used formula was "lactogen" but it should quickly be pointed out that the respondents said they usually purchased only one tin of this tinned formula and used it as a transition food to more easily available and home prepared foods. This may be so because such industrially prepared baby foods are now well beyond slum-mothers' economic reach. "Lactogen" presently costs about eight-five shillings per tin and this, if used as recommended and not over-diluted lasts only six days. The same amount of money can keep a mother with a daily supply of one packet of milk for upto three weeks.

Some of the respondents (upto 12.0%) reported that they fed their babies on "ugali and normal diet" as consumed by the rest of household. These included four mothers who had six months old babies whose alimentary systems are definitely ill prepared for such solid foods. Such a finding, however serves to illustrate the stark reality of the fact that some of those slum-dwelling mothers cannot afford to give milk to their new born babies. Their babies thus have to cope with the twin problem of being weaned early from the breast and adjusting to solid foods prepared in contamination prone conditions.

The use of industrially prepared formula such as "Lactogen", limited as it may be, represents an aspect of

directed contact change in our society. Vigorous promotions and pursuit of commercial interests by the Multi-National manufacturers of formula and the bottle has led to a marked shift from breastfeeding to other methods of feeding children. This is probably why the use of "other foods" was so widespread amont the breastfeeding respondents.

It would appear that mothers have either been convinced by these Multi-Nationals that breast milk is not so paramount after all and should be supplemented with other foods or that those mothers have simply found it more convenient to introduce other foods so as to facilitate their day-time pursuit of other goals. Either way, their economic incapability is reflected in the fact that they have opted for cheap alternatives such as "uji" and potato which were predominant among the foods provided.

Inherent health hazards for the children accompany the introduction of these "other foods." Their digestive system are not developed as yet to cope with such solid foods as are consumed daily by adults. It is therefore alarming to notice that the second largest proportion of mothers (12.8%) provided their young children with "ugali and normal diet."

Complementary feeding refers to the giving of breastmilk but with other foods as well, while supplementary feeding refers to the provision of these other foods in the place of breast milk. To gauge the trend of child feeding in Kibera, the respondents were asked how they usually gave their children these other foods". Upto fifty-eight percent were found to be practising complementary feeding as they usually gave other foods just

before or immediately after a breastfeeding session. About twenty six percent of the respondents however, practised supplementary feeding by giving other foods during the day in place of breastmilk which they only provided in the morning and evening. Fifteen percent said they fed their babies on breastmilk alone.

Further verification revealed that the mothers who practised supplementary feeding worked away from the village and had mostly reported inability to carry their children to work. It appears, therefore, that a majority of "Laini-Saba" mothers were willing to breastfeeed but their enthusiasm was checked by inescapable requirements of daily livelihood. This may be further exemplification of immanent change in our society that has seen more women become increasingly involved in providing for families that they singularly head or co-head with their male spouses.

The plight of the slum-dwelling mother is that she can hardly afford to feed her child to levels desired even by herself. Subsequently the common practise is to emphasize quantities of whatever she can afford by making various additions.

Table 23 Additions Made to baby foods.

Addition	No.	%
Water only	28	29.8
Water & sugar	12	25.5
Water & salt	3	6.4
Sugar & salt	5	10.6
Sugar + Water + Salt	3	10.6
Sugar only	5	2.1
"Many things	1	8.6
	47	100.0

In an effort to understand the reasons why these mothers made such additions to their babies foods. They were asked to explain:

Table 24 Reasons for Additions

Reason	No	%
To increase Quantity	10	21.3
To facilitate taste	12	25.5
As per specifed instr	6	12.7
For taste & quantity	6	6.4
Assumption that its-good for baby	3	6.4
No Answer	4	8.6
	47	100.0

Water turned out to be the most common addition (29.8%) probably because it is least expensive and also a necessary ingredient in the preparation of most foods. Used in such baby foods as cow's milk, "Uji" or formula, water is usually for the purpose of boosting quantity and this may explain why most of the mothers who used water said it was increase quantity.

The use of sugar as an addition was also common, either on its own or together with other additions like water or salt. Sugar is almost solely for the purpose of facilitating taste and the fact that its use was so widespread may point to the fact that most of the foods were usually diluted using water and had to be made tasty to the babies.

It became apparent, from the reasons provided by the mothers, that most of them made these additions to improve taste and quantity but few paused to consider their nutrition value. This could be why only 6.4% of the mothers reasoned that the additions were "good for the baby". Taste and quantity, singly or put together provided the largest propotion of reasons (59.5%) pointing to the fact that these mothers fed their babies most foods on the basis of them being filling and palatable.

Another major reason given by the mothers was that they were following instructions (25.5%). This brings to mind the use of branded formula among these mothers since it is usually on this category of baby foods where specific instructions are provided to guide use. A look at Table 23 shows that 29.6% of the mothers reported providing infant formula to their children, a proportion that almost tallies with those who said they followed

instructions as they prepared their babies foods. A process of selective contact change can be detected in the foregoing data which shows that only some mothers (29.6%) adopted infant fomula as one of the foods they provided to their babies. Yet various reasons may exist for this. The fact that infant fomula is very expensive may bar some mothers who would have otherwise used it from providing it to their babies. Instead, they would opt for cheaper alternatives such as "Uji" which was used by 55.2% of the mothers.

Another manifestation of selective contact change may be seen in the fact that 15.5% of the breast feeding mothers had introduced other foods into their babies diets before the age of four months. This category may include those mothers who intend to wean their babies as soon as they can because they want to avoid being tied down or because they find the practise repugnant. To such mothers, viable alternatives such as infant formula are readily adopted.

An attempt was made to find out if those breastfeeding mothers had received any information concerning the practise.

Table 25 Sources of information on breastfeeding

Sources	No.	%
Nurses	18	31.0
Friends	7	12.1
Midwife	8	13.8
Relatives	10	17.2
Neighbours	1	1.7
Doctor	3	5.2
None		
	58	100.0

It is encouraging to note that an overwhelming 81.0% of the mothers had at least received some information on breastfeeding from some source. Most of this information had been received from nurses (30.0%) and this shows that most lactating women in this slum village had either had maternity-ward deliveries or at least bothered to attend clinics during the post delivery period. In either of those ways, the women are bound to have been advised by the duty nurses on how to feed their babies. It was actually confirmed to the researcher, by a nurse at the neighbouring Langata/Otiende dispensary, that an overwhelming number of Kibera women use the dispensary's maternity wing. The number is so large that these mothers are usually given only one day to stay at the wing and then discharged.

The said dispensary is run by city commission and is hardly ever used by the comparatively more affluent residents of Lan'gata / Otiende estates who can probably afford the high

maternity fees charged at such private city hospitals as "M.P. Shah" "Aga Khan" or "Mater".

Relatives, who are usually older members of the family also seemed to play a large part in disseminating information on breastfeeding. This is entrenched in the African way of life where female members of the immediate or extended family are usually sent to stay with or help expecting mothers. This usually extends to some time after delivery of the baby and it is during this period that experiences regarding child birth are shared, prominent among which is breastfeeding, according to this data.

Friends also fulfil this role either where relatives are unavailable or just out of good will between mothers. This is especially so in the urban areas where one may live in an area without any relatives close-by.

The proportion that reported receiving information from a midwife (13.8%) may represent the very poor mothers who cannot even afford to pay the meagre fee of one hundred and twenty shillings paid for maternity facilities at Langata dispensary.

Further investigation based on off-the-cuff questions revealed that the three mothers who said they had received information from a doctor had delivered their babies at the Kenyatta National Hospital. This hospital was avoided by most of the mothers because of the inconvenience of travelling in a bus or matatu and having to pay fare. Their preferred Langata dispensary because they could just walk across.

