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*Sociocultural Factors Influencing
the Prevalence of Diarrheal Disease
in Rural Upper Egypt*

*An Ethnographic Study
in Six Villages*



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Sociocultural Factors Influencing the Prevalence of Diarrheal Disease in Rural Upper Egypt

*An Ethnographic Study
in Six Villages*



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**Final Summary Report
Submitted to UNICEF by
Linda Oldham**

**Based on Field Reports by
Hania Sholkami, Hager El Hadidi and Saneya Wahba**

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The research findings presented in this report and its annexes do not necessarily reflect the policies or views of UNICEF or the Ministry of Health. The purpose of the report is to facilitate the rapid exchange of knowledge and perspectives and to stimulate discussion.

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Introduction

The research findings discussed in this report emanate from studies of factors of relevance to the incidence and prevalence of diarrheal disease in six villages of Upper Egypt. These studies were commissioned by UNICEF/Egypt in 1988 as part of the agency's preparation for developing a program to reduce the incidence of diarrhea among young children in Upper Egypt through a communications program. The first purpose of the study was thus to explore sociocultural factors of relevance to the problem of high incidence of diarrheal disease, so that UNICEF could seek ways in which mothers and other community members could modify their behavior in the interest of child health. A secondary purpose of the research was to test the approach for undertaking qualitative studies of factors related to community health developed by Susan Scrimshaw and Elena Hurtado, the Rapid Appraisal Procedures now commonly referred to as RAP,* which had not previously been used in Egypt as such. Since the selection and testing of this research strategy had major implications for the manner in which the research was conducted, and therefore for its findings, it is described in some detail below.

The RAP manual was first developed by its authors, and has since been utilized by many others, to facilitate the study of "the effectiveness of primary health care programs and the relationship between users and providers" (Scrimshaw and Hurtado 1987, ix). It seeks to provide the benefits of the anthropological approach,

* *Susan C M. Scrimshaw and Elena Hurtado, Rapid Assessment Procedures for Nutrition and Primary Health Care, Anthropological Approaches to Improving Programme Effectiveness, Los Angeles UCLA Latin American Center Publications, 1987.*

which focuses on gaining in-depth understanding of systems of belief that underlie behavior, combined with close observation of the behavior as acted rather than as reported, and without the need to engage in lengthy periods of fieldwork. Thus the methods of classical anthropology have been streamlined and codified, and a uniform framework for undertaking of research, processing of data, and presentation of findings derived.

Field experience with the manual in 16 societies indicates that information of critical importance to primary health care and nutrition programs can be collected in the relatively brief period of four to eight weeks by professional anthropologists, and rapidly transmitted to program managers.

The research reported here developed somewhat differently in terms of scheduling, as program design was to be based on research findings. Thus the research could help UNICEF not only to maximize program effectiveness, but actually to identify specific goals and modalities of intervention. Planning for the work, including adaptation of the RAP manual to the Egyptian context, selection of sample villages, arranging of research clearances, and introducing the research program to local officials, took place over a period of six months, beginning in August, 1988. The work was managed by a working group including Nancy Terreni, Nagwa Farag, Ibrahim El Kerdany, and Magdi Bayoumi of UNICEF, and Hager El Hadidi, Hania Sholkami, Saneya Wahba and Linda Oldham as consultants. This group met monthly over the duration of the planning and research phases, and worked in close cooperation with Dr. Rifaat Saleh and Dr. Salah Madkour of the Ministry of Health throughout.

The RAP manual itself required substantial modification to meet the needs of this program, as the topics of key concern for the prevention of diarrheal disease are quite divergent from the evaluation of nutrition and primary health care programs. The working group therefore cast a wide net in defining the potential areas of interest, and ultimately arrived at the research outline shown here as Appendix A. This outline is used here to organize the presentation of final results.

Considerable attention was also paid to the identification of research sites, as the needs of UNICEF were for maximum representativeness of rural Upper Egypt in general, but at the same time qualitative research does not allow for random sampling. A number of selection strategies were investigated and discarded in the process. It was ultimately decided that two sites would be selected in each of three governorates: Aswan, Sohag and Assiut. Within each governorate, the selection would be based on the criterion that paired villages, one a "mother", or main village, the other one of its satellite villages, would be chosen, and that the latter should be unserved by a piped water supply system. The issue of representativeness was

essentially left to the comparison of results; to the extent that similar findings were obtained on a given issue in the six sites, or clear reasons for divergence could be identified, it would be tentatively assumed that a given result was representative of this kind of settlement across the region. Where differences which could not be readily accounted for were found, representativeness would remain indeterminate, at least until further research could be undertaken.

Sixty days were allocated for fieldwork, to take place in two phases, one during February and March, the other during June and July, in order to maximize exposure to seasonal differences in key variables. Meetings of the working group were scheduled before, midway through, and after each of the phases, to share findings and discuss plans for further research activities. An interim report was submitted by each field researcher after the first phase, and a separate final report on each pair of villages at the conclusion of the overall research. The current report summarizes the main conclusions of the research in the six sites as a whole.

Findings On RAP

There was agreement among the working group, including UNICEF personnel and anthropologists, that structuring a field study along the lines of RAP provides a parsimonious way of doing comparative work, and results in a final report which is far more amenable to use by policymakers than would be a more classical ethnography. Nevertheless, the anthropologists feel some concern about this particular study and the manner in which it was conducted, for reasons detailed below.

This study was intended to identify practices which are potentially and/or actually deleterious to the health of young children, specifically those which influence the incidence and prevalence of diarrheal disease (and, conversely, those which are absent but which could protect against diarrheal disease if present). This purpose automatically results in a negative description of childrearing practices and the environment of childrearing in the study sites. The RAP approach, because it is based on so little field time, does not allow the researcher to focus sufficiently on or analyze in detail the manifestations of the deep love and concern shown by Egyptian villagers for their children, nor the myriad practices designed to protect and enhance their growth and development, except when the latter can be seen to have direct impact on diarrheal disease.

If there were a rich ethnographic data base on life in Egyptian villages, a study such as this could be read in its context, and the implied negativity dissipated. Since such a data base does not exist, however, this study is likely to be used not only by those wishing to intervene in the villages for health reasons, but also by ethnographers in general, despite its inadvertent but profound bias.

A second source of concern for the anthropologists is that the brief research period and the highly structured research outline both lead to the presentation of results in a very simplified fashion. The richness and complexity of village culture are not adequately reflected; practices which affect child health are presented essentially in disconnected lists rather than shown as part of a seamless web of daily life. It is quite difficult in such a study to fully understand, much less effectively convey to the reader, the thought and effort which villagers put into ensuring family welfare in general and that of the children in particular. In short, the portrait of the village mother as sapient, active subject, rather than as object, whether of a study or an intervention, is to a great extent lacking here, despite the strenuous efforts of the fieldworkers to include it. So too is the extent to which the community as a whole, not simply the mother or the nuclear or extended family, participates in the protection and care of the child, beginning well before his birth and continuing long past the period of most interest here.

This problem, and the tendency of non-villagers to think of villages as rather static, homogeneous and traditional settings, can easily lead to a gross underestimate of the difficulty of intervening in such communities. Certainly the rich body of lore and new information flowing through the villages, and being used by villagers in various ways as the bases for complex and variable choices, is not shown adequately here. The numbers of voices and "messages" which reach the ears of mothers and other community members are unlikely to be fully appreciated, and we still understand almost nothing about the forms and types of information that most readily gain currency. It must also be kept in mind by the reader that the villages of Egypt are in the process of very rapid social change which touches every aspect of community and individual life, regardless of our interventions; any outreach program using a study such as this as its base must keep the rapidity of change in careful consideration if relevance to current needs is to be achieved.

All of the foregoing concerns on the part of the anthropologists who have worked on this study do not add up to a statement that the process has been a futile one. On the contrary, much has been learned which may be useful not only in supporting the delivery of health education and services but also in furthering our understanding of village life in Egypt. At the same time, however, it would be a great pity if this work were not to be used as a stepping stone to further research which could explicate in more detail and with more breadth and depth the issues which are dealt with here.

One final reservation of the anthropologists concerns the form of the intervention in Upper Egyptian villages. This intervention is to be a communications program designed to encourage villagers to better care for the health

of their young children. It is quite clear from the field research, however, that one of the most serious constraints on village households for health protection is drainage. Without implementation of an effective system for the disposal of grey water and toilet wastes, it is hard to ask village families to modify their water-use practices in a major way.

Methodology

Researchers were introduced to the villages by official letters from the governorate health directorates. These letters were essential to the approval of the research by local officials. In Sohag and particularly in Assiut, however, this introduction meant that the researchers were accompanied by health unit personnel during the early days, which had a dampening effect on free exchange of ideas with the villagers. Again in Sohag and Assiut, the villages were socially divided by a history of feud, so that when the researchers were "adopted" by village families, their access to one area was facilitated at the same time that it was complicated for other areas. Access to the quarters of the gypsies and the descendents of slaves, both of whom are of low social status, was especially difficult, and to work with these communities would have jeopardized relations with village families in other quarters.

The methodology for this study consisted of observation, participant observation and interviews. Most of the research time in each case was devoted to home visits, designed to cover the main social divisions of the village and to take in the various neighborhoods. Interviews were also conducted at local health units, local government units, and the main markets. Official statistics on health and landholdings were also collected, except in the case of Assiut, where the researcher was denied access to health statistics. These are in any event not shown here, although they are included in the individual reports, as even the employees of the health units say they are quite distant from reality.

The key informants from the various areas were distributed as follows:

Assiut Governorate Mother Village

In this village ten Moslem and ten Coptic families representing the range of social and economic levels were included. Of these 20 cases, five were women aged over 60, one of whom is a traditional healer, another of whom is a traditional birth attendant, and a third of whom is an injectionist working in the local unit. Six of the mothers in the sample were between 18 and 23 years of age, two of them Moslems. Of the other four, two hold middle level diplomas. The remainder of this sample consists of middle-aged mothers, two of them widows. Another two in this group are "afflicted" with the *tabi'a* (الطبيعة), a state of risk to their children which is discussed in the report.

Assiut Governorate Satellite Village

The satellite village is divided along kinship lines, not religious lines; key divisions are between two feuding families and between these and a minority which is of slave descent. It was essential that the researcher identify herself with one or the other of the big families in order to be able to work at all during the brief research period. Sixteen households comprised the sample here, including three from the second family, one family descended from slaves, a total of five young mothers, and ten households of middle-aged women, many of them with their mothers-in-law living with them. These include the traditional birth attendant and three afflicted women.

Sohag Governorate Mother Village

In this village the researcher visited seven families on a regular basis, and established strong relations with them, while 31 families were visited once each. In addition, 33 interviews were carried out at the local health facilities, including the health unit and the dehydration unit of the fever hospital, including women from both villages. Five group discussions including women from both villages were also included in the sample.

Sohag Governorate Satellite Village

In this village the researcher visited eight families on a regular basis and visited 11 other families once each.

Aswan Governorate Mother Village

The key informants included 16 households with 20 mothers and their young children and six grandmothers. Fourteen of the women were illiterate, four had some primary schooling, and two were primary school teachers. All of these families were visited repeatedly over the research period, and observations and interviews took place in their homes and those of their friends and neighbors.

Aswan Governorate Satellite Village

In this village the key informants included 11 households, which had 15 mothers of young children and five grandmothers. All of the women in this sample were illiterate.

Housing was unobtainable in the research locations unless a researcher would rent a room in a village household, which would have made work very difficult with members of other social groupings and in some cases with other households in the same social grouping. Thus the researchers took up residence in nearby towns and commuted on a daily basis. The only secure housing available at the Aswan site was in a hospital where there were no dining facilities, so that the researcher had to shop for and prepare all of her food on a daily basis. Transportation to the satellite villages was also time-consuming and sometimes quite difficult.

On average, the researchers worked intensively in the villages for 6-8 hours a day. In all but one or two households it was totally impossible to take notes while observing or interviewing, meaning that an additional 4-6 hours per day had to be devoted to writing up field notes for that day's work.

In the evenings the researchers also made up lists of topics for the following day, in order to be able to triangulate from varied data sources on particular issues.