A related effort was subsequently made to find out what kinds or versions of advice the sample mothers usually received from various sources concening the paractise:

Table 26 - Sources and Advice regarding Breastfeeding:

Advice Sources	Husband No	%	Salesmen No	%	Husband No	%	Salesmen No	%
Use both Breast & Bottle	9		4	40.0	23	23.0	18	18.0
Give breast only	16		0	--	40	40.0	18	18.0
Use bottle only	2		6	60.0	3	3.0	3	3.0
Use either (any)	8		0		1	1.0	1	1.0
No Advice	8		0	--	33	33.0	37	37.0
	43	100.0	10	100.0	100	100.0	100	100.0
	43	100.0	10	100.0	43	100.0	10	100.0

It appears that husbands and medical personnel are most supportive of exclusive breast feeding as they formed the category of "advisers" who would most like to see the mothers give only the breast to their children. Only 10.0% of the respondents had been exposed to salesmen yet even from this small proportion, it become apparent that salemen are more bent on persuading mothers to use the bottle in preference to the breast. This may be due to their commercial oriented desire to promote breast milk substitutes.

Use of the bottle normally signifies the introduction of other liquid foods into the baby's diet. These may include "uji" cow's milk, soda, tea or orange -juice. The salesmen would prefer to see this happen because such a baby will soon get so used to the rubber nipple that he rejects the breast altogether. Soon after, he begins to require some solid food and this is the time mothers will strive to purchase some infant formula such as

"cerelac" in conjuntion with other less expensive alternatives such as mashed potato, banana or beans. Both ways the salesmen gain as they sell more bottles and more formula.

Salesmen thus provide a typical illustration of how directed contract change affects breast feeding. The industrialized countries, through their multi-national companies, have over the years, developed a technological and financial lead which the less developed countries such as Kenya are expected to acknowledge by allowing their economies to depend on both the technological and financial power of these industrialized countries. Subsequently new innovations such as the use of the bottle or the use of breast milk substitutes, quickly find their way into the less developed countries through a diffusion process enhanced by the commercial interests of the companies directly involved with these innovations. The consequence is that even mothers who can hardly afford such innovations get to believe that breast milk is not so superior after all in baby nutrition and begin to adopt less expensive subsitutes.

It is interesting to note that 33.0% of the respondents reported receiving no advice at all from breast feeding personnel, considering that 36.2% of the breast feeding respondents had earlier confirmed receiving information regarding the practise from nurses or doctors. A possible explanation may be that medical personnel only discuss such aspects of breast feeding as techniques, duration or ways of keeping the breasts clean but do not indulge in advising the mothers about what feeding method to adopt between the breast and the bottle. Medical ethics would, anyway, require that they promote the

provisions of breast milk to newly born babies especially because of the immunologic and therapeutic advantages of breast milk which they would be aware of. This may further explain why 40.0% of the mothers said that medical personnel had advised them to use the breast.

The level of desire for exclusive breast feeding was also apparently low among the respondents' friends (and neighbours) who either provided no advise at all (37.0%) or encouraged the respondents to bottle feed (26.0%). Such an apathy signifies a dangerous trend for the success and continuation of breast feeding among "Laini-Saba" mothers most of whom reported that it was this very category of "advisors" who gave them actual support towards breast feeding.

Finally, the breast feeding respondents were asked if they usually experienced personal or particular problems during the breast feeding period.

Almost all the mothers related how they found it difficult to breast feed their babies during the day because they always had to be "away". If we recall that only 66.0% of the respondents were employed, then it would seem that this problem poses one of the greatest threats to breast feeding since even unemployed mothers usually find it monotonous tideous and almost claustrophobic to stay at home for whole days for a period as long as two months. In the same vein, most of these mothers said that due to being away from their babies, they usually encountered the problems of painfully full (engorged) and leaking breasts.

When the same category of respondents were asked how they combated such problems, they mostly responded that they could do nothing about it except rush back to their houses in the early evenings or lunch times. A few mothers said they expressed the milk from their breast into containers while they were away from the prescints of their houses. Most of the "Laini-Saba" mothers seemed to be either unaware of this option or just found it cumbersome.

A good proportion of mothers also said that they usually had to "hide" or cover their busts when their babies needed to be fed in public or open places. Some mothers lamented that this even happened in their own houses when people went to see them. It was partly because of this problem that some of the mothers resorted to cup or bottle feeding their babies as this was apparently considered more conventional and acceptable. Other mothers said that this problem is what caused them not to carry their babies along to wherever they went during the day.

In such a problem, immanent change can be seen to play a major contributory role. Our own society has increasingly viewed breasts as part of a woman's private parts. This notion may have been diffused into Kenyan society by the Western-oriented belief that the breasts are sexual organs but this society has also gradually shifted toward the belief that women ought to cover most parts of their bodies with clothing and hence even skirts that barely reach the knees are viewed with distaste. Most women therefore find it hard to breastfeed their babies on demand unless they are indoors.

Only about ten respondents recounted the problem of breast infections. They said that occasionally, their breasts become sore and changed colour slightly but they never bothered to seek medical attention for these because, as they said, their own experience or advice from other mothers had made them know that this was usually a temporary problem. Two of these mothers said that their milk dwindled and that they, therefore had to introduce other foods into their babies diets.

A final but common problem that featured among the breast feeding respondents was baby related. Most of them said that as the baby grows, especially around the fourth month, he becomes increasingly aggressive and grips the nipple painfully hard with his now stronger gums. At times, the baby squeezes the breasts with his small hands and that this can become extremely uncomfortable for the mother especially when her breasts are full of milk.

When these mothers were asked how they usually combated this problem, most responded that at this stage, they were forced to introduce solid foods like mashed potato, banana or "ugali" that would effectively control the baby's hunger. Breast milk would then be provided just to ensure the baby's satisfaction or usually as a pacifier to induce sleep.

One realizes then, that problems like the foregoing would force one to relegate breast milk to complementary status where it just serves the purpose of complementing other foods which form the baby's main diet. Advocates of breastfeeding would usually advise that these other foods play the complementary role while

breast milk stays the main food for the baby but in the face of such problems as encountered by the "Laini-Saba" mothers such advice would be impractical.

4.7 THE MOTHERS WHO WERE NOT BREASTFEEDING

Forty-two percent of the mothers in the sample were not breastfeeding during the study. This was either because they had done so previously but had now ceased or because, (as was the case with 11.9%), they never breast fed the babies in their households who were below two years of age during the study. Both categories of mothers were asked to provide reasons as to why they ceased to breastfeed or why they had never breastfed at all.

TABLE 27 Reasons For not Breastfeeding

Reason	No	%
Employment (had to go to work)	16	38.1
Mother fell ill	1	2.4
Baby fell ill	5	11.9
Mother conceived again	3	7.1
Baby rejected braest	4	9.5
Baby seemed underfed	2	4.8
Discomfort	2	4.8
More than one of the above	9	21.4
	42	100.0

Employment emerged as the single largest factor that caused mothers in "Laini-Saba" to dicontinue breastfeeding their babies

(38.1%). This is understandable given the fact that those children also have to be otherwise taken care of which plus other obligations such as house-rent, clothing or food bears the implication that the mothers have to work, probably at the expense of nursing their babies.

Once again, immanent change has been manifested in the fact that more and more Kenyan women now get to participate in the labour force. With this participation comes economic and social independence that has contributed to single parenthood. So that where women could sit back and take time to nurse their babies as the men provided we now find a compulsion to get back to work as soon as possible after child-birth especially in the occupational categories that do not provide for paid maternity leave as was the case with most "Laini-Saba" women.

The second largest proportion of mothers (21.4%) said that they were not breast feeding due to more than one reason. From this claim, it is evident that the problems that pervade breast feeding mothers do not necessarilly come in solitude. Two mothers for example, said that because they had to be away at work, they usually experienced extreme discomfort from the accumulated milk. They added that after a while, their babies got so used to being fed by the cup, spoon or bottle that they rejected the breasts. Eventually then, those mothers' milk supply dwindled and disappeared.

To find out how long it took these mothers to succumb to pressure from the foregoing problems, at the expense of breastfeeding, they were asked after how long they ceased

breastfeeding.

Table 28 Period when Breastfeeding ceased

Period	No	%
≤ 2 weeks	7	16.0
≤ 1 month	7	16.7
≤ 2 months	23	54.8
Can't Recall	5	11.8
	42	100.0

From Table 28, it is apparent that the majority of these Mother conceived again mothers (88.2%) never managed to breast feed beyond the second month after child birth. This further underscores the heavy toll that various obstacles take on breast feeding among "Laini-Saba" mothers.

Mothers have different method of weaning their babies. Table 29 show the various methods used by mthers of "Laini-saba village.

Table 29: Methods used to remove babies from Breasts.

Methods	No	%
Gave other foods	9	26.5
Stayed away from baby	14	41.5
Smeared bitter - substances on nipples	2	5.9
Gave other food + either of the above	9	26.5
	34	100.0

NB this question was only answered by the mothers who had been compelled to remove their babies from the breasts.

The fact that most of the mothers (41.5%) stated that they removed their babies from the breasts by staying away from them does not only show this as a "popular" technique but, rather, also implies that for similar reasons shown in Table 27, these mothers had no option but to wean their babies because they had to go to work. Since they had to stay away from their babies for whole days, the introduction of other foods into the babies' diets also has to feature prominently among their methods. Weaning, in fact, basically involves seeking alternative sources of nourishment other than the mothers milk.

To gauge the popularity of breast feeding among "Laini Saba" mothers, the respondents were asked which option they would take if they had more than they did during the study. A great proportion (54.7%) plainly stated that they would opt for the bottle. Only 14.3% said they would stick to breast feeding while 26.2% stated that they would use both.

The feeling one gets from such data is that breast feeding is not so popular as a method of infant feeding among the mothers of this slum village and that it may only be their economic status that forces them to breast feed. if this status were to improve, they would probably shift to bottle feeding. Even among those who said they would use both, the most likely trend would be the decline of exclusive breast feeding to a complimentary feeding method.

The above trend reprensents a mild manifestation of the modernization fallacy: the delusion that to use the bottle in feeding one's baby is a more trendy and preferable decision. Trends that originate from the western world easily take root in third world society because of the mistaken notion that since western countries are more industrialized and hence "more modern" their peoples, way of life ought to be imitated. Not every one in the third world usually adopts this stance and this may be why some mothers said they would still breastfeed even if their statuses changed.

Whatever the underlying facts and reasons, what stands out is that most mothers in "Laini-Saba" village appear to stick to breast feeding only because viable alternative feeding methods are beyond their economic means.

4.8. THE HEALTH OF THE CHILDREN

In gathering data on the health of the children in "Laini-Saba" village, information was sought on all the children below two years of age and born to either breast feeding or not -breast feeding mothers. Both categories of mothers were asked to recall the last time they had taken their children to medical personnel:

Table 30 The children previous medical examination

Period	B/feeding chd.		Non-Bfeeding	
	No	%	No	%
Previous week	13	22.4%	9	21.5%
2-3 Weeks	10	17.3%	5	11.9%
3-4 week ago	8	13.8%	7	16.6%
1-2 months	6	10.3%	2	4.8%
2-3 months ago	8	13.8%	4	9.5%
3-6 months ago	3	5.2%	6	14.3%
over 6 months ago	1	1.7%	2	4.8%
Can't Recall	9	15.5%	7	16.6%
	58	100.0%	42	100.0%

The fact that more than half of the children had been taken for medical examination in the one month prior to the study may shed light on the high rate of morbidity among children in this slum-village. The underlying assumption here is that the average slum-dwelling woman would not seek medical examination for her child unless that child exhibits signs of ailment.

Perhaps the important point that emerges from the results tabulated above is that in the three weeks prior to the study more breastfeeding children had been taken for medical

examination than their conterparts who had stopped breast feeding. On the other hand, the greater proportion of those children for whom medical examination had been last sought three to six months prior to the study were those who had stopped breast feeding.

Such findings may contradict the contention that breast feeding holds an unmatched immunologic and thera-peutic advantage over other feeding methods. Yet even more importantly they may reveal the fact that in a slum environment such as "Laini-Saba's" breast milk's potency in improving the health of the child may not manifest itself or be realized to the full due to the heavy infection load.

In an effort to put the results tabulated in Table 30 in their proper perspective, mothers were asked when they would next take their children for medical examination:

Table 31 the children's pending medical examination

Period	B/feeding chd. No	%	Non-Bfeeding No	%
the following week	8	13.8%	7	16.6%
In 2-3 Weeks	5	8.7%	2	4.8%
In 3-4 weeks	3	5.2%	6	14.3%
In 1-2 months	6	10.3%	3	7.1%
Uncertain	6	1038%	1	2.4%
Uncertain	30	51.7%	23	54.8%
	58	100.0%	42	100.0%

The striking fact that emerges is that for both categories (breastfeeding and non-breast feeding) mothers who were uncertain as to when they would next take their children for examination were more than half the sample. This should be seen along side the fact that the second highest proportion in both categories; 22.5% of the breastfeeding and 21.4% of the non-breast feeding mothers, were due to take their children for medical examination in the next three weeks or less following the time of interviewing. Both these facts may mean that the incidence of disease in "Laini-Saba" is so high that a child may require medical examination any time or a child may have been examined the previous week and yet had to go back for examination the following week.It should be pointed out that examination includes both routine check-ups and consultation for ailments.

Comparative percentages once again show that slightly more of the breastfeeding children (22.5%) went for medical examination the following 3 weeks or less than the non breastfeeding counterparts (21.4%). Overally therefore, it may appear that the breastfeeding children in "Laini-Saba" require more medical attention than their non - breastfeeding counterparts.

One probable reason may be that since all human beings usually adjust even to the harshest conditions of life, the babies who had been weaned were now used to the foods prepared externally and fed to them in place of breast milk while those who were not breast feeding would need time to adjust both their alimentary and anti-body systems to the foreign bacterial or fungal cultures that they were now exposed to via foods prepared in the unclean enviroment characterizing the slum.

The profound effects of the introduction of externally prepared foods on the breast feeding baby's alimentary system is usually manifested in repeated bouts of diarrhoea. It is not a wonder then, that when the breast feeding mothers were asked what disease ailed their children, 41% reported diarrhoea among other diseases such as anaemia, malaria, fever, pneumonia, tetanus or measles. Other causes of diarrhoea include drinking of unclean water or low-levels of personal hygiene on the mothers' part. If, for example, she does not clean her breasts thoroughly nor her house nor her utensils, then her child is bound to ingest contaminated food leading to diarrhoea.

Both the breast feeding and non-breastfeeding mothers were then asked to provide an assesment of their children's health and it turned out that 52% of them thought their children's health was either delicate or poor. Only one mother, who had stopped breastfeeding, rated her baby's health as very good while a meagre 7% of all the mothers described their children's health as good. The rest of the mothers (40%) said their children's health was satisfactory.

Such descriptions may be subjective, biased or sensitized and may even depend on the mothers' moods but because every aspect of the growing child is presumably known to the mother quite well, the descriptions are acceptable in as far as they stand for a non-professional evaluation of the children's health statuses. Observation also seemed to confirm these descriptions, especially for the children whose health was described either as good or

delicate.

Considering the nature of the environment that these people inhabit, and the incidence of disease among their children, these mothers usually resort to all possible avenues open to them in a concerted effort to care for their children's health. When asked if they had taken their babies for vaccination, an overhelming 91.0% of the mothers responded in the affirmative. This serves to reveal the kind of resolve they have towards the protection of their children.

A null hypothesis to test if the nature of the disease that all "Laini-saba" children depended on whether or not they were receiving breast milk was tested by cross-tabulating the incidences of particular diseases such as diarrhoea, anaemia, measles, respiratory infections, fever, and malaria with breastfeeding and non-breastfeeding babies. Based on a chi-square ($-x^2$) value of 4.5., the hypothesis that the two factors are independent was accepted with a significance level of 0.18 and a critical value of 5.14.