One of the most positive aspects of the field research was the cooperation among the four researchers from the outset, an opportunity which comes quite rarely for anthropologists. As shown in the research schedule here appended as Appendix B, however, meetings were held in Cairo only between phases of the research and halfway through each phase, a total of three intervals. Communication among the researchers in the field was extremely difficult between Sohag and Assiut, and impossible between Aswan and the other two sites, so exchange of information was impossible on an on-going basis. All of the anthropologists working on the project regret that there was not more interaction, and would want to plan for such in future

research. There are any number of cases in the data where the discovery of a pattern of behavior, a belief, a misrepresentation of behavior reported in interviews were understood because of inputs from another research site, thanks to the meetings and exchanges which did occur, but there are also a goodly number of cases where comparability of results is indeterminate because the communication was not adequately provided for in the research design. This need for on-going exchange is particularly important in such a brief period of fieldwork dealing with so many topics.

The Research Sites

Aswan Governorate

The Aswan study villages are very different from one another and from the other villages included in the study, for both ethnic and historical reasons. Both are of recent origin. The mother village has a population of about 9,000 and was founded to serve the sugar cane factory at Komombo in about 1902, with peasants being attracted to the site by the availability of land for reclamation. This program drew in migrants from as far north as Sohag, and ultimately even farther away, including Bedouin and Sudanese. The satellite village is of much more recent origin, having been founded only 20 years ago, and is made up entirely of migrants from a small area of Sohag Governorate, who were also drawn into the area by the opportunity to acquire land. It now numbers about 200 households. This village continues to identify strongly with its area of origin, not its area of residence, obtaining many of its staple goods from Sohag, paying traditional political allegiance to Sohagi institutions, sustaining commercial links with its original area, and marrying its daughters and sons to residents either of the new settlement or old, not to residents of the surrounding villages. Its continuing mobility is striking; by the time of the research, the founder of the satellite village had moved on to another land reclamation area, this time in Lower Egypt, to establish a new beachhead for the group.

Because of their relatively recent origins as land reclamation areas, these villages are characterized by comparatively large landholdings. Migrants were originally granted five feddans, with an opportunity to purchase more. The subsistence base for both communities is sugar cane cultivation, combined with

employment in the processing of sugar and associated activities. For those who own land, sugar cane is very remunerative; the feddan nets about LE 1750/year. Even landless agricultural laborers have been able to earn good livings over recent years in this area, due to the widespread labor migration to the Gulf and consequent shortage of workers

Sugar cane is planted only once in every five to seven years, and requires relatively little care prior to maturation. Activity reaches frenetic levels once the harvest begins in October, continuing until the end of May, when the factory ceases to process cane for that year. Those engaged in the harvesting of grains are occupied during the summer months, but many are idle until the subsequent sugar harvest. One indication of the frenzied pace during the sugar season is the high rate of birth registrations subsequent to the end of May.

Physically, demographically and socially the two villages are very different. The mother village is more densely populated, due partly to government restrictions on the use of adjacent land for home-building but also to its greater age as a settlement than the satellite. Use of existing residential space has been maximized. Streets are very narrow, many of them only 1.5 meters in width, and some are closed at one end. Some of the houses have been converted to red brick as a result of labor migration to the Gulf, and others are traditional mud brick structures. Given the extreme shortage of land for building, houses tend to be crowded, but they are very well equipped. Unlike those of the other study sites, most of the households in this village have refrigerators; nearly all have televisions and ceiling fans, though many lack household water connections. Electricity is nearly universal, and everyone who has sufficient space keeps both large and small animals, though not in the numbers he would like due to the limited space for housing them.

Houses consist of various rooms, including an unroofed courtyard, an animal pen (which is usually separated from family living space by a door), and up to four rooms. Baking and storage of various staple foods, such as aged cheese and grains, is on the roof, which may also provide a building site for further rooms

This village is very well served by both official and traditional institutions. Official institutions include a local government unit, a consumers' cooperative, a carpentry workshop, a community development association, a youth center, an agricultural cooperative, a village bank, a veterinary unit, an office of the Ministry of Agriculture for land reclamation, a post office, a telephone exchange, a health unit with two physicians, and a primary and preparatory school for boys and girls. Several foreign-funded development projects are under way in this village, including a USAID-funded rabbit project, a UNICEF-funded program which includes water wells, a manual water pump project, a carpentry workshop and a latrine project, and

a Dutch-funded goat project. This village has about 50 small shops serving its own population and the surrounding hamlets.

This village is also notable for its religious activities. There are three active *sufi tariqas* (الطرق الصوفية), one of which is Sudanese in origin, and other sheikhs also hold religious ceremonies regularly. There is a Koranic school which is paid for by the community, 90 percent of whose attendees are boys. These children attend government schools in the morning and the Koranic school in the afternoon.

With the notable exception of one *sheikha* (شيخة), who holds religious ceremonies in the mother village, and also travels around the country for the same purpose, and widows who have no other means of support, women of the mother village do not work outside their homes except for agricultural work on their own land. No women were observed to work the land of others, though young girls sometimes do. Within the home women are responsible for food preparation and storage, laundry, bread baking, dishwashing, care of the animals, milking, preparation of butter, cheese and ghee, making of dung cakes, repairing of bread ovens, plastering the house, building of storage containers for grains, and child care.

Women marry early and are expected not to leave their homes alone after marriage, though they may go back and forth to the houses of relatives in the neighborhood during daylight hours. They rarely leave the village for any purpose other than marriage. Men do the shopping and handle other external affairs of the family, including even the procurement of birth control pills from the health unit and arranging for their wives to take rabbit loans from the local government unit. Most women have independent incomes from domestic activities such as handicrafts, raising of small animals, and production of eggs, cheese, butter and ghee.

The lifestyle of the satellite village is quite different, as is the physical appearance of the settlement. The heads of household here are younger, as it is mostly younger men who take advantage of land reclamation opportunities. There is not the same constraint on expansion of the residential land as in the mother village, so the houses are quite large, and families can keep many animals. Streets are wide, and nearly all the houses are one-storey.

This village has none of the amenities of the mother village. There is no electricity, no running water, no paved road, no market, no health service, no government installation of any kind. Women work harder in this village, as the households keep more large animals, but their range of tasks is the same as in the mother village. They have the additional burden of widespread polygyny; practically every adult male in the village has married at least twice by the time he reaches age 30. The women fear the coming of the new bride into the household, and do everything in their power to keep their husbands attracted to them. They get up

before their husbands to complete the dirtier domestic work, such as preparation of dung cakes, before their husbands awaken, and then decorate themselves in preparation for the day. They make heavy use of *kohl* (كحل), a traditional eyeliner, and bangles, and place many ornaments in their hair. Special scarves of particularly attractive design are brought from Sohag to cover their hair. Their faces and hair are clean and sweetsmelling, and even middle-aged women wear low-necked dresses. The children, on the other hand, are particularly dirty in this village, as the mothers are concentrating on their husbands.

The young mothers who were born in this village have never seen television in many cases, and for them contact with the world outside the village is almost nil. Only one girl in this village is attending school.

Sohag Governorate

The two study villages of Sohag Governorate are essentially one community in two locations. The mother village has a population of about 1500 households, and the satellite, which is five kilometers away, about 150. The mother village was established at its present location about 200 years ago, but existed as a village prior to that time, moving due to destruction by flood. The satellite was originally an area used by mother village residents as a winter agricultural camp, gradually becoming a permanent settlement after 1942. These villages are also closely related to the surrounding settlements.

While there is little social differentiation between these two settlements, within the mother village in particular social division is acute. Both settlements are divided into six main clans, within which are houses, or *biyuut* (بيوت). Both of these divisions have implications for allegiance at various levels; there is a strong emphasis on co-residence, marriages are arranged within their context, and social goods, such as jobs, are obtained on this basis. The *biyuut* are corporate social units which act jointly to carry out activities such as marriage and death ceremonies, or the building of a guestroom or mosque. If conflict occurs, clan allegiance comes rapidly into play, and alliances are formed among the clans.

A vendetta which killed eight people over 15 years began in the mother village in the middle 1970s. Boundaries of clan residence became impassable to those not included in a given clan's system of alliances. This prohibition was rigidly enforced, and extended to the staff of the official government institutions, including the local government unit, the health unit, and the school. Many staff members had to be transferred to other villages in order for these facilities to function at all.

There are other ethnic/territorial divisions in the village as well. Christians live in distinct areas in various parts of the village. Also co-residential are the barbers, the fishermen, the descendents of religious functionaries, the gypsies, and the descendents of slaves. There has been no *omda* (عمدة), or mayor, since the building of a police station in the 1960s. The sheikhs of the clans continue to play important roles, however, and draw together clan members from various villages. Substantial communication thus runs along clan lines but does not necessarily pass across them.

The mother village is visually very different from the villages of Aswan, as there are many empty plots and deserted houses, due to the fact that a substantial part of the population has moved to the fields, establishing satellite settlements and leaving their original houses of mud brick to crumble in the village, with the plots to be used as building sites for their children as they marry. Most of the currently occupied houses have been built of red brick and reinforced concrete in the very recent past, a process fueled by the high rate of labor migration to the Gulf, particularly Saudi Arabia and Iraq.

The mother village has commercial streets with shops that open in the afternoon, along with a flour mill and a kerosene store. It also has a weekly market. Government facilities include three primary schools, working two shifts each, a preparatory school for boys and another for girls, a fever hospital, a health unit. The health unit includes an outpatient clinic, a 14-bed inpatient facility, and an operating room. There is also a rehydration center and a dentist. One general practitioner operates the unit, which is equipped with a pharmacy and a laboratory. There are two private pharmacies in the village, and a private clinic about a kilometer away. In addition, the village is in easy reach of many private clinics in nearby cities.

This village is electrified. Most of its houses have latrines, and a very few have refrigerators. Many houses have tap water; there are about 700 connections in the village. Wastewater is disposed of onto the street or into one of the canals which border the village on three sides.

The satellite village actually consists of three separate settlements located in close proximity. Here too most of the houses have been built from red brick and reinforced concrete in the very recent past. Nearly all of the residents of this village are occupied in agriculture. There are no shops here, and no market, but residents can easily attend weekly markets in nearby towns and villages and patronize shops in the mother village. The village is electrified. Domestic water supply is via handpumps. Canal water is used for laundry, being drawn from a canal that runs through the center of the three settlements. There are very few latrines in this village; waste water is disposed of into the canals or onto village streets. Children

in the satellite attend school in a nearby village, a two-kilometer walk from their homes. There are no doctors and no government facilities in the satellite.

Both of these villages have a very high rate of migration to the Gulf states and to Cairo. Families which are able to do so maintain two houses, one in the village and one in the city, in order to ease travel back and forth. Some of the women in the villages have been born and raised in Cairo, though their origins may be in the villages. This, in combination with the higher level of female education in these communities, at least for the generation currently of school age, than in the Aswan sites, and the general prevalence in both the mother and satellite villages, makes an enormous difference in the sophistication of women, even those who are without formal education.

Assiut Governorate

The mother village of Assiut is quite dissimilar to the other villages included in the study by virtue of its high level of education, the substantial numbers of persons employed outside of agriculture, and the overall level of urbanization. With an estimated population of about 13,000 people, this village is in close proximity to the City of Assiut, allowing villagers employed in the capital to commute to work. Men and women in modern Western style clothing are as frequent a sight as those wearing the traditional *gallabeya* (جالابية) a loose, full-length garment. These adopt a somewhat different lifestyle, reflected in their clothing, the furnishings of their houses, and their patterns of socializing. Private cars can be seen parked outside the homes of some of these "urban villagers."

An additional influence on urbanization is the extremely high rate of labor migration characterizing this village. Though statistics are not available on such migration, all of the households visited during the course of the research with the exception of three which represented the poorest of the poor in the community currently had a first-degree relative in Iraq, and many also had returnees from labor migration in the household.

This village is predominantly Christian, and mostly Coptic, although there are some Moslem families. There are three small mosques, one of which is recognized by the Ministry of Religious Trusts and provided with a sheikh, two small non-Coptic Christian churches (both of which were closed during the research period) and a large and active Coptic church. The Coptic church works to maximize community cohesion and to provide needed social services. The church has a bookshop, a dispensary, and a clinic which is open one day a week. It provides free tutoring for students, and children not attending school are given literacy classes. There are four priests at this church, who exert a strong moral influence on the

community.

Historically this village was the property of two landowning families. After the Revolution, the land was divided up among the peasants, but the family palaces continue in use as government buildings. Today there are 2000 landholders, half of whom own less than one feddan but more than a tenth of whom own more than five feddans. There is extensive cotton cultivation in this area, but vegetables are also widely grown, and the area is known for its high quality cucumbers and tomatoes. Poor weather for the preceding two years meant that incomes from farming were much reduced during the research periods, though mechanization levels were growing.

As in the study villages in Sohag, many people in the mother village of Assiut have moved to the fields to build new houses. Some of these are older families which have left their old houses in town to be used as housing or building plots by their children as they marry, Others are newlyweds setting up independent homes in the fields. Originally these households would reside in the fields only during the winter months, in order that their cows and buffalos take advantage of the abundant clover available there and to prepare the land for the intensive agriculture of the summer season, but over time they began to stay year around. In general it is the wealthier homes which can afford this option, as it is they who can most easily spare land for building and who have the large animals.

The nuclear settlement is very densely inhabited, with houses built up against one another and very narrow streets. Many of the houses are two-storey, with high walls and no open courtyard. These houses have pit latrines and electricity, with water taps in or near each house. The people of the fields have more living space, but lack these basic amenities.

The village *omda* (عمدة) is Coptic, a graduate of the Faculty of Agriculture, and a former headmaster. He lives in Assiut but spends the day in the mother village. He is aided by seven sheikhs. The elected village council is headed by a schoolteacher. There is also a community development association, whose head is simultaneously the secretary of the local council and the head of the agricultural cooperative. The CDA operates a nursery school and is preparing to establish a workshop.

The village has a local government unit whose head has been in office for 19 years. Nearly all of the employees of this unit are villagers, and eight of them are women. The Social Affairs office, opened in 1986, is in the same building as the CDA, next door to the village bank and the agricultural cooperative. The village health unit is run by a woman doctor, who has a staff consisting of two nurses, a health inspector, a school health worker, a clerk and two workers. While the doctor

is popular, the unit is not much used except for immunizations. There are many private clinics whose specialties include pediatrics, gynecology, dentistry, neurology, physiotherapy and general medicine. There is a pharmacy in the center of the village.

There are three schools in the village, two primary and one preparatory, both serving both boys and girls. One of the primary schools works two shifts. The other was built by the villagers and is much smaller. Most of the teachers are from the village.

The village has a weekly market on Thursdays where ghee, eggs, vegetables, fruits, cheese, meat, spices and grains are sold, along with everyday household items such as brooms, brushes, pots and pans. Very few processed foods are sold there, and even poultry are usually lacking. There are a number of shops in the village, including a large number of tailors, as the village is famous for this speciality. There are a number of workshops, including two carpentry shops, a welder, a shoe repair shop and a tire repair shop. There is also a bakery and a juice shop.

The satellite village is about seven kilometers from the mother village and is considerably less accessible, as there is no direct public transportation service. It consists of about 150 households living adjacent to the cemetery of the mother village, in the center of which is an old and beautiful church. The residents of this village come from two clans of the Arab Mateer bedouin group, and were brought to this village by one of the wealthy landowners of the mother village to serve as guards in the 1930s. There is thus a double distinction between the populations of the mother and satellite villages here, based on religion and ethnicity, and these differences, whether in patterns of childrearing or other aspects of life, are often pointed to with pride by villagers in each settlement as being signs of their own superiority to the members of the other group.

After the Revolution, the Arabs of the satellite village became peasants, and reclaimed considerable land. They cultivate mostly wheat, cotton, horse-beans, vegetables and clover. Date palms and crabapple trees are common.

The two clans of the village live separately, with an area of empty land between their two territories. Intermarriages occurred between the two sides, and relations were apparently friendly until a feud broke out between the two sides, resulting in two deaths. While tribal leaders were able to establish peace, the two clans no longer interact with one another.

This village has a primary school at its center, with seven male teachers, all from outside the village. There are 231 pupils, of whom 30 percent are girls. The school is the only government institution in the village, but the village sheikh

assigned by the *omda* at the mother village delivers court orders and requests for rent, and notifies villagers of the availability of seeds and fertilizers. For other government services, villagers must travel to the mother village.

Central Research Findings

The central findings of the research are discussed below, following the outline discussed by the research team in the field. More detail on many of the issues can be found in the field reports of the researchers, particularly for patterns which are either idiosyncratic or reported in particular detail for a particular field setting.

1

Breastfeeding: The Use of Colostrum

The use of colostrum is one of the most problematic issues in the research. Television advertisements urging the putting of the newborn to the breast within an hour of delivery so that he can have the benefit of the colostrum had been on the air for as long as two years prior to the fieldwork. These advertisements have affected the manner in which women in five of the six sites describe both current and traditional practices and values concerning the use of colostrum. It is difficult to tell, over such a short research period, how much discrepancy there is between reported and actual practice and how much change may have been induced by the mass media campaign. It is also impossible to say, on the basis of present data,

how much of the discrepancy observed between verbal reports and observed behavior concerning initiation of lactation has been produced by these advertisements.

In order to discuss colostrum with villagers at any of the research sites, one must specify human colostrum, as otherwise the villagers assume that one is referring to animal colostrum. All of the villages studied here use the colostrum of buffalo and cattle to produce a traditional delicacy known as *sarsoub* (سرسوب), which is also the term used for colostrum itself, or *sarsoubiyya* (سرسوبية).

The colostrum is baked in the oven or cooked slowly on a fire to produce a cheeselike substance which is shared with loved ones, both family and friends. This food is highly prized, and sending someone a share in the dish seems to be an important statement about the relationship between the sending and receiving households. In all of the villages, part of the colostrum is left for the baby animal, but not all, as there is concern that drinking too much of this substance will give the newborn calf diarrhea.

Cows and buffalo produce colostrum within 24 hours of the delivery of a calf, while human beings are thought to produce breast secretions after three days. There is a lack of clarity here; as will be discussed below, many women say that they do in fact produce secretions prior to the third day, and it is not easy to understand how they use and value them. What is clear is that urging mothers to put the infant to the breast creates a certain anxiety, despite the fact that many are doing so in any event. It was reported in Aswan, for instance, that human colostrum does not arrive just after delivery, and that to say that it does is essentially the same as saying that human beings are no better than animals. In Assiut, the colostrum of the animal is thought to be unclean, so that the first quantity milked must be discarded. There many women feel that any substance present in the breast before the evening of the third day after delivery is also unclean and should not be given to the newborn

All of the women interviewed in the study villages were well aware of the injunctions of the advertisements, except in the Aswan satellite village where there is no television. In Aswan, the women in the mother village actually defined colostrum to the researcher as "the television commercial," while the women of the satellite village did not know the term at all. In Sohag and Assiut, the term was well known, but mothers felt that the fat content of the colostrum was high, so that it could cause diarrhea. Assiuti mothers doubted that the colostrum was even present in the breast before the third day, and felt that even if it were, it should not be the first thing the child consumes.

Several of the better educated mothers of the mother village in Assiut said that they agree with the idea of giving the breast from the first day, and therefore the colostrum, but most of the Assiuti women said that such a practice, while it might

be suitable for urban or even other rural women, was not for them. In Sohag, the mass media campaign appears to have had the effect of women attributing the practice of giving the breast from the first day to the advertisements, but closer investigation indicates that this has probably always been the practice in these villages.

2

Liquids other than Breast Milk Given during the First Week

In none of the study sites is breast milk the first food of the newborn, though practices differ. In Assiut, sugar water is the first material consumed. This is given just after birth, usually by spoon, to cleanse the infant's mouth and stomach of any matter swallowed in the womb. Originally the practice was explained by saying it forecasts a sweet life ahead, but mothers are well aware that administration of sugar water is standard practice in hospitals, and now use the authority of doctors to explain their actions. Unlike colostrum, sugar water is viewed as "light," and easily digested. It is administered by cup and spoon for the first feeding, and subsequently by bottle; most women prepare the sugar water at the beginning of the day and use it until it is finished before preparing another bottle. A newborn appearing to be thirsty may also be given plain water, as are infants in general. This water is not boiled, and is fed from a cup.

In Aswan, anise water with sugar is fed to newborns beginning on the day of delivery and continuing until breastfeeding begins, on the third day or even later. It is fed from a baby bottle, and is intended to cleanse the baby's stomach and intestines.

In Sohag, the newborn is fed butter and molasses from a cup until the milk comes in. A spoonful of each is sufficient for a day. The purpose of this feeding is to cleanse the infant's system of anything he has swallowed in utero and to appease hunger. A variant is butter and sugar, and also butter by itself or cream by itself. Some mothers just give the infant a spoonful of their own first post-delivery meal, the *forah* (فورة), which is a warm drink of ghee and water sweetened with sugar, honey or molasses, and some feed sugar water or lemonade. A mother may decide not to feed the child at all. These early feedings are given with a cup and spoon.

Aside from anise water, tisanes are rarely given during the first week, though their use is frequent thereafter. However, if the child is ill or colicky, he may be given tisanes of caraway, *leban dukkar* (لبان دكر), cumin or dried coriander. *Helba* (حلبه) or fenugreek, is not normally given to infants this young, as it is seen as too heavy.

3

The Initiation of Lactation

The first weeks of the new infant's life are of enormous importance to the community as a whole. This is the period during which both mother and child are at greatest risk, and must be protected from a range of dangers, natural and supernatural, present and future, and many people are drawn into the protective circle from the start.

Among the key focuses of this period is the satisfactory initiation of lactation, which is generally described as beginning on the evening of the third day of the infant's life, although Aswan mothers said that lactation may also begin on the fifth or seventh day. This area is fraught with analytic problems, as there is a particularly large gap between verbal report and observed practice whose cause cannot be fully understood on the basis of the current study. There is also a large gap here between the understandings of the researchers and those of the village women which were not immediately perceived in the field due to the use of the same basic terminology to describe the same biological phenomena within very different cultural frameworks.

Village women make a sharp distinction between breastfeeding and putting the child to suckle at the breast. As no such distinction exists for the researcher, it was a long time before it was possible to really understand what the women were saying, particularly as what they say in public is often at variance with what they say privately. In addition, there are a number of practices which serve to promote lactation, but whose explanation in the villages is on other grounds entirely. And, finally, some traditional practices related to the initiation and continuation of lactation are being strongly discouraged by the modern medical sector and others by conservative religious groups, making it sometimes hard to tell whether a practice is

actually changing or only being described differently.

Breast milk is *ni'mat rabina* (نعمة ربنا), or a gift from God, but lactation is often problematic, and sometimes dangerous to mother and child. The greatest danger of all, however, is that there may be no breast milk, or not enough. The mother must be well guarded during the remainder of the lunar month during which her child is born, as a variety of supernatural causes can dry up her milk or render her sterile during this period. This is known as the *mushahara* (مشاهرة) or the *kabsa* (كبسة). The potential causes are elaborate and variable, as are the cures. As protection against *mushahara*, village women wear a charm woven of palm, the *mushara* (مشهرة), until the end of the lunar month. Nevertheless, the mother may be afflicted by the loss of her milk supply (or its sharp reduction) and/or sterility if she is exposed to items which include raw meat, gold, eggplants, and others. Also threatening are visits from people who have handled these items in the market, who have just come from a cemetery, or who have weaned their infants during the same lunar month. There are procedures which may reverse the *mushahara* if they are undertaken during the same lunar month, but their success is not certain, and the best course is for the new mother to seclude herself as much as possible during the risk period.

All mothers are thought in need of protection, but first-time mothers are particularly cared for. The community closes around her to see it that she is at minimal risk and receives the needed support. One pervasive belief, at least in Sohag and Assiut, is that a new mother can become very ill if she eats any food during the 40 days following delivery which she did not eat during the same period following her first delivery. Thus a first-time mother must eat the widest possible variety of foods. relatives and neighbors support the maximizing of variety by bringing gifts of food. Husbands go to great lengths to obtain foods which are out of season, and may tour the neighborhood seeing what foods are available in various houses and taking portions for their newly delivered wives. This is called the *tabkur* (تبكير), a word drawn from the same Arabic root as the term *bikreyya* (بكرية), meaning first-time mother.