It would mean, therefore, that in Kibera,s "Laini-saba" village, breast milk offers little or no protection to the breastfeeding child against common ailments such as diarrhoea, anaemia, fever and resipiraory infections among others. This has in fact been testified to earlier in this section by the fact that "Laini-Saba" children who were recieving breast milk appeared to require more regular medical attention than their non-breasting counterparts.

Exclusive breastfeeding is said to bolster the babies immunologic and therapeutic systems especially in the first two

weeks when the colostrum levels in breast milk are still very high (Lawrence, 1985; Eiger and olds, 1987; Minchin, 1985). It is because of such an assertion that the final hypothesis to test whether the health status of a child depends on the period during which he was on breast milk as his sole food or not was formulated. The mothers were asked if their babies had fallen ill in the first two weeks after birth. It had been affirmed ealier that the non - breast feeding mothers had at least breastfed exclusively for two weeks after child birth.

Tabel 32 Illness in the first two weeks.

Breastfeeding status	Was baby ill in first two wk	
	Yes	No
Presentyl breastfeeding	28	30
Not breastfeeding stopped	30	12
	58	42

X^2 = 0.8 Lamda = 0.02 cv. = 2.41

A Ch-square (x2) value of 0.8 based on the significance level of 0.02 and a critical value of 2.41 subsequently accepted the hypothesis by rejectinh the existence of any relationship and led to the conclusion that in "Laini-Saba" exclusive breast feeding does not guarantee the breast feeding baby better health. The is in concert with the already established fact that the health risks in an urban slum such as "Laini-Saba" are so high that the new - born child whose immunologic and therapeutic systems are still under developed finds himself greatly exposed to the numerous diseases rampant in

the slum enviroment.

HEALTH SERVICES IN KIBERA

The mothers were asked if they usually received medical attention when they sought it at the clinics or hospitals they attended. Only 15.0% said they always received medical attention when they desired it. Of the remaining, 41.0% bluntly stated that they hardly ever recieved medical attention while 44.0% said they received attention "sometimes".

The above figures can shed light on these mothers' accessibility to health services. It has been stated before that Kibera abounds with private clinics,(some of which one would express doubt over, from their very nature) and the only Government run health center is the Langa'ata dispensary in the neighbouring Otiende estate. What is of concern, however is the respondents' ability to recieve medical attention when they desired it.

Further to the foregoing, the mothers were asked if they usually recieved drugs at the various health centres they visited. Only 8.0% said they always did while 29.0% declared that they never recieved any drugs from these centres. Again, alarge proportion (63.0%) remained non-committal and said that only sometimes, did they receive drugs.

Considering that the price of most prescription drugs are well beyond the reach of these slum-dwelling mothers, the subsequent dilemma may be a contributory factor to the poor health status of most of their children. Thus even when such

mothers make efforts to keep their babies alive and healthy, these efforts get frustrated by problems such as the foregoing.

When asked further about the health centres to which they usually went, 43.0% of the mothers said that the centres were always overcrowded while 53.0% said that the centres which they attended were usually empty. These figures may reflect yet another obstacle to the adequate provision of health services by these centres: they are apparently overstretched by the large number of users with the consequence that the medical staff get overworked and the resources become outnumbered. This may be the reason why drugs are hardly ever available in these centres.

Further investigation revealed that the mothers who said that the centres were usually empty (4.0%) attended the private clinics that exist in numbers in Kibera. They also turned out to be part of the 8.0% who had earlier reported that they always received drugs from the centres they attended and 15.0 who said they always received medical attention when they deserved it.

The explanation for the foregoing may be that these mothers would decide to sacrifice a much needed proportion of their incomes for the betterment of their babies' health statuses. For that reason, they attended the private clinics and avoided the cheaper Government run dispensary.

When asked what they thought of the medical personnel in the health centres they attended, 49.0% of the mothers said that the personnel always appeared over worked while only 5.0% thought to answer this question apparently did so from fear of victimization, expressing the fear that their recorded responses would get back to the medical personnel. This may only confirm

that these respondents would have given negative attributes to the personnel. A related question was asked about the conduct of the medical personnel:

Table 33 - Conduct of Medical Personnel

Description of conduct	No	%
Efficient and friendly	15	15.0
Inefficient and Hostile	57	57.0
No Answer	28	28.0
In 1-2 months	100.0	100.0

Once again, the fact than more than half of the respondents (57.0)% found the medical personnel who attended to them inefficient and hostile may reaveal that there were always too many persons seeking attention from the said personnel and hence making them become overworked, tired, and irritable.

Working among the poor, slum-dwelling and less educated women may not just cause physical but social exhaustion for the medical personnel. They may witness unending and repetetive flouting of basic rules of hygiene such as body uncleanliness, unkempt hair, or long dirtynails among these mothers leading to repeated visits for problems such as diarrhoea.

It is therefore safe to conclude from this data on health services and the children's health that children born to mothers in "Laini-Saba" may have limited access to medical care. The fact that the health centres were mostly overcrowded and the personnel in them usually appeared overworked as well as the fact that drugs were harldly ever available are revelations that may

only heighten the dilemma faced by these childre's mothers. They are unable to continue breast feeding for lengthy periods, most are unble to employ maids to provide day-care for their bobies and help in cleanliness maintenance. They rarely eat to their satisfaction and their children are frequently taken ill.

Yet and paradoxically so, these mothers are forced to leave their babies behind as they pursue other obligations, most are forced to seek frequent medical attention for their children and the environment they live in contiunes to stay unclean in the face of a water supply that is only moderate.

Faced with such a dilemma, which appears beyond their reach these mothers continue to live in a vicious cycle and continue to have children. Such children invariably face an uphill task in growing up and surviving.

CHAPTER FIVE

5.1. Summary and discussion of the findings:

The purpose of this study was to look into the extent to which mothers residing in "Laini-saba slum village of Kibera in Nairobi are able to practise breastfeeding successfully and how breast milk affects the health of the slum-dwelling children who receive it exclusively or partially.

Based on such an aim, it was hypothesized that the health status of a child is independent of the period during which that child was on breast milk as his sole food, and that such a child's health is unrelated to his mother's accessibility to health services. For further investigation of the above relationships, it was also hypothesized that the nature of a mother's occupation does not determine her decision to carry her child with her to work and that such a mother's work status is unrelated to the length of time that she is able to continue breastfeeding.

The testing of the above hypotheses was facilitated by both interview and observation reasearch techniques and eventually led to certain findings which have been summarized and briefly discussed in this section.

According to the findings, more than half of the mothers turned out to be breastfeeding their babies while the remaining had weaned their babies by or before ten moths after birth. This, to some extent, means that nearly all mothers in "Laini-Saba" usually breastfeed their babies albeit not for long periods of time. It may be that these mothers naturally appreciate the need to

breast feed and that the enthusiam with which they take up the practise upon child birth is only dampened later by certain factors beyond their control. The study revealed some of these factors to be the compulsion to resume economic activity so soon after birth and a host of problems associated with breastfeeding such as breast incfections or breast engorgement.

One may conclude, therefore, that the level of awareness about the baby's need for breast milk is reasonably high amongst these poor, slum-dwelling mothers but that their ability to carry on with the provision of this valuable baby food is usually brought under check by their very economic status and life-pattern.

Findings of the study established that the two commonest reasons that usually forced mothers not to carry their children to their work places were the inconvenience it would involve and the fact that most employers did not permit such a practise. Most of the mothers in "Laini-Saba" being casual labourers or domestic workers, it is almost automatic that their employers would not allow them to carry their young babies to work. Furthermore, such occupational categories do not usually enjoy the facility of paid maternity leave as may be the case with formal employment. These mothers are thus caught in the vicious cycle of wanting to breast feed their babies and yet having tyo resume econonmic activity so soon after delivery to ensure their very survival.