In Sohag the first meal after delivery is *forah* (hot ghee and water with a sweetener and bits of bread); subsequently she is given an entire chicken with its broth. She should be fed *tabikh* (طبخ), a class of cooked meals containing a portion of meat, poultry or rabbit, daily for at least a week, and for up to 40 days if the family can afford this (*tabikh* is normally eaten once or twice a week). The new mother is also relieved of household tasks for the first 40 days, unless there is no one else available to perform them. It is particularly important that she not cook or bake, as her bleeding is thought polluting, but a pragmatic approach is taken and

new mothers do cook and bake without causing repugnance if there are no alternatives.

Initiation of lactation is supported by the woman's mother, her mother-in-law, her aunts and grandmother, the neighbors and the midwife. Particular care must be taken to support the *bikreyya*, whose nipples are thought to be closed and in need of opening if she is to successfully begin her career as a mother. Patterns of introduction of the child to the breast also vary between *bikreyyas* and experienced mothers, as we shall see below.

The problem of identifying patterns of initiation of lactation is complicated by the fact that village mothers make distinctions and work with definitions different from those of the researchers. The researchers, in common with many others in the field, understood initiation of lactation as identical with first putting of the child to the breast, based on a definition of suckling as essentially for purposes of feeding. While village women do not share this definition, this became clear only quite late in the research; before that, there appeared to be many contradictions in the reports and behavior of the village women, and the understanding of when infants are first breastfed was erroneous. Also because this realization was quite late, and because this topic is of such concern to villagers and rich in lore, the findings here cannot be considered in any way definitive; much more work is needed to understand how breastfeeding is really managed.

Most village women, and perhaps all, believe that the milk supply arrives on the third day of life, according to their oral reports, and that this is therefore the time when breastfeeding begins. However, some women say, generally in private conversations, that while the normal situation is that the milk supply arrives on the third day, their own exceptional experience is that breast milk is earlier than this. In Aswan, exceptions outnumber cases conforming to the expressed rule: of 19 women surveyed on this issue, 5 breastfed from the first day, 4 from the second, 3 from the third, 1 from the fourth, 3 from the fifth, 2 from the seventh, and one not at all. Since these women say that breast milk arrives on the third, fifth or seventh day, the foregoing tally shows 10 exceptions and 9 conforming cases, but the rule is unaffected.*

Prior to the third day, however, many, perhaps most, infants are put to the

* *The Sohag women say that lactation may begin on the seventh day, but that this is much less common than on the third*

breast, though not necessarily the breast of their own mothers. The first-time mother puts her infant to the breast earlier to help in opening the nipples; a second purpose, though less important, is to help the child become accustomed to the breast before the time for feeding occurs. In Assiut, the newborn is suckled by women close to his mother during daylight hours for the first few days of his life, although a baby who is satisfied by the sugar water is less likely to be suckled.

Mothers also give their breasts to newborns in order to pacify them when they cry. This is not intended to feed them, and does not affect the definition of when breastfeeding begins. Their reports that this does not constitute feeding are reinforced by the fact that newborns are often suckled by women close to the mother during the first days of life even if these women are not lactating. This appears to be a means of establishing a relationship with the child, and reinforcing a relationship with his mother (and probably his father as well); if the woman suckling the child is herself lactating, it also establishes a lifelong relationship between her child and the newborn. In one of the cases reported, this one from Assiut, a newborn was suckled by more than a dozen women during his first days, almost certainly an exceptional number, because his father had been married for 15 years prior to his birth without having any children. When he took a second wife and had a child, this child's importance was particularly great, even in a community which places enormous value on children, so a wide range of women suckled him, including the senior wife, who had never herself had a child.

How much nutrition children are getting through these sucklings in the early days is unclear. It may be that the most early suckling by the mother is in the case of the first-time mother, who is the least likely to have breast milk supply during the first three days, but conversely this mother may be most likely to pass her infant to lactating women during this period. Or, it might be that many children are being fed the same quantity of breast milk that they would have received if breastfeeding officially began on the first day of life. Certainly these practices compromise, probably to a significant extent, the child's opportunity to benefit from colostrum; not only is some of his feeding from women who have no colostrum, but the new mother in many cases (as will be discussed below) expresses any of her own milk which is left over or which is not yet being used, which presumably means that colostrum is being discarded.

Another significant constraint on the use of colostrum and on early breastfeeding is the belief that certain women are afflicted, or *matbou'* (متبوع) [or, in Sohag, *magroun* (مجرون)], meaning that they lose their infants to spirit siblings [*karina* (قارينه)]. These women must take special care during the early days of the newborn's life, and cannot possibly initiate suckling prior to receiving a milk charm

which prevents the poisoning of the breast milk. This charm is not available before the second or third day of the child's life, thus definitively postponing breastfeeding.*

* *While this complex has been widely reported by anthropologists and folklorists over decades in Egypt, its impact on social relations remain to be explored, and its functioning with regard to child care is not well understood. This is an important area for further research concerning not only child care but communications programming. Any program which seeks to dismantle this complex of beliefs, or inadvertently challenges it, is likely to fail, and probably further research would show that this is in no way necessary in any event.*

4

Continuation of Lactation

Community concern for the active protection of the welfare of the new mother and her child decreases somewhat after lactation has been initiated, though the precautions against the *mushahara*, described above, continue until the end of the lunar month in which the child was born.* Once the lunar month has ended, the threat to the breast milk supply is mostly natural: if the mother is tired, if she is angry, or if she has not eaten enough, her milk supply may decrease.

It is recognized that some women are better at breastfeeding than others. In Sohag, village women identify two kinds of milk: *me'zawi* (معزأوي), or goatlike, and *sadik* (صادق), or true. True milk is creamy and abundant, and satisfies the hunger of the child. *Me'zawi* milk, however, is light in consistency and does not satisfy the child, so that supplementation is needed. Even where the mother has true milk, however, there are a number of circumstances calling for supplementation. These circumstances are distinct from the feeding of other liquids to provide extra fluid in hot weather or to remedy colics or other ailments. If the mother is angry, her milk may make the child ill, so that she is reluctant to breastfeed at this time. Similarly, if she has a fever, her child may be harmed by her milk. If the mother is tired, or has failed to eat well, she may be temporarily unable to produce milk.

* *The mushahara is also to be found throughout Egypt, and has enormous implications for community protection of individuals at critical points in the life cycle, some of which are critical both in terms of transition from one phase to another and in terms of health risks. Institution of breastfeeding and weaning are two cases in point. This complex also requires more focused study.*

The response to these circumstances of suspended milk supply differs from site to site. In Aswan, where bottlefeeding of milk is much more common than at other sites, suspended breastfeeding tends to be quickly translated into terminated breastfeeding. In Assiut, the most common response is to feed either fresh animal milk (most common in the satellite village) or powdered milk (most common in the mother village) from a baby bottle until the mother can resume breastfeeding. In Sohag, the mothers turn to powdered milk only as a last resort. They turn first to tisanes, also fed from a bottle, and may continue giving these for a very long time before using powdered milk. In both of these locations, and perhaps in Aswan as well, the mother may also give her infant to another lactating woman for temporary feeding, but it seems that this is quite limited in potential duration. It appears that such feedings are concentrated in the first days of the child's life and subsequently when the mother is briefly unable to feed, such as when she is baking. No cases were reported of women undertaking prolonged breastfeeding of someone else's child, though this might be occurring.

Throughout lactation, care is taken to protect the breast. If the milk supply is more than the child can drink, for a given feeding or in general, the milk is considered to be "stored," or left over, and as constituting a threat to the child and to the health of the mother's breast. Such milk is expressed in Sohag and in the satellite village of Assiut, and pumped out by a plastic pump in the Assiut mother village, to be discarded next to a wall. If the breast is injured in some way, as through an abscess, feeding from this breast may be permanently abandoned .

Weaning is a problematic issue. In all locations mothers report that weaning should be at 18 months for girls, 24 months for boys, and have a series of prescriptions for effective weaning. It is difficult to tell, however, what weaning really means in practice. If weaning is defined as simple cessation of breastfeeding, obtaining of data from village mothers concerning a particular child is a straightforward process. If, on the other hand, we want to know when breast milk ceases to constitute the main, or even a major, part of the child's food intake, there are major problems. The very early introduction of other fluids, even prior to the introduction of breast milk, is the beginning of the complication. Subsequently, the problem is that while it is quite rare that a mother abandons breastfeeding altogether prior to the age of nine months or a year, it is quite common that she bottlefeeds from an early date. In many cases, one cannot speak accurately of supplementary bottlefeedings at all, though village women speak of the bottle as "helping" to augment an inadequate milk supply, as the bottle is clearly the main source of food, with the breast as a supplement, or even a milkless pacifier, to help the baby sleep at night.

Further complicating the issue is the fact that so many mothers become pregnant while breastfeeding. While villagers reported a certain amount of opposition to breastfeeding during pregnancy, breastfeeding typically continues for at least the first few months of pregnancy. Weaning then occurs either spontaneously due to the disappearance of the milk supply or deliberately because of the actions of the mother. A number of cases are cited in the field reports of women breastfeeding in the fifth and sixth months of pregnancy. By this time, the child is likely to be at least a year old, and milk is not his main food, as he is eating family meals, so that the weaning process, if it can be said to occur at all, is mild.

Where breastfeeding does continue until 18 or 24 months, weaning is more problematic, and is surrounded by precautions to protect the child's health and even his life, as well as to ease the overall process of separation from the breast. Mothers who have close relatives living at a reasonable distance may send their toddlers to spend a few days so that weaning will be eased. In Sohag children are not customarily sent away at this time, but mothers may sleep in separate rooms for a few days. Some mothers put mercurochrome or cactus juice on their nipples to discourage the child from taking the breast. Most children are told that the *Dah*, a fictional character used to frighten children, has taken the breast away.

The child being weaned is subject to the *mushahara*, which has been discussed above relative to the first lunar month of his life. The danger in weaning lasts for the duration of the lunar month of the event; mothers decrease the threat by beginning the weaning process three days before the appearance of the new moon. Children are typically not allowed outside the house during those three days.

Bottlefeeding

The administration of liquids other than breast milk, usually via a baby bottle, begins during the first week of life. Whether or not breastfeeding becomes well established, most children continue to receive such feedings throughout infancy. Some infants are fed these liquids from cup and spoon; mothers say that this is due to the rejection of the bottle by the baby rather than by a preference of the mother.

These feedings have various purposes, including the protection of health, supplementation of breast milk, treatment of minor ailments such as colic, supplying of nutrients during the temporary suspension of lactation, and quenching of thirst. They consist mostly of a variety of animal milks and several types of tisanes made by boiling herbs or spices and sweetening them.

In Assiut, donkey milk is given to newborns. The child is fed half a cup of this milk on the seventh day of life to ensure that the spirit sibling does not snatch him away. Donkey milk is also thought to make the child aggressive and obstinate, desirable traits in the village male; boys may be given a cup of donkey milk every few days throughout infancy. One mother in the Assiut satellite village gave large quantities of donkey milk to her firstborn girl, in order that she be "mistress of her neighbors." Apparently donkey milk was frequently given to male children regularly during the first 40 days of life until very recently, but the practice appears to have died out.

Bottlefeeding of milk and tisanes is acceptable everywhere in the villages. Pharmacy milk is viewed negatively in some places, and breastfeeding, at least during the early months, is strongly supported. Children are almost universally breastfed from within a few days after birth, and when bottle feeds are added, they are always described as supplementary unless breastfeeding has been completely stopped,

which rarely happens during the early months. In many cases, however, bottlefeeding rapidly becomes the main mode of feeding, and it is actually the breastfeeding which is supplementary.

The Aswan research locations had a particularly high prevalence of bottlefeeding. Here all but two of the mothers interviewed had introduced baby bottles within the first two months of the child's life, and explained this in terms of their own scanty milk supply. It is quite clear from observations that these mothers are predominantly bottlefeeding; while they describe themselves as breastfeeding mothers, they take baby bottles of milk with them when they leave the house with the infant, in order to be able to feed the child wherever they are, and are rarely seen to breastfeed.

It appears that cow or buffalo milk is strongly preferred to powdered infant formula in all locations. Those with animals in milk do not use powdered formula except in cases where local doctors have specifically discouraged the use of buffalo milk in particular. By and large, buffalo and cow milk are diluted for young babies. Mothers are particularly concerned that undiluted buffalo milk may be too heavy for the child. Dilution is at a rate of 1:1 or 1:2, and may be with water or tisanes of *helba*, anise or caraway. Some mothers use tea instead of tisanes for mixing. Goat milk is not usually thought of as suitable for these feeds, as it is thought too thin and light, though it is sometimes used in Assiut for weaning from the breast.

Older women in all of these locations, and often older men as well, feel uneasy about bottlefeeding and prefer exclusive breastfeeding. But pharmacies and doctors are quite accessible in all locations, and as soon as a mother (or her husband) consults a doctor or pharmacist concerning insufficient milk supply, a prescription is given for powdered milk. Many people also adopt the practice on their own, without consulting anyone. In Assiut, young husbands who are government employees appear to encourage their wives to bottlefeed as a sign of modernity. In the Aswan villages, where polygyny is very widespread, and particularly in the satellite village, bottlefeeding seems to be related to the desire of the woman to free herself to attend to the husband lest he remarry or pay more attention to another wife who has more free time for him. It is probably also related to the fact that this community is so new; the mothers and mothers-in-law who would have taught new mothers to breastfeed in the former location did not move to the current one, so much of the normal support and education function was lost.

While breastfeeding is surrounded with protections of the welfare of mother and child, and both initiation and cessation are thought to be times of risk to the child, bottlefeeding is much more straightforward and has very little attendant risk, if any. This is because it is a newer practice, and thus lore has not been built up

around the bottle in any detectable way. One consequence is that very little care is taken about bottlefeeding. While the child is inevitably exposed to greater contamination via bottlefeeding than via breastfeeding, practices in the village exacerbate the contamination in a major way.

Baby bottles may be regular medicine bottles fitted with a nipple or special formula bottles purchased from the pharmacy. While the latter comes provided with a cover the former does not, but baby bottles are rarely covered in any case. Bottlefeeding, like breastfeeding, is on demand. Normally the mother fills the baby bottle in the morning and uses it until the child has finished it, which, in the case of a young baby, may take most of the day. Flies are rampant in these villages, even in the winter, which means that the nipple is heavily contaminated long before the bottle is finished.

Bottle hygiene is generally poor in terms of cleansing as well. While mothers report that they boil the baby bottle regularly, they are more likely to pour boiling water into the bottle, shake the water around, sometimes with the addition of coarse salt, and discard this water than to actually put the bottle into boiling water. Even the cleansing with boiling water is not invariable--on many occasions baby bottles were seen being cleaned under a water tap or pump before filling.

The mixing of milks for feeding in bottles is also problematic. No measuring was observed, either for dilution of animal milks or for mixing of powdered formula. While the over-dilution of powdered infant formula reported from many developing countries as a means of conserving scarce resources is totally absent here, partly because powdered infant formula is heavily subsidized in Egypt, there is nevertheless both over-dilution and under-dilution of the powdered formula, and it is also unclear that babies receiving animal milks are getting enough protein during the early months when dilution is most common. Children taking powdered milks from home-made baby bottles appear to be getting particularly concentrated feeds.

Weaning from the bottle is a non-problematic process. The child is not subject to risk as in the case of weaning from the breast, and need not be separated from his mother. Children are normally included in regular family meals by the time they begin to give up the bottle, and gradually take to drinking tea with a large quantity of milk rather than the bottle, followed by transition to the full family diet without the bottle. No charms need to be worn during this period. Mothers in the research sites did not report upsets attendant on this weaning, though for weaning from the breast they say that the child is subject to diarrhea due to anxiety and, often, jealousy of the new infant which is shortly to arrive and is responsible for the timing of the weaning in the first place.

6

Introduction of Solid and Semi-solid Foods

The introduction of semi-solid and solid foods is a very prolonged process, so much so that it is impossible to state an age for either the introduction of solids on a regular basis or the assumption of full family diet. While the mother plays the most important role in this process, many others also participate. In fact, their participation appears to be culturally required, and cannot be interfered with by the mother even should she want to interfere (and there is no indication that she does).

The initial introduction of solids is via a process called *talhis* (تلحيس), or tasting. This is the intermittent placing of tiny quantities of food, usually in semi-liquid form and fed from the mother's finger, into the child's mouth so that he can see what they taste like and get used to the idea of consuming something other than milk. This is an unscheduled occurrence, but appears to happen most often when the mother herself is eating. It is an important way of playing with a baby and observing his reactions to stimuli.

The process of tasting is reported at all sites to begin at about the age of four months. Observation, however, shows considerable variety. In Assiut, the mothers begin to introduce tasting particularly early. One baby there was given small candies to taste during the first week of life. In Sohag it is said to be out of the question to give the child a taste of something before the first 40 days have elapsed.

No special foods are prepared for the tasting process, nor at any other point during the progression toward adult diet. Village mothers have seen television commercials advocating the preparation of special foods for weaning, but this idea is

totally rejected. Mothers report that the child must be prepared from the outset for later life, where he will be expected to eat what he is fed and not demand special foods. This willingness to eat what is put before one is an important marker of the difference between rural and urban subcultures in the eyes of the villagers, and evidence of the more reasonable character of the village child. In any event, mothers point out, there is very little difference between a potato cooked in a sauce for the family meal, fished out and cleaned to mash for the infant, and a potato especially boiled.

At the same time, some foods which make up regular parts of the family diet are thought unsuitable for children learning to eat solids. Chief among these is *tabukh* (طبيخ), a type of cooking based on a rich tomato sauce flavored with garlic and spices and including a bit of meat and one or more vegetables. While the definition of foods which are particularly suitable at the beginning of the process varies from place to place and mother to mother, chicken liver seems to be universally used, to the extent that adults in households where there are weaning age children are unlikely to taste chicken liver for long periods of time.

In Assiut, the mother begins by semi-solids such as fresh butter, cheese, or egg yolk, fed from her finger. Subsequently, she will chew foods she is eating, excluding *tabukh* and other spicy or fatty foods, and put a minute quantity into the child's mouth. Among the foods considered ideal for the very beginning are hard-boiled egg yolk, tomato juice, boiled rice, and bread soaked in tea and milk. Initially children are fed at the mother's whim, and subsequently on demand. By the time a child is mobile, he eats fairly steadily from sun-up until bedtime, though adults eat regular meals.

In Assiut too, children progress from bits of food pre-chewed by the mother to bits of bread which have been dipped into whatever the family is eating. This practice of giving the child a bit of dipped bread is also found in Sohag, where it seems to constitute some of the first solid food of the child. In Aswan, children begin eating cookies, candy and bread as soon as they are able to hold them for themselves. In all villages, the child is allowed to eat whatever he finds once he is mobile. Busy mothers prefer to feed older infants foods they can hold for themselves, which means that raw vegetables are a favorite, as are breads. The introductory solid foods thus vary from season to season in the agricultural year, as does family diet in general.

Toddlers move around quite freely in the village, particularly where the kin group is residentially aggregated, unless there are vicious dogs in the area. As they move from house to house, they are often fed, with or without the knowledge of the mother. Older siblings, aged five or six years, are often in charge of the infant once

he can readily be carried about, and they too often feed the child or eat with him in the homes of others.

Mothers do exercise some control over the diet of the child who is ill. In general, *tabiikh* is removed from the diets of sick children, and various tisanes are added. Other foods are used as medicines for specific illnesses or groups of illnesses. Stomach aches are remedied with cumin, mint or anise tisanes, sometimes with the addition of lemon. In Assiut, diarrhea is treated with a concoction of rice and wheat water, sugared, and administered for purposes of both nutrition and medication. Mothers either dilute milks more than usual or stop them altogether, with the exception of mother's milk. Fatty meats, particularly lamb, are thought to cause fever and are removed from the diet of anyone who is ill.

Personal Hygiene

Handwashing of Mother and Child, Facewashing of Child

All of the houses of the villages studied have soap, at least laundry soap and plain face soap. Many also have scented soap and all have towels. Nevertheless, failure to wash hands before undertaking a variety of activities is a major source of contamination in the environment of the young child. For the mother, the general rule is that handwashing is most likely to follow upon an activity which renders the hands uncomfortable, as when they have been covered with wet or sticky materials, such as mud or bread dough. If they are clearly dirty, but not wet or sticky, they are unlikely to be washed. If they are wet and sticky but no water is immediately available, as when a woman is delayed returning from the fields after cutting clover, so that they have dried by the time she could wash, she also may not wash them.

Hands and faces are washed with soap when a complete bath is taken. Otherwise, hand and face washing with soap are associated with formal occasions, mostly outside of one's own home. Men wash thoroughly before going to the mosque to pray. Women and children wash their hands and faces before going to the doctor, to a wedding, and perhaps to market. Children wash their hands and faces before going to nursery school or school. Guests at formal meals are offered soap and water to wash their hands, and towels to dry them, before the meal, but family members may not wash their own hands and the cook has certainly not washed hers before preparing the meal. Soap and water may also be offered after a meal

containing *tabikh*, though not after one made up of items such as cheese and eggs. Even the towel is associated primarily with formal occasions: though villagers have towels, they bring them to guests from distant parts of the house, and it appears they rarely use them themselves. Rather, they dry their hands on any available material, which may or may not be very clean.

Hands are dipped in water rather frequently in the case of adult women, less frequently for children. Soap is not used for such dipping. Most households, including those with running water, keep pots of water handy for intermittent dipping of the hands during the day. These pots are changed at intervals which are more associated with the clock than with cleanliness. In Aswan, the pot may remain for two days before changing. This water is used for dipping of the hands by numbers of people, and it is also exposed to domestic animals, which hop over and into it, and which often drink from it. When a new pot of water is provided, the old one may sit around for some time, or its contents may be discarded into a low sink where used water is stored. In either case, children may play in this water, or, in summer months, stand in it. Mothers may scold them for this, but don't take stern action.

The most regular handwashing was observed before milking, baking, cheese making and cream separation. Hands are also very thoroughly washed in Aswan and Sohag after using kerosene, but not in Assiut, where women say that there is no point in washing them then, as even strong soap doesn't get rid of the noxious smell.

The methodology of handwashing with soap is the same regardless of whether there is running water in the house or not. The preferable means is with the help of an assistant, who pours water over the hands in several installments, with the runoff being caught in a pan. The hands are rubbed together vigorously with soap, and the final rinsing uses more water than the earlier pourings. This same process may be carried out by a single person, who pours over one hand and then the other. The former approach is generally associated with formal occasions. In Assiut there may be two soapings, the latter with a perfumed soap. In Aswan, women in the satellite village wash their hands and faces daily, early in the morning, and spend enormous time on their hair and accessories, but here the purpose is not so much cleanliness as attractiveness to their husbands; children's hands and faces are not similarly cared for.

Bathing is differently patterned for adults and children. Women normally bathe the morning following market day, which is usually once a week but may be twice. Market day is the day when families prepare *tabikh* and meat, and is also conventionally the day for sexual intercourse, which requires careful bathing the following day. Children are likely to be bathed at the same time. In Aswan infants

are bathed every fifteen days, children once a week. In Assiut and Sohag bathing of children appears to be more frequent, particularly during the summer.

Even immediately after the bath, however, children are not completely clean. They step out of the bath into the dust, so that their feet are immediately dirtied. Fingernails are not specially cleaned and were not seen being cut, so they continue to harbor dirt. There is no practice of washing the feet prior to sleeping, so that any dirt on the children's feet and hands is transferred to the bedding, which may also be the site of playing.

Mothers scoop water onto the faces of their toddlers from time to time, and instruct older children to splash water onto their faces intermittently, but do not specially wash dirty hands and faces. Normally children would not use soap for such splashings unless a formal occasion is in question.

Individual differences among village women are more clearly visible here than in many other areas discussed in this report. While the physical environment, and most particularly the overwhelming presence of dust and animal manures in combination with lack of basic infrastructure and appliances, renders housekeeping at a high level of hygiene a really onerous proposition, nevertheless, there are women in each community who achieve this level of hygiene. Closer observation of housekeeping might well show that these women are particularly likely to have larger than average labor forces in the form of daughters-in-law, but this is not the only factor.

8

Domestic Hygiene

Disposal of Infant and Child Excreta

During infancy children are dressed in one or more *gallabeyas*, and usually do not wear the cotton or flannel pajama pants seen in urban areas. Normally they are wrapped from the waist down in a length of old fabric, such as the remains of a *gallabeya*, or simply laid on top of such a cloth with the back of their clothing raised so that they urinate and defecate onto the fabric instead of onto their clothing. Mothers change this fabric from time to time, attentive mothers as soon as it is soiled, more careless ones after it becomes badly soiled. Infants are not normally bathed, even their bottoms, when this fabric is changed. The child may be wiped clean with his own soiled clothing or with the fabric. Excreta on fabric winds up in the laundry, and is then discarded with the dirty wash water, usually onto the closest vacant place outside the house, most often the street.