It was also found that the commonest problem experienced by breastfeeding mothers was breast engorgement which usually let to

pain and emparrasment as milk usually begins to seep through the teats when the breasts become engorged. Such a finding is tied to the fact that these mothers, on resumption of economic activity, have to stay away from their babies for long periods of time (from morning to evening). Most employers do not provide day-care facilities in their premises where breastfeeding mothers may take care of their babies even as they continue working. This problem become especially acute for casual labourers who may never have access to such facilities even were they available.

The general conclusion, thus, is that poor, slum-dwelling mothers who usually never have acess to formal employment find themselves faced with the narrow choice between continuing to breastfeed their babies and resuming economic activity to ensure survival. This conclusion is made more grim by the finding that a sizeable proportion of the mothers in "Laini-Saba" complained of the inability to breastfeed in the open due to hostile disapproval by members of the public. This brings with it, the realization that even those self-employed hawkers or market traders may never want to carry their babies along with them as they go to work because of the inhibition mentioned bove.

The present study revealed that of all the repondents who had attained secondary level education, only two percent were not breastfeeding their babies. In this revelation, emerges a disturbing contradiction: The United Nation Children's Fund (UNICEF) contends that education enhances a mother's ability to appreciate the value of breastfeeding as opposed to her less educated counterpart. The UNICEF director J.P. Grant,stated,

"For almost all children, the most important primary health care worker is the mother. For it is usually the mother's level of education and access to information which will decide..... whether she knows about the advantages of breastfeeding; and whether her child will be weaned at the right time;....."
("The state of the World's Children, 1984, p.30)
Yet in "Laini-Saba", the majority of the respondents had not been educated beyond the primary school level but their level of awareness regarding breastfeeding was relatively high. Infact the study confirmed that weaning among "Laini-Saba" mothers was determined more by work status (economic obligations) than education levels.

The fact that nearly all the mothers who had attained secondary school education were breastfeeding may lend credence to UNICEF's assertion that more educated mother is more liable to appreciate the usefulness of breast milk to her baby than her less educated counterpart. Yet it is also true that education exposes a mother to better opportunities for office-jobs and exposes her even more to such processes of social change as diffusion. This holds the implication that such a mother would be unable to breast feed successfully beyond the two month maternity leave provided in the formal sector. Infact the study revealed that all the five mothers who were employed as office-clerks were breastfeeding only partially despite the fact that two of them had babies who were only one month old.

One may conclude, from the preceeding argument, that educational levels apparently play a minor role in determining

breastfeeding trends among the urban poor. Once again, economic activity emerges as the most crucial factor, a conclusion that has been supported by the World Health Organisation (WHO)'s observation that "For vast numbers of women, time and work are critical factors in their decision about breastfeeding" (WHO chronicle, No.37, 1983).

According to the findings of this study, breast feeding children in "Laini-Saba" seemed to require more regular medical attention than their non-breastfeeding counterparts. It was also established that the incidence of diseases among these slum children was very high and that diarrhoea was especially rampant even among two week old babies who were still receiving breast milk as their sole food. These findings may contradict the emphasis that has been laid on breast milk as a valuable source of protection against the commonest infant ailment, diarrhoea (Lawrence, 1985; Ketsela and Asfaw, 1989).

It would, therefore, be safe to conclude that other factors always need to be considered before such emphasis as the above, can be validated. These may include the availability of clean water, the mother's nutrition and level of cleanliness, the availability of sanitation and toilet facilities or even the standard of environmental cleanliness. In "Laini-Saba", like in most other slum villages, it was found that clean water was only moderately available and had to be paid for by the pail; that toilet and sanitation facilities were virtually non-existent and that due to lack of garbage disposal facilities,the area was always filthy and smelly.The majority of "Laini-Saba" mothers also reported that they were hardly ever satisfied from the food they usually

ate suggesting that their nutritional levels are inadequately low for successful lactation (Oniang'o, 1988). In such findings, a grim picture emerges of the enormous risks inherent in the area, for the health of both mother and child.

Through breast milk, a mother may pass on infectious agents, which she had earlier consumed in her food or water, to her baby. It may therefore be concluded that the health risk in "Laini-Saba" is so high for both the mother and child that the potency of breast milk is undermined altogether, therein explaining the high incidence of disease even among those babies who were being exclusively breastfed.

5.2. Conclusion:

The present study established, among other things that more than half of the mothers resident in Kibera's "Laini-Saba" village may be employed in one way or another. The hypothesis that a mother's occupation does not determine her decision to carry on breastfeeding on resumption of work was rejected. This in effect, suggested the existence of a relationship between the finding that "Laini-Saba" mothers apparently stop breastfeeding their children so soon after birth and that they are actively engaged in economic activity. Analysis further rejected the hypothesis that a mother's work status (whether she is employed or not) is unrelated to the length of time she continues breastfeeding her baby.

The foregoing findings led to the conclusion that successful (or prolonged) breast feeding by urban, low-class mothers may usually be an illusionary feat as long as such mothers have to participate in economic activity so as to justify their very

survival in an urban environment where life depends almost wholly on one's ability to fend for oneself. Furthermore, it had earlier been established that more than half of the respondents were either unmarried, widowed or divorced. This has the corollary implication that such mothers would be able to fend for both themselves and their children, in the absence of a father figure.

It was also established, during the present study, that residents of "Laini-Saba" live in the kind of squalor and filth that is almost uninhabitable and, consequently, the incidence of disease among these people's children was also found to be alarmingly high. The hypothesis that the health status of a child is independent of the period during which that child receives breast milk as his sole food was accepted during data analysis. A related hypothesis, that the nature of disease a child suffers from does not depend on whether that child is receiving breast milk or not was also tested and accepted.

The acceptance of this latter duo of hypotheses may undermine the claim that breast milk is the ultimate "safety-valve" for the health of a new-born and growing child. Subsequently, it may be concluded that for the child born and raised in the slum, breast milk apparently offers only negligible protection against disease. Rather, the health of such a child depends more on the infection load of the environment in which he lives and a host of other related factors as discussed in the earlier sections of this study.

5.3. Recommendations:

Breast feeding is a practice that needs to be reinforced among all child-bearing women. It is advantageous to the mother both emotionally and economically. It provides the newborn baby with his most natural food and helps to bolster his health status. For the child born in the slum, breast feeding may be one of the crucial "safety-valves" between such a child and the unclean environment his mother interacts with. Based on the findings of this study, the following recommendations appear to require urgent attention by the relevant authorities:-

1. Living conditions should be improved in urban slums by upgrading the provision of basic health and social services to the slum residents. This could be affected by:

(a) Ensuring the regular and consistent collection of garbage including the provision of refuse tanks or rubbish holes. This recommendation is based on the finding that "Laini-Saba" village is always filthy and smelly due to lack of organized garbage disposal. This makes the infection load in the area especially heavy.

(b) Providing more water taps to the residents of a slum such as "Laini-Saba". This would ensure the proximity of water source and while lessening the congestion at the few available taps, would facilitate the provision of clean-treated water by slum residents. Most "Laini-Saba" mothers stated that clean water was only moderately available for their usage and some of them thus had to resort to fetching water from the nearby Mutoini river or from boreholes.

(c) Provinding free of less costly Government-run clinics. This

will ease congestion at the few available clinics and the improved proximity would eradicate the inability of some mothers to travel distances in search of medical care. In the meantime more personnel should be availed at the Langata dispensary which will cater for the majority of "Laini-Saba" residents, it is probabaly due to exhaustion (from incessant congestion) that the medical personnel at langata dispensary were always "hostile and inefficient" (as they were described by the majority of the respondents).

2. The Government, in conjunction with the informal sector ought to work out the modalities associated with the provision of paid maternity leave to mothers employed on temporary terms as casual labourers. Alternatively, the Government should make it mandatory for employers to build creches or other forms of day-care nurseries within their business premises. This would allow lactating mothers to resume work and still be able to breast feed their babies.