Women are so unconcerned about infants' feces that it is easy to conclude that they are thought peculiarly uncontaminating, a view that is reinforced by the greater concern over older children's and adults' feces. Mothers, for instance, may not change their own clothing if the child defecates onto their laps, and probably no mother would change her clothing or even rinse the spot where a child had urinated unless she was dressed to go out on a formal occasion. The question is not so simple, however, and cannot be definitively resolved here. Men who pray avoid holding children of this age, precisely in order to avoid the contamination of urine and feces, as do older women who carry out religious duties strictly. Further, the

clothing of infants who are still being breastfed is considered to be dirtier than that of other children, due to their diet of mother's milk, so infant clothing is washed separately, particularly during the first few weeks of life. (Men's clothing is always washed first, with the wash water used for subsequent washings in most cases, infants' clothing being last in line.)

Toilet training, or, more accurately, training in the appropriate patterns of urination and defecation, begins during the first few months of life. In Assiut children as young as a month of age begin to be taught to indicate their need to defecate. In the middle class households of the mother village, plastic potties are used for this training. Families of the satellite village say they would not use a potty chair, as it is not as clean a practice as defecation onto the ground, followed by scattering of dust on the feces. In Sohag, children are taught to defecate in an appropriate way and to control their bowel movements from the age of three months or so. Mothers sit on the ground and place the soles of their feet together as a prop so that the child can assume a sitting position. They then encourage him to defecate, sometimes onto a piece of paper which has been placed to receive the feces. Alternatively, dust may be scattered over the feces. In either case, the feces are most likely to wind up being tossed into the bread oven with the rest of the household sweepings, but may be thrown into the street or into the household latrine.

Infants mostly defecate inside the house, particularly during the early weeks of life. Should they defecate outside, as when they are sitting near the front door with their mothers, some dust would be scattered over the feces, or they might be nudged into the manure pile with a shoe, but they would not be removed. Children, by contrast, by the time they can walk, spend much of their time outside the house, and are actively encouraged to defecate there. This is the case whether or not the household has a latrine. The general adult pattern is to use the latrine if the household has one and otherwise to use the *zeriba* (زريبة) or animal pen. Small children use neither in most cases, as they are afraid of falling into the latrine and intimidated by the large animals in the *zeriba*.

For the most part, children considered young enough to defecate in front of the house, up to the age of perhaps three years, are left without underpants in order to facilitate independent defecation and avoid the soiling of underclothing. The exception here is the mother village of Assiut, which has more middle class attitudes than other sites, and which does dress its small children in underpants. Children were not seen being washed after defecation in any of the sites, though very small children may go to their mothers to be wiped, often with small stones, bits of fabric, or leaves.

This defecation in the street is anything but random, though it may appear so

at first sight. Children are expected to defecate near a wall, so that a passerby will not step into feces, and parallel to their family's own property lines. They are also expected to defecate at a distance from the spot where the family sits outside the door of the house. This type of control is demanded by mothers from quite young children, but urination goes much less controlled, both within and without the house, until later.

Older children use the household latrine or *zeriba* for defecation, beginning well before school age. This is, however, unsupervised by mothers, and results in considerable contamination of the latrine and of the children's hands. While adults take containers of water into the latrine or *zeriba* when they go to defecate, children mostly do not. Even in the households which have a water supply in the latrine, which are usually those with religious male heads, children appear not to use this water for cleansing. Neither children nor adult women were seen to wash their hands after defecation.

Food Hygiene

Food storage is fairly hygienic in all sites for dry staples such as grains, sugar and tea. Grains may be stored for quite long periods of time (harvest to harvest), but the traditional structures in which they are stored serve as good protection from dust and flies. Bread is generally, though not variably, stored in a cloth; the longest possible storage time for fresh bread is about four days but generally households bake more frequently than this. Fresh vegetables are mostly cooked or eaten within a day or two of purchase or harvest, except for items which store well, such as onions. Meat is usually eaten once or twice a week at most, and is purchased in relatively small quantities. In the winter it may be held over to the second or third day, in the unusual event that a substantial quantity is purchased at one time, by treatment with heat and salt. Most of the poultry eaten is household-slaughtered and consumed almost as soon as it is cooked. Milk is consumed fresh shortly after milking, or converted into butter, cheese or ghee; specialist knowledge would be required to determine whether these items are likely to be contaminated because of the process by which they are produced.

It appears that food is being protected in order to ensure cleanliness, but when one examines the meal preparation process, and the feeding of toddlers in particular, it becomes quite clear that the main purpose is to ensure that food does not spoil, and that there is a lack of understanding of contamination and its potential impact on human health except for cases where food is out and out rotten. Vegetables are washed in a very cursory way, generally by dunking them into a pot of water. In Aswan, salad materials were never seen to be washed before eating, though they are

served at virtually every meal. Cheese, which forms an important staple in the diet at all six locations, and is eaten daily by most families, is treated carefully by many village women, who wash their hands (or rinse them) before removing cheese from storage vessels in order to serve it, but it is rapidly contaminated once served. In many households a tray of cheese is kept ready for serving at any time, stored under beds or on cupboards, and often uncovered. Although the housewife washes her hands preparatory to making cheese and to removing it from the container, she does not wash her hands to serve or reserve it, nor does she wash her hands after eating it. An unfinished tray is just added to, so that contamination is ongoing.

Refrigerators are few in these locations, and of those which are present, some are for commercial use. Those which are for household use are rarely used at all in the winter. In the summer they are used mostly for cooling drinking water and for storage of meat. Leftover cooked food, the *tabikh* which is eaten once or twice a week, is normally stored under the bed or on top of a cupboard. One possible reason is that the cooking pots are much too large to fit into the refrigerator in the first place. Leftover cooked food is sometimes boiled before leaving it for the next day, particularly during the summer. If it is clearly off by the following day, it is given to the animals, but there is no apparent idea that food could be contaminated and a cause of sickness without necessarily showing signs of putrefaction. Many cases of food poisoning were observed in Aswan during the summer months.

Any contamination introduced in the food preparation process is aggravated by the conditions of cooking and eating. The pottery vessels used for frying eggs are never washed with soap and are stored uncovered. Other cooking vessels are washed with soap, but with very little water; they may be wiped with a cloth before use to remove dust. Serving is on common plates, one per food item unless the number being served is very large. Food which spills onto the low table on which meals are served is often returned to the plate. The table itself was never observed to be washed with soap; it is crumbed with a cloth and rolled away until the next meal.

The worst contamination is that which affects toddlers. Toddlers eat many small meals in the course of the day in addition to those which they share with their families. They are the most likely to be served foods left over from the previous day, because they are the most likely to eat in the morning, before the main meal of the day is served. Leftover rice and noodles, which have been stored unrefrigerated and perhaps uncovered, are likely breakfasts for toddlers following the common family breakfast which consists mostly of tea heavily laced with milk

Toddler meals are prolonged, as they may go back and forth between plate and play, so that food which has been reasonably well protected from flies during storage, both before and after cooking, is subject to a high level of fly contact while

being eaten. Toddlers frequently drop food and pick it up and continue eating, without interference from adults. They share one another's food, and never wash hands before meals. Their hands may be dirtier than those of adults, through playing in muddy or dusty areas, and the dirt on one child's hands frequently finds its way to the mouth of another child.

It is important to be clear that the lack of concern for contamination of the food of toddlers is not a lack of concern on the part of mothers and adults in general for care of food. Very small children know that food must not be wasted, and will remove small bits of bread which have fallen to the ground and place them where they are not likely to be stepped on. They know also that they must share their food with certain categories of people, and they do.

Animal Excreta, Animals at Home

Domestic animals are critical to the household economy in all six sites. Virtually every family keeps poultry: chickens, pigeons, often geese and ducks, sometimes turkeys. Both the eggs and the meat of these animals are eaten by the household, and women sell some of their eggs to merchants for cash. These animals normally have free run of the house, except for the guest room which is present in some of the wealthier homes, and their droppings are everywhere. These droppings are swept away during house cleaning, but in between cleanings the most that is likely to happen is that a little dust be scattered on particularly obvious piles. Chickens in particular are likely to hop back and forth over food during its preparation, and all poultry are likely to drink from the water set out for domestic purposes.

Larger animals are kept by those who can afford them and who have houses large enough to contain an animal yard. While goats, which are common, and sheep, which are less so, are given free run of the courtyard, cows and buffalo are kept in the animal yard when at home, and spend much of their daylight time in the fields or in some cases in nearby deserted houses where they can be fed and held. Goat droppings are treated like those of poultry, as are sheep. The dung of the large animals, however, is carefully collected and conserved for use as fuel. Each morning the adult women of a household collect the night's dung and mix it with water and straw for preparation of dung cakes. These cakes are patted into shape and stored near the household bread oven, either in stacks or, in the case of the Aswan sites, plastered against the wall behind the oven. Since the bread oven is normally located in the courtyard of the house, where baking, cooking and most other household work takes place, this means that women and children are constantly in close proximity to the dung of large animals.

Animal pens require daily sweeping. The bedding of the animals, along with urine and loose manure, are swept out and piled at the front of the house until removal to the fields for use as fertilizer. Quite large quantities may accumulate. Sometimes the dung of poultry, goats and sheep are added to the pile. When the household latrine is dug out, its contents are also added to the pile, for mixing with the animal manures. These materials are quite valuable, and probably could not be stored safely in the fields until maturity and the proper time of the agricultural season for their addition to the soil; like the large animals themselves, they are secure only in close proximity to their owners.

9

Water and Sanitation

Water

The pattern of water use is about the same from village to village, regardless of whether the home in question has running water. In the mother villages, piped water is available in many homes, and others have household pumps. Those with neither use the household pump of a neighbor, which may be located in front of the house to facilitate shared use, or one of the few public standpipes present in each community. In the Assiut mother village, the houses located in the fields bring their water in on donkey-back. The satellite villages are served exclusively by handpumps. This of course is not so much an attribute of satellite villages as of the selection criteria for the study sites.

Despite the presence of abundant water in many homes, and running water in a substantial number, only limited quantities are used for domestic purposes. Running water is rarely used. Rather, small amounts of water are drawn from the source, whether it be inside or outside the house, and moved to the point of use. The amount of water used to wash the dishes of a meal in which ten people have participated may be as little as several cups. Water is conserved in a number of other ways. Laundry water is reused for washing multiple loads, partly so as not to waste soap, partly so as not to require disposing of water. Water which has been used for dipping the hands for a quick rinse is given to the animals, as is water used for washing vegetables, as both of these are without soap. Grey water is used to mix bricks and wet manure piles.

The reason for this parsimony with water, even where it is in principle abundant, is the lack of drainage. Water used in the household must be dumped outside, which means that it must be carried, and large amounts of water mean muddy streets. A second reason is that women are accustomed to performing domestic tasks using water while sitting or squatting on the ground.

The presence of a household water supply does not avert water storage under these circumstances, though the ready availability of water means that people now store water only for very short periods, not usually exceeding a single day. Where water is fetched from outside the house, it is mostly brought in using pots and pans. As detailed in the section on handwashing, this water is kept uncovered and may become quite dirty before it is changed. It is used for washing hands and for other domestic purposes, and may also be used by household animals as drinking water. Households with taps or pumps keep water in the same fashion as those who lack them.

Drinking water is stored in pottery vessels, including particularly the *rob'a*, the *borma* and the *zur*. Water is brought as needed to fill these containers, which are cleaned by rinsing from time to time. In some cases, fresh water is added to remaining water in the container, but in others remaining water is discarded before fresh is added. Only the *zur*, which is the least used container, holds enough water that it may not be used up in one day. In the satellite village of Aswan, when the water is salty, the *zur* is sponged off daily. If there is a refrigerator in the house, which is not usually the case in five of the six villages, water may be stored in jerrycans in the refrigerator, but only in the summer time. Refrigerators are generally disconnected in the winter.

Solid Waste

The research villages are highly conservative of material goods ranging from water to appliances. Very little is thrown away. Food wastes are fed to poultry, spoiled food to dogs. Water containing soap from handwashing or bathing is used for soaking laundry. Whey produced by churning is fed to the animals (although in Sohag some households throw the whey away as a sign of affluence). Household sweepings and combustibles such as paper and animal dung are used as fuel in the bread oven, and the ashes from the oven are used as bedding for the animals. Street peddlers collect waste plastics. Broken appliances are kept on the roof or elsewhere in the house on the assumption that they may one day come in handy. Unwearable clothing is used to wrap infants or to clean, and may ultimately be fed to the oven. Even bones are traded to peddlers. Virtually the only household wastes that cannot be recycled are the feathers and blood of domestic poultry, which may be thrown into

the canal if it is readily accessible or simply tossed into the road.

The only substantial solid waste problem of these villages per se is the problem of disposing of dead animals. Animals such as donkeys and cows which die may be thrown into a canal if one is accessible, but transporting them a distance is problematic. On a number of occasions dead poultry were seen simply tossed into the street.

The extremely economic use of material goods is one of the reasons that the villagers have been able to construct and extend their homes and that they are able to make ends meet in the first place. It is probably also a state of mind which contributes to the high level of intestinal complaints among both adults and children; food is not thrown to the domestic animals unless it is clearly unfit for human consumption, a judgment which is liable to be made conservatively. The conservatism also characterizes the village well-to-do. The case of the refrigerator is instructive: where a family is sufficiently well off to afford a refrigerator, it is generally disconnected in the winter months, presumably on the grounds that the weather is cold enough so that the expense of electricity can be spared and/or the lifetime of the appliance thereby extended.

Sewerage

There are no municipal sewers at the study sites, nor are the community-built sewage discharge systems seen in some villages in the Egyptian Delta found here. In the mother villages some houses have latrines evacuating into pits. The highest incidence of household latrines is in the mother village of Assiut, where all, or nearly all, of the households of the nucleated settlement have latrines, some of them with tiled floors. Many of the houses in the mother settlements of Sohag and Aswan also have latrines. With the exception of one house at each site, there are no known latrines in the satellite villages. The absence of latrines in the satellite villages is not for purely economic reasons, and perhaps not for economic reasons at all. A quite well-to-do family in the Aswan satellite village had built and furnished a handsome house two years before the fieldwork and had not equipped it with a latrine, though space was ample and money not an obstacle.

In the absence of latrines, children above the age of about three and adults use the animal pen for defecation, unless they live in an out-of-the-way place, as in the case of the Assiut mother village houses in the fields, where they may use the area behind the house. If there is neither *zeriba* nor latrine, patterns differ from place to place and on the basis of age and gender. It is acceptable for men and boys, and very young girls, to urinate and defecate in public. While toddlers may defecate in front of their houses, in full view of passersby, adult males and older boys must find a

place at a distance from the public walkway, which may nevertheless be visible to others. They may also use the latrines at the mosque. Older girls and women cannot be visible to passersby when urinating or defecating, so if the household has no appropriate facility they are most likely to use a vacant house or, at night, a cemetery or a spot in the fields. Such places tend to be fixed, so that men not approach them inadvertently, and they accumulate large quantities of feces. While it is considered polite behavior to cover feces with dust, this is not always done, and the area is often richly contaminated.

Latrines do not automatically mean a more hygienic domestic environment. It appears that their installation has as much to do with family status and absence of alternatives such as *zeribas* and convenient empty houses as with the desire for hygienic disposal of human wastes. In the Assiut mother village, where latrines are the rule they are unventilated and the hole in the ground is often very small. Children in particular may defecate outside the hole, and the latrine may remain in this condition all day, with the result that other children step into feces. If the household has a latrine, the mother is less vigilant about supervising, and there is no possibility of her scattering dust over children's feces to dry them. It is worth noting here that while the public schools provide hygiene education to gradeschool children, the example provided by the school itself is not necessarily a good one. In the primary school in the mother village of Sohag, for example, the latrines have been blocked for some time, but the rooms are still being used as toilets by the children, producing a very high level of filth.

In addition, human wastes from latrines find their way into the general environment. In the Sohag mother village, for instance, latrines are cleaned out about every two years. Private sector professionals remove the wastes in buckets and mix them with the animal manure for uses on the fields. This mixing is carried out directly in front of the house, which is the place for storing manures until the appropriate time in the agricultural cycle. If the householder has no land, the wastes may be added to the nearest manure pile, or simply piled in front of the house. In addition, some people have built their latrines over old village wells, so that they will not have to empty them, with unknown consequences for groundwater in the area.

Concern for Flies

Flies are an overwhelming phenomenon of everyday life in the study villages. In Aswan their numbers are enormous even during the winter months, and they are present in all of the sites year round. In summer they are a scourge. While some efforts are made to combat them, it would be a herculean task to keep them off babies and food given the problems of sewage disposal and the presence of many domestic animals in the houses. Mothers see flies as dirty and harmful, but have no effective means of coping with them. Protection therefore tends to be somewhat erratic. Women shoo flies away from food, particularly the food of guests, but not consistently. Some households use ceiling fans to scatter the flies in the summer months, but may not use them every day or all day. Children are not taught to shoo flies away from their own faces.

Infants are to some extent protected from the flies by their mothers' fear of the evil eye. When they are taken outside the house, they are covered with their mothers' veils, so that they will not be seen by strangers, which in effect keeps flies off their faces. The child may also be covered with a veil or some other fabric while sleeping at home, apparently as protection against cold. Nonetheless, if the child's face is uncovered, for feeding or because he has knocked the veil away in his sleep, the mother does not take immediate action to shoo flies away, though she may recover him after a time. While mothers shoo flies away from their own faces, they do not do so immediately, and it seems clear that they shoo them because they are irritating, not to avert contamination.

As described earlier, toddlers eat more or less continuously throughout the day. Their food is thus particularly exposed to flies, as it remains in plates, uncovered, for long periods. No action was observed being taken to keep flies off

this food. Bottles are rarely covered, and are also used over extensive periods during which they are constantly exposed to flies.

The flies are, in fact, so numerous and so all-pervasive, that it is not certain that even a much greater effort on the part of mothers to keep them off children and off food would bring results, particularly on behalf of toddlers, as even if the flies could be kept off food, they are still on everything that the child puts into his mouth, including his hands, his toys, and virtually every object in the house.

*Diarrhea***Definitions and Treatments**

The second phase of the field research was scheduled for the summer, in order to allow study of behavior related to diarrheal disease during its high season. Several factors interfered with the comparability and reliability of work in this area, however. First, the research period coincided with an acute shortage of oral rehydration salts countrywide, with unknown consequences for the treatment strategies pursued by families, pharmacists and doctors in the study areas. Second, the primary advantage of carrying out the research on diarrhea per se during the high season is that it is then possible to observe behavior directly rather than to gain data from interviews alone. The amount of observation which could take place, however, was still very limited, compromising the reliability and comparability of results. This is because only 30 field days were included in the second phase, during which multiple topics had to be studied. The treatment of diarrhea takes place over a number of days, and for some types a number of weeks, for anything but minor cases, which means that a limited number could be followed through to recovery. Thus, despite the scheduling, most of the data in this section are based on interviews rather than observation, and it is impossible to state to what extent they relate to practice.

Moreover, since this set of issues was studied toward the end of the overall research period, there was little opportunity for co-ordination among the researchers here, a problem which occurs in many areas of the study but which is particularly

severe in this area. We thus cannot say whether difference in reports are due to differences in researchers, differences in sites, or differences in the handful of cases followed up on in the various locations. Given that taxonomies of diarrhea have not been drawn up for Egypt, it is obvious that we still know much less than we ought to if we are to effectively design programs to prevent diarrhea and/or minimize its impact on health and growth.

What we can say with some degree of certainty on the basis of current data is that diarrhea is viewed by villagers mostly as a symptom, not an illness in and of itself, and that as such it is diagnosed, treated, retreated, discounted and cured within a much broader framework of understanding and practice related to health and illness, treatment and recovery. The very intensive intervention in the manner in which the formal health care system handles diarrhea on the part of the National Control of Diarrheal Diseases Project of the Ministry of Health, beginning in 1984, and the parallel intensive mass media campaign targeted at mothers, has resulted in new knowledge being integrated into pre-existing frameworks of understanding, but not in their elimination and perhaps not in their substantial amendment. Some parts of these frameworks on which the mass media and/or the formal health care system have made frontal assaults appear to have maintained their resilience, and much could be learned from focused study of the relative degree of acceptance by the target community of various components of the mass media campaign, along with analysis of the reasons why various parts have been accepted or rejected, as a tool for understanding folk typologies of illness and health and at the same time the level of effectiveness of various types of communication.

It appears that diarrhea in adults is mostly a result of natural causes, such as eating two foods in successive meals which do not "go" together, such as meat followed by dairy products, or as the result of a horrid sight, such as a corpse or rotten meat, both of which were reported from Assiut. Adult diarrhea was not a focus of the research, however, and so this analysis may be inaccurate. Infants and children may also have diarrhea as a symptom of illness ensuing from such causes, but much of their diarrhea is caused by supernatural forces. Mothers cannot identify the cause of diarrhea with any more certainty than can doctors, and thus do some experimentation to see what will bring the desired result. Normally the first treatment given is a mild home remedy, usually a tisane, combined with removal of heavy foods from the diet, including buffalo milk. This is particularly reasonable given the very high level of diarrhea in these communities, especially during the summer, much of which is not so serious.

If diarrhea worsens, then focused attempts are made to determine the cause. Sometimes more than one hypothesis is held at a time, so that two completely different treatment courses may be followed simultaneously. These could include

taking the child to the health unit for the doctor's prescription and a traditional remedy, perhaps given by a sheikh, or might include the simultaneous use of two different traditional remedies. In one case reported for Assiut, a dual strategy was followed not on an experimental basis but because the mother believed that there were two separate illnesses afflicting the child at one time, one of which was susceptible to treatment by the official health system, the other of which only traditional medicine could deal with.

The search for cause is based partly, sometimes entirely, on the appearance of the stool itself. Treatment follows from attribution of cause. The various illnesses producing diarrhea as symptom are in many cases pertinent to different parts of the life cycle; some types affect only breastfed children, others mostly older children and adults. The list which follows should not be viewed as a rigid taxonomy, not only because data are incomplete, but also because it is an evolving list. Mothers test what they have been taught, or what has been recommended in a particular episode, against their experience, adapting and modifying their case management practices on the basis of their own growing expertise. The search for explanations and appropriate treatment for particular illnesses and symptoms continues in many cases, probably the severe ones even after recovery from a disease, as the mother increases her competence. Thus practice differs from one mother to another, and for the same mother from case to case and child to child. In broad outlines, however, the following accounts for at least some of what people in the study villages believe and do for cases of diarrhea in infants and young children.

a) El-Za'afa, El Waraniya, El Foukaniya, El Wihsha
(الزعافة، الورانية، الفوقانية، الوحشة)

These are alternative names used in Assiut to refer to an illness which is greatly feared by mothers. The final term is not the name of the illness at all, but means "the bad one," and is used by mothers to avoid uttering the name of the illness itself. This illness affects unweaned children, and is caused by the evil eye. Infants defecate watery stool of normal color up to seven or eight times a day, and may have vomiting and fever. They lose their appetites, cringe, and suck with empty mouths. This illness is diagnosed by a specialist, usually a village woman past menopause. She feels the infant's palate to see if there is a bump, sometimes called a *safeera*. If so, then the child has the illness. Copts say that this bump is usually in the shape of a cross, but others say it is shaped like a date. The bump is massaged with lemon and ground coffee, sometimes with the addition of garlic, for up to six days. The healer also pierces the ears, two ears for a girl, one for a boy.

b) El 'Amoud (العمود)

Reported from Assiut and Sohag, and almost certainly present in at least the satellite village of Aswan, the *'amoud* is a column between the mouth and the anus which must remain intact for the child to be healthy. In breastfed children, however, it may be broken due to the evil eye or a fall backwards, the latter of which may also be caused by the evil eye. In Sohag a broken *'amoud* is suspected if there is watery stool, nearly clear in color but with no bad smell and unaccompanied by fever. In Assiut the stool is normally watery and colorless, but in severe cases may take the color of a food which has been consumed. Here the diarrhea may be accompanied with vomiting and fever. This illness is unlikely to be fatal, and is very common. Its treatment is via massage, performed by older women specialized in this area. The baby's trunk is massaged with oil, and sometimes with soap or ghee, in a procedure known as *tamrees* (تمريس). Then his limbs are crisscrossed, with the left foot being brought to the right arm and vice versa. In conclusion, the Assiut specialist bandages a piece of dough around the area where the *'amoud* is broken. In Sohag, a cake of lentils about 4 cm in diameter is placed on the child's nostrils after the massage. The massage is performed at sunset on three consecutive evenings.

c) El Hagma (الهجمة)

El hagma is an attack on the child by spirits. Reported from Assiut and Sohag, this illness is manifested by foul-smelling diarrhea, vomiting (Sohag only), and continuous irritation and crying. Usually there is no fever. This illness is very widespread, afflicting children up to the age of seven or eight years of age. Children are particularly vulnerable during the six days marking the end of one lunar month and beginning of another, in the middle of the night, and when their mothers leave them alone. Some children, particularly those who suffer special risk from any sources (such as long awaited sons), are particularly vulnerable. One woman in Sohag said that *hagma* comes to children whose mothers are very happy, thus bringing the evil eye down on their children.