Results of the study indicated that most mothers had to abandon breastfeeding in favour of economic activity which usually forced them to stay away for long hours from their babies. Consequently the babies had to be introduced to alternative foods and the mothers had to abandon the practise to avoid such problems as breast engorgement which results from accumulation of milk in the breast. If therefore, employers could be made to understand these mothers' dilemma, then breastfeeding may be expected to be practised for longer periods than was the case with "Laini Saba" mothers.

3. Such basic health services as immunization and monthly weighins or general routine examination could be taken to mothers via "mobile-van clinics" whose daily stations would be made known to mothers by prior information.

This would make mothers more aware of the necessity of such services and also make it easier to have access to these services which would now be very close to them.

4. Finally, organizations which support the breast feeding cause such as the Breastfeeding Information Group (BIG) or the international Baby Food Action Network (IBFAN) also need to arrange regular lecture or advise sessions in all residential estates and beyond, depending on the resources at their disposal. Such interaction and dissemination of information would help raise the level of awareness among mothers and the general public. The study, revealed that one of the problems that breastfeeding mothers face is the inability to breast feed freely in the open due to hostile disapproval by members of the public. If, therefore, the general level of awareness could be raised in a vigorous and organized campaign such as has been launched by the Kenya "AIDS" committee, then such obstacles could easily be overcome.

The foregoing recommendations are based on the findings of the "Laini-Saba" study but it is the feeling of this researcher that if found viable, they could be applicable to all urban slums since they are nearly similar in their characteristics of features

5.4. AVENUES FOR FURTHER RESEARCH

Based on some of the present study's findings and recommendations, it becomes apparent that further research ought

to be initiated in certain areas as the most viable means of paving way for possible policy formulation and implementation.

Research could be for example, be initiated to investigate the viability, of creating day-care nurseries at work-places which may enable breast feeding mothers to carry their children to work and hence continue breastfeeding even after the expiry of the two-month maternity leave usually provided by employers. The study revealed that resumption of the pursuit of economic goals was the single greatest cause for the ceasation of breastfeeding by employed mothers. For this reason, it is justifiable to recommend that research be initiated to examine the economic social or other obstacles to the creation of day-care centres at work places. From such research, the most viable recommendations for overcoming such obstacles could be made and taken up by policy makers.

This study also revealed that diarrhoea is the single commonest disease that ails children in "Laini-Saba" village. The incidence of this disease appeared to disregard breastfeeding as a feeding method and was high in both breastfeeding and non-breastfeeding babies. It becomes imperative therefore, to initiate research for the purpose of investigating the causes of diarrhoea in the slums and recommending ways of curbing these causes. Health workers should undertake research into the source of the heavy infection load in the slum areas and formulate economically viable ways of lessening this load. The need for such research should be further propelled by the fact that slums are an inherent feature of urban areas and are therefore here to stay. Such research therefore, may open avenues for possible

formulation and implementation of policies that may improve life in the slums.

Finally, research should be initiated to look into the possibilities of designing and implementing an intensive breast feeding information service akin to the already well-established family-planning services. It is apparent that the Kenyan Government has left the onus of breast feeding promotion to such non-government bodies as the Breastfeeding Information Group (BIG) or even the United Nations Children's Fund (UNICEF). What is apparently ignored is the fact that breastfeeding and family planning are inter-twined issues of the "better family" envisaged by the latter service. Infact, mothers are the main target group for both the services and it would be very appropriate to integrate the two intensively. Research should therefore be undertaken to test the possibility of according a breastfeeding service similar prominence to that enjoyed by the family planning services. Mothers, and the wider society would thus be well educated in the field of breastfeeding. This would help overcome the public disapproval to breastfeeding in the open and would also make every mother aware of basic techniques of breastfeeding and weaning.

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THE QUESTIONNAIRE

Respondents Name _____

Date of Interview _____

Length of Interview, from _____ To (Until) _____

2. _____

3. _____

4. _____

INTRODUCTION

Hello, my name is ..... and I am from the University of Nairobi, We are carrying out research on breastfeeding and child health, Can I ask you some questions ?.

SECTION A (HOUSEHOLD)

Q1. How old are you _____

Q2. Do you have a husband/Guardian (e.g. Boyfriend). ?

If no, Ask Q3. ┌──────┐ If Yes, Ask Q4. ┌────────┐
└──────┘ └────────┘

Q3. So you are .... (Unmarried/Divorced/Widowed/Otherwise separated.?

Q4. Does he live here with you ?.

If Yes, Ask Q5. ┌────────┐ If no, Ask Q6. ┌─────────┐
└────────┘ └─────────┘

Q5. Does he work ? (Yes/No) _____

Q6. Where is he ? _____

Q7. How long have you lived in " Laini-saba" ?. _____

Q8. How long do you think you will stay here ? ____________________

Q9. Do you work .? ______________________________

Q10. What type of work do you do? ______________________

(e.g. Permanent Employment, Casual Labor....)

Q11. Do you carry your child/children to work ?

If Yes, ask Q12(a) [ ] If No, Ask Q12(b)-(c)-(d) [ ]

Q12. (a) Why --

(e.g. cannot afford maid, it is convenient) ?

(b) Who stays behind with your child/children _______________

(e.g. Maid, relative, Neighbour ?)

(c) How old is this person who minds your child/children ?_______

(d) Does he/she take good care of your child/children ? _________

____

Q13 Have you ever gone to school ?

If Yes, ask Q14 [ ] No [ ]

Q14. (a) For how many years ? ______________________________

(b) Upto what level ? ____________________________

(c) Do you think going to school has influenced your decision

breastfeed your child better ? ______________________________

SECTION B (THE HOUSEHOLD, ENVIRONMENT

The interview shall describe the shelter of the respondent viz:

A: ROOF (state, by ticking, whether) .....

Iron sheet [ ] Grass/Makuti [ ] [illegible]

[illegible]

B Wall

Stone		Wood only		Brick/Block	
Grass/reed-		Iron sheets		Cardboard	

Other specify _____

C: FLOOR

Cement/concrete		Wood only		Mud/Earth	

Other specify _____

Do you pay rent for this house ?

(If Yes, Ask Q2)		Yes		No

Is this house .....

Purchased ?		Inherited		Constructed	

3. How do you get water ?

Piped(interior/exterior)		Borehole		Well	
Spring/river		Dam/Pond			

Other (specify) _____

Moderate scarcity (available) _____

Scarce (insufficiently/rarely available) _____

Q6. Do you pay for the water ? [ ] Q7. Is it clean ? [ ]

Q8. What do you use for cooking ?

Stove [ ] Jiko [ ] Firewood [ ]

Electricity [ ] Gas [ ]

Q9. How many meals do you prepare per day ?

Only one [ ] Two [ ] Three [ ]

Irregular [ ]

Q10. What is your source of lighting at night ?

Electricity [ ] paraffin [ ]

Other (specify) _____

Q11. Is it bright enough during the day in the house ?

Q12. Do you usually have enough food for everyone in the house ?

Yes [ ] Not enough [ ] Never [ ]

No respose [ ]

Q15. If Yes, Why ? _____

(e.g. Doctor/Nurse's advise Thought it necessary)

Q16. How many of you live in this house ? _____

Q17. How many rooms/divisions has it got ? _____

SECTION C1

RESPONDENTS CURRENTLY BREASTFEEDING

Q1. Are there any children two years or less living here ?

If Yes, ask Q2 [ ] If no, close interview [ ]

Q2. Could you please tell me their names and ages ?

1. Name: _____ Age _____
2. Name: _____ Age _____
3. Name: _____ Age _____
4. Name: _____ Age _____
5. Name: _____ Age _____

Q3. Do you feed ? _____ (Name) all/most of the time or only for part of the day ? _____

Q4. Do you feed _____ (Name) only on breastmilk or with some other foods _____ (if "on other foods" Ask Q5)

Q5. What other (kinds of) Foods ?

Powdered milk	Yes [ ]	No [ ]		Cow's milk,	Yes [ ]	No [ ]	
Uji	Milk Yes [ ]	No [ ]		Potatoes	" Yes [ ]	No [ ]	
		No [ ]					

Specify _____ No [ ]

Branded cereals, Yes [ ] Specify _____ No [ ]

Fruit juice, Yes [ ] Specify _____ No [ ]

Others - specify _____

Q6. Were you given information from any source ?

If Yes Ask Q7. [ ] No [ ]

Q7. From/by whom ?

Doctor/Nurse	[ ]	Friend/Relative	[ ]
Midwife	[ ]	Manufacturers Reprt.	[ ]
Other (specify)	[ ]	No answer	[ ]

Q8. For how long have you been feeding (did you feed) _____

(Name) on breastmilk alone ?

Two weeks	[ ]	One month	[ ]	Two months	[ ]	3 months	[ ]
Four months	[ ]	Five months	[ ]	Six months	[ ]	7 months	[ ]
Eight months	[ ]	None (specify)	_____				

Q9 What made you introduce other foods when you did ?

Doctor/Nurse's recommendation	[ ]	Advertisement of formula	[ ]
Friend/Relative/Midwife's advise	[ ]	Had to be away from baby	[ ]
Baby never seemed satisfed	[ ]	It is customary	[ ]
It is cheaper/easier for me	[ ]		
	[ ]	Other (specify)	

Q10. Did you [illegible]

Q 1 How do you do it ?

Alternate breastmilk & foods	
Breastmilk during morning/evening	
Before each breast-feeding session	
Breastmilk at night only	/
(other foods during the day)	
Other (specify) _____	

Q12. how many times, each day, is the baby fed on those foods ?

Substantial partial :		Token partial :	
Once		Four times	
Twice		Five times	
Thrice		Irregular	
Don't know			

Q13. When you give the baby powdered milk, cow's milk, cereals, juice, egg do you add anything ? :

If Yes, ask Q14.		No	

Q14. What do you add ?

Water		Salt		Sugar		Other (specify

Q15. Why do you make those additions ?

Q16. What kind of advise do you usually receive about breastfeeding ?

	Continue breastfeeding	stop, use bottle	combine both
Husband			
Friends			
Doctor/Nurse			
Salesmen			
Other specify			

Q17. What kind of personal/particular problems do you experience in breastfeeding your baby ? 1. _____

2. _____

3. _____

Q18. What have you done/are you doing to resolve them ? _____

Q19. Do you get sufficient support from your family/friends to help you breastfeed adequately ? _____ _____

FOR RESPONDENTS NOT BREASTFEEDING NOW

Q1. Did you ever give breastmilk to _____ (Name)

If yes [ ] Ask Q3-5 If No [ ] Ask Q2.

Q2. Why did you decide NOT to feed your child with breastmilk ?

MOTHER RELATED		BABY RELATED	
	[ ]		[ ]
	[ ]		[ ]
	[ ]		[ ]

Other specify _____

Q3. Why did you stop ?

OTHER RELATED		BABY RELATED	
Due to working conditions		Baby rejected breastmilk	
Due to discomfort		Baby seemed underfed	
Due to ailment		Baby became too aggressive	
I became pregnant		Baby fell ill	

Other (specify) _____

Q4. When did you stop ?

After two weeks		Other (specify) _____	
After one month			
After two months		can't remember	

Q5. How did you stop ?

e.g. Gradually discouraged baby off breasts		Ask Q6
Abruptly divorced baby form from breasts		Ask Q7

Q6. How long did this procees take ?

Less than one month		Other (specify duration) __	
2 months		can't remember,	

Q7. How did you do this ?

Responded to baby's cries with other foods	
Stayed away from baby mostly	
Smeared bitter substance on nipples	
Other (specify) _____	

What kind of advise do you usually receive from your husband, friends, nurse, midwife or salesmen ?

Husband: use breast only		Bottle only		Use both	
Friends: use breast only		Bottle only		Use both	
Nurse/Dr/mw: use breast only		Bottle only	/	Use both	
Salesmen: Use breast only		Bottle only		Use both	

10. Do these people (above) give you adequate support towards successful breastfeeding ?

Yes		No		Sometimes	

SECTION D (BABY'S HEALTH)

Q1. How long ago was _____ (baby's name) examined by a health officer ?

Q2. When will _____ (baby's name) be examined again ?

For Q1-2	Past (Q1)	Future (Q2)
Less than 1 - 2 weeks		
Over 2 - 3 weeks		
Over 3 - 4 weeks		
Over 1 - 2 months		
Over 2 - 3 months		
Over 3 - 6 months		
Over 6 months		
Cannot recall/uncertain		

3. Has this baby ever fallen ill ?

If Yes		Ask Q4 (a-d)	no	

4. (a) Did the child fall ill during the first two weeks ?

If Yes		Ask Q4 (b)	No	

(b) What was the nature of the disease/illness ?

iarrhoea		Bronchitis		Malaria	
easles		Pneumonia		Tetanus	
espitatry		Other (specify)		Fever	
flu		Anaemia		Polio	

c) What was he/she treated for ?

INFECTION	Frequencey (No. of times) ?
Diarrhoea	
Measles	
Malaria	
Tetanus	
Bronchitis	
Pneumonic	
Anaemia	
Fever	
Flu	
Respiratory	
Polio	
Other (specify	

5. How would you describle your baby's health ?

Very Good		Satisfactory		Delicate/poor	
Good		Bad		Other ? _____	

6. Have you had your baby vaccinated ? Yes | | No | |

7. Do you receive due attention at the hospital when taken your baby ?

Yes/always		Sometimes		No/hardly ever	

8. Are you usually give drugs for your child at the hospital

Yes/always		Sometimes		No/hardly ever	

9. How would you describe the hospital ?

Always very crowded	
Manageably crowded	
Usually empty	

10. How would you describe the Doctor/Nurses/Staff at the hospital ?

Very friend, efficient	
Hostile, inefficient	
Apparently overworked	
Apparently underworked	

APPENDIX TWO

TABLE OF RANDOM NUMBERS

Table B Random numbers

10 09 73 25 33	76 52 01 35 86	34 67 35 48 76	80 95 90 91 17	39 29 27 49 45
37 54 20 48 05	64 89 47 42 96	24 80 52 40 37	20 63 61 04 02	00 82 29 16 65
08 42 26 89 53	19 64 50 93 03	23 20 90 25 60	15 95 33 47 64	35 08 03 36 06
99 01 90 25 29	09 37 67 07 15	38 31 13 11 65	88 67 67 43 97	04 43 62 76 59
12 80 79 99 70	80 15 73 61 47	64 03 23 66 53	98 95 11 68 77	12 17 17 68 33
66 06 57 47 17	34 07 27 68 50	36 69 73 61 70	65 81 33 98 85	11 19 92 91 70
31 06 01 08 05	45 57 18 24 06	35 30 34 26 14	86 79 90 74 39	23 40 30 97 32
85 26 97 76 02	02 05 16 56 92	68 66 57 48 18	73 05 38 52 47	18 62 38 85 79
63 57 33 21 35	05 32 54 70 48	90 55 35 75 48	28 46 82 87 09	83 49 12 56 24
73 79 64 57 53	03 52 96 47 78	35 80 83 42 82	60 93 52 03 44	35 27 38 84 35
98 52 01 77 67	14 90 56 86 07	22 10 94 05 58	60 97 09 34 33	50 50 07 39 98
11 80 50 54 31	39 80 82 77 32	50 72 56 82 48	29 40 52 42 01	52 77 56 78 51
83 45 29 96 34	06 28 89 80 83	13 74 67 00 78	18 47 54 06 10	68 71 17 78 17
88 68 54 02 00	86 50 75 84 01	36 76 66 79 51	90 36 47 64 93	29 60 91 10 02
99 59 46 73 48	87 51 76 49 69	91 82 60 89 28	93 78 56 13 68	23 47 83 41 13
65 48 11 76 74	17 46 85 09 50	58 04 77 69 74	73 03 95 71 86	40 21 81 65 44
80 12 43 56 35	17 72 70 80 15	45 31 82 23 74	21 11 57 82 53	14 38 55 37 63
74 35 09 98 17	77 40 27 72 14	43 23 60 02 10	45 52 16 42 37	96 28 60 26 55
69 91 62 68 03	66 25 22 91 48	36 93 68 72 03	76 62 11 39 90	94 40 05 64 18
09 89 32 05 05	14 22 56 85 14	46 42 75 67 88	96 29 77 88 22	54 38 21 45 98
91 49 91 45 23	68 47 92 76 86	46 16 28 35 54	94 75 08 99 23	37 08 92 00 48
80 33 69 45 98	26 94 03 68 58	70 29 73 41 35	53 14 03 33 40	42 05 08 23 41
44 10 48 19 49	85 15 74 79 54	32 97 92 65 75	57 60 04 08 81	22 22 20 64 13
12 55 07 37 42	11 10 00 20 40	12 86 07 46 97	96 64 48 94 39	28 70 72 58 15
63 60 64 93 29	16 50 53 44 84	40 21 95 25 63	43 65 17 70 82	07 20 73 17 90
61 19 69 04 46	26 45 74 77 74	51 92 43 37 29	65 39 45 95 93	42 58 26 05 27
15 47 44 52 66	95 27 07 99 53	59 36 78 38 48	82 39 61 01 18	33 21 15 94 66
94 55 72 85 73	67 89 75 43 87	54 62 24 44 31	91 19 04 25 92	92 92 74 59 73
42 48 11 62 13	97 34 40 87 21	16 86 84 87 67	03 07 11 20 59	25 70 14 66 70
23 52 37 83 17	73 20 88 98 37	68 93 59 14 16	26 25 22 96 63	05 52 28 25 62
04 49 35 24 94	75 24 63 38 24	45 86 25 10 25	61 96 27 93 35	65 33 71 24 72
00 54 99 76 54	64 05 18 81 59	96 11 96 38 96	54 69 28 23 91	23 28 72 95 29
35 96 31 53 07	26 89 80 93 54	33 35 13 54 62	77 97 45 00 24	90 10 33 93 33
59 80 80 83 91	45 42 72 68 42	83 60 94 97 00	13 02 12 48 92	78 56 52 01 06
46 05 88 52 36	01 39 09 22 86	77 28 14 40 77	93 91 08 36 47	70 61 74 29 41
32 17 90 05 97	87 37 92 52 41	05 56 70 70 07	86 74 31 71 57	85 39 41 18 38
69 23 46 14 06	20 11 74 52 04	15 95 66 00 00	18 74 39 24 23	97 11 89 63 38
19 56 54 14 30	01 75 87 53 79	40 41 92 15 85	66 67 43 68 06	84 96 28 52 07
45 15 51 49 38	19 47 60 72 46	43 66 79 45 43	59 04 79 00 33	20 82 66 95 41
94 86 43 19 94	36 16 81 08 51	34 88 88 15 53	01 54 03 54 56	05 01 45 11 76

SOURCE: The RAND Corporation, *A Million Random Digits*, Free Press, Glencoe, Ill., 1955, pp. 1-3, with the kind permission of the publisher.

Table B Random numbers (*Continued*)

98	08	62	48	26	45	24	02	84	04	44	99	90	88	96	39	09	47	34	07	35	44	13	18	80
33	18	51	62	32	41	94	15	09	49	89	43	54	85	81	88	69	54	19	94	37	54	87	30	43
80	95	10	04	06	96	38	27	07	74	20	15	12	33	87	25	01	62	52	98	94	62	46	11	71
79	75	24	91	40	71	96	12	82	96	69	86	10	25	91	74	85	22	05	39	00	38	75	95	79
18	63	33	25	37	98	14	50	65	71	31	01	02	46	74	05	45	56	14	27	77	93	89	19	36
74	02	94	39	02	77	55	73	22	70	97	79	01	71	19	52	52	75	80	21	80	81	45	17	48
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69	07	49	41	38	87	63	79	19	76	35	58	40	44	01	10	51	82	16	15	01	84	87	69	38
09	18	82	00	97	32	82	53	95	27	04	22	08	63	04	83	38	98	73	74	64	27	85	80	44
90	04	68	54	97	51	98	15	06	54	94	93	88	19	97	91	87	07	61	50	68	47	66	46	59
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54	01	64	40	56	66	28	13	10	03	00	68	22	73	98	20	71	45	32	95	07	70	61	78	13
08	35	86	99	10	78	54	24	27	85	13	66	15	88	73	01	64	89	75	53	31	22	30	84	20
28	30	60	32	64	81	33	31	05	91	40	51	00	78	93	32	60	46	04	75	94	11	90	18	40
53	84	08	62	33	81	59	41	36	28	51	21	59	02	90	28	46	66	87	95	77	76	22	07	91
91	75	76	37	41	61	61	36	22	69	50	26	39	02	12	55	78	17	65	14	83	48	34	70	55
89	41	59	26	94	00	39	75	83	91	12	60	71	76	46	48	94	97	23	06	94	54	13	74	08
77	51	30	38	20	86	83	42	99	01	68	41	48	27	74	51	90	43	37	29	65	39	45	95	93
19	50	23	71	74	69	97	92	02	88	55	21	02	97	73	74	28	77	52	51	65	34	46	74	15
21	81	85	93	13	93	27	88	17	57	05	68	67	31	56	07	08	28	50	46	31	85	33	84	52
51	47	46	64	99	68	10	72	36	21	94	01	99	13	45	42	83	60	91	91	08	00	74	54	49
99	55	96	83	31	62	53	52	41	70	69	77	71	28	30	74	81	97	81	42	43	86	07	28	34
33	71	34	80	07	93	58	47	28	69	51	92	66	47	21	58	30	32	98	22	93	17	49	39	72
85	27	48	68	93	11	30	32	92	70	28	83	43	41	37	73	51	59	04	00	71	14	84	36	43
84	13	38	96	40	44	03	55	21	66	73	85	27	00	91	61	22	26	05	61	62	32	71	84	23
56	73	21	62	34	17	39	59	61	31	10	12	39	16	22	85	49	65	75	60	91	60	41	88	80
65	13	85	68	06	87	64	88	52	61	34	31	36	58	61	45	87	52	10	69	85	64	44	72	77
38	00	10	21	76	81	71	91	17	11	71	60	29	29	37	74	21	96	40	49	65	58	44	96	98
37	40	29	63	97	01	30	47	75	86	56	27	11	00	86	47	32	46	26	05	40	03	03	74	38
97	12	54	03	48	87	08	33	14	17	21	81	53	92	50	75	23	76	20	47	15	50	12	95	78
21	82	64	11	34	47	14	33	40	72	64	63	88	59	02	49	13	90	64	41	03	85	65	45	52
73	13	54	27	42	95	71	90	90	36	85	79	47	42	96	08	78	98	81	56	64	69	11	92	02
07	63	87	79	29	03	06	11	80	72	96	20	74	41	56	23	82	10	95	38	04	71	36	69	94
60	52	88	34	41	07	95	41	98	14	59	17	52	06	95	05	53	35	21	39	61	21	20	64	55
83	59	63	56	55	06	95	89	29	83	05	12	80	97	19	77	43	35	37	83	92	30	15	04	98
10	85	06	27	46	99	59	91	05	07	13	49	90	63	19	53	07	57	18	39	06	41	01	93	62
39	82	09	89	52	43	62	26	31	47	64	42	18	08	14	43	80	00	93	61	31	02	47	31	67