In Assiut, one protection against *hagma* in breastfed babies is to milk a goat directly into the infant's mouth and onto his face during the six-day vulnerability period. This practice protects the child against *hagma*, and also treats *hagma*. If a child is left alone, a charm known as the *'o'ed* (العود) is used to protect him not only from *hagma* but also from animals and insects. Older children who have already been weaned are treated by being held tightly

and covered. In the satellite village of Assiut, children with chronic *hagma* are ironed; a red hot nail is applied to the crown of the head, and if the spot fills with pus the child is cured. In Sohag, *hagma* is treated by use of a particular, rather unusual type of traditional *gallabeya*. The child is passed inside the *gallabeya* via the collar and withdrawn from the skirt, as it is worn by an old woman. If the right type of *gallabeya* is not available, a postmenopausal woman dons a man's *gallabeya* and performs the same pass. In either case, the treatment takes place three times at sunset. Also in Sohag, the whitened feces of a dog may be mixed with sugar and given to the child three times a day, and the fruit of the *sant* tree, the *gared*, may also be used for treatment. *Hagma* accounts for the growth retardation caused by repeated bouts of diarrhea.

d) Khar'a (خرعة)

Khar'a is one of three diseases of children caused by falling. This one, reported from Assiut, is caused by the evil eye, and occurs when a child is shocked by a fall. The disease is not specific to babies, but may occur up to the age of 10 years or so. It is diagnosed by the appearance of wasting, caused by diarrhea, loss of appetite, and vomiting. Treatment is via *takhzeek* (تخزيق), which is the preparation of a paper doll, stabbing it with needles, and burning it with salt and flour. The smoke of this fire is allowed to cover the child as if he were being treated with incense. The procedure usually takes place at sundown. Women specialists perform the treatment. In a severe case, an infant may be placed in a corpseless tomb until he urinates and defecates. In the satellite village, children may also be ironed as a treatment, but only if their own parents have undergone such a procedure for *khar'a*.

e) Sakta (سكتة)

This illness affects both adults and children, and is identified by at least some of the villagers as dysentery. Its symptoms are excreta containing blood and worms, and the patient suffers loss of appetite and sometimes fever. In Sohag it is thought to be caused by a fall, but in Assiut it is due to having seen an ugly sight like rotten meat or a carcass or corpse. If a breastfeeding mother has *sakta*, she takes the baby off the breast. Diarrhea pills and tisanes are given as treatment to adults and children. For babies, the pills are crushed in sugar water. The individual with *sakta* does not eat meat.

f) **El Waga** (الوقعة)

El waga is reported from Aswan as the result of a child falling without someone immediately saying the name of God in order to protect him. This exposes the child to the action of the *karina*. A charm must be obtained from a sheikh, and a mixture of salt, coriander and henna is burned on the site of the fall, with the mother stepping over it.

g) **El Khola** (الخلعة)

Also from Aswan, *el khola* is caused by a child's suffering a fright from an unusual sight or action, causing him to go pale. His mother soaks henna, bran, coriander, garlic leaves, and an iron nail in water overnight. Then someone holds the child outside the house in the street while the mother sprinkles this mixture back and forth reciting "*besbes kalm omak khd eldeara fe komak* "

h) **Nezla Ma'aweya** (نزلة معوية)

This illness, reported from Sohag, is accompanied with severe diarrhea, sometimes with a fever. It needs treatment by a physician, as the doctors know more about this illness than do villagers.

While the foregoing comprise all of the named illnesses which were discovered during the research to have diarrhea as a symptom, there are other diarrheas in the villages. Many of these have purely natural causes. Particularly serious, even life threatening, are some of those caused by changes in the mother's milk. If a breastfeeding mother becomes upset or angry, or her *tabi'a* or sister spirit poisons her milk, the child may get diarrhea. If the mother has a sore or lump which causes fever in the breast, the same result may ensue. In Aswan, where scorpions are very numerous, scorpion sting is also thought to poison the milk. This group of illnesses is very dangerous, and the child must immediately be removed from the breast until conditions change.*

* *The belief that upset in the mother can harm the child via the breast milk, combined with the value placed on breastfeeding, means that husbands in particular are admonished not to disturb or upset their wives throughout the breastfeeding period, a powerful but not invariably successful admonition*

Not all breast milk diarrheas are so serious, however. One common cause of diarrhea in breastfeeding children is a new pregnancy in the mother. The breastfeeding child senses the pregnancy even before the mother in many cases, and becomes jealous, thereby getting diarrhea. In such a case the mother can buy a "jealousy date" from the market for the child to suck at and then have hung around his neck.

Villagers and health professionals alike attribute much diarrhea to teething. The diarrhea of teething is non-threatening, self-limiting, and not in need of focused treatment. Another non-threatening type of diarrhea is that caused by a sudden change in temperature, as when someone sitting in a hot place suddenly enters a cold one, or the drinking of very cold liquids after becoming overheated. Improper assemblies of food may cause diarrhea as well, as when the evening meal contains meat and the breakfast dairy products.

Simple diarrheas are most likely to be treated with home remedies such as tisanes, followed by medications from the pharmacy, although amulets may also be used. "Diarrhea pills" are common, and are requested as such at the pharmacy; sometimes, but not always, these are enterovioform. A mother may dilute an ampule of streptomycine in a bit of water and give it to a sick child, and many other antibiotics are used in the treatment of diarrhea.

Dehydration is well known in the villages due to the mass media campaign, but is viewed as a separate disease, not the result of prolonged diarrhea (or at least not the result of diarrhea in general, though probably it is seen as connected with *nezla ma'aweya*). Mothers may not diagnose dehydration on their own, but accept the diagnosis when rendered by a doctor. There is an idea that dehydration is a "new" illness. However, doctors almost certainly prescribed less oral rehydration salts during this particular research period than at other times, due to the general shortage, and it may also be the case that mothers relied less on formal sector medicine during this period than would otherwise have been the case (though perhaps not).

Concluding Remarks

The research reported here has succeeded in elucidating in some detail the environmental conditions and behavioral patterns in six villages of Upper Egypt which affect the high incidence of diarrheal disease among young children in these communities, as described in the foregoing pages. As such, it provides a guide for health specialists in prioritizing areas for intervention in the interests of child health. Where it makes less of a contribution is in explicating the meaning systems which lie behind the behaviors in question. The inadequate exploration of these meaning systems is an issue of concern for the anthropologists involved, as it is within the context of these meaning systems as they are concretized in specific behavior, negotiated in the community, manipulated, adapted and experienced that individuals and families lead their lives. Appreciation of the value of village culture requires an understanding of these meaning systems, as does planning of an effective intervention.

Some of the unexplored, or inadequately explored, areas can be specified on the basis of this research, and hopefully serve as topics in further study of village culture and society. Two of the areas which are very key to health programming are the complexes of beliefs and behaviors known as *mushahara* and *karina*. Both of these come into play at the time of life crises, *mushahara* at birth, weaning, clitoridectomy, marriage, and *karina* chiefly during the early months of the child's life. Both are highly complex, spread throughout rural Egypt, and play very active roles in determining the behavior of villagers towards neonates, infants, young children, their mothers, and others. Among the things which are strongly influenced by these two complexes is the relationship with the formal sector medical establishment. New mothers in a state of risk are reluctant to expose themselves to strangers, particularly those who may be in a state of threat, which is one factor

preventing hospital births and decreasing the likelihood of medical treatment for very young infants. Belief in the *karina's* action is one of the criteria for classifying types of illness, including diarrhea, as either susceptible to treatment by modern medicine or not

Such beliefs are very often viewed as obstructive to health, and indeed in some respects they are. Full exploration of their meaning and associated practice would show, however, that they are also very constructive of health, in that it is part of the complex that the community draw in around persons at risk to help protect them from the dangerous influences which may render women sterile, cut off the newborn's milk supply, or kill an infant. It is thus not simply a question of these beliefs being so deep seated that to oppose them would weaken communication in the interest of health, although that is the case, but also a concern that should such belief complexes be unwittingly or intentionally damaged by intervention programs they might lose some of their protective force, which would be a great loss.

More than this, these belief systems constitute a self-conscious demarcation between medical practitioners and others concerned with health and the villagers, serving as a barrier to the transmission of needed information. Thus the positive role of such systems needs to be much better appreciated by medical personnel in order that they be able to more effectively work with villagers in the interests of child health.

As has been pointed out at various points in this report, but not thoroughly studied here, there are a variety of other supportive functions played by the community vis-a-vis the neonate, infant, and young child, as well as the child's mother. Some instances seen in the study include the contribution of food by a wide number of households to the diet of the new mother during the period just after her first birth in order to protect her through subsequent births, the integration of a variety of community members into ritual action to protect child health (beginning with the husband and extending to the neighbors, the sheikh and even total strangers).

The roles of these community members need better understanding, within the context of the overall systems of support, as they would certainly play an important role in facilitating or retarding the implementation of new health knowledge. Many of these same people are involved in decisions about the feeding and care of the child, diagnosis of his illnesses and selection of their treatment, and in many other actions affecting his welfare. Whether for the purpose of understanding village society alone or for the additional purpose of changing practices in an arena thereof, these systems are important.

There is also very little knowledge of the process of change in the Egyptian

village, nor of the many and varied sources of information which feed into this process. Not enough is known, for instance, about the impact of mass media, particularly deliberate attempts to change health protection and recovery practices. We do know, on the basis of this study, that where village mothers are unwilling to put into practice a particular piece of advice offered by social marketing channels, they explain this not by disputing the value of the advice but by excluding themselves from its sphere by saying, "This may be true for urban women, but not for us." Similar divisions are cited for many items which have nothing to do with social marketing, such as feeding of young children. Some recent mass media injunctions using actors dressed in traditional rural attire in order to identify with the target population have brought the comment, "Just like the peasants of the television"--i.e., not real peasants. One might reasonably conclude that their speaking in this way is one means of saying that we do not know enough about their lives to prescribe to them, a position which surely has some truth to it, regardless of the merits of the knowledge we are seeking to impart.

As anthropologists, the researchers for this study cannot make concrete recommendations for the design of a communications intervention in the rural areas of Upper Egypt; to do so would be encroaching upon a sphere of activity which requires cooperation with public health specialists and experts in communication. The research team recommends, however, that the design and implementation group include at least one anthropologist, to work with these specialists, and that program implementation be accompanied by on-going qualitative work to gauge the effect of the program and allow for adaptation and modification on the base of public response.

The research team also recommends that the program design group keep well in mind the very active communications network impacting upon the Egyptian village and the need to establish strong credibility for any program to have effect in this context. A one-way communication strategy is highly unlikely to bring results; a serious dialogue with villagers, in which many categories of village residents, beginning with male leaders, are brought into discussions of the current health conditions and the findings of the anthropological work related to them, and of the need for intervention on behalf of child health. The villagers themselves are able to define their own constraints in implementing the needed changes, which will certainly include the ongoing and perplexing problem of disposal of grey water and toilet wastes. It also should be noted that any program involving the schools and the health facilities in the implementation process will lack credibility as long as the sanitary facilities in these installations continue in their current state of hygiene; repair and cleaning of these facilities should be the first priority of any program, and provision should be made for monitoring the continued hygiene.

- Appendix A -

The Research Outline

The following is a preliminary list of topics to be explored in the planned research. It includes the key areas of behaviour related to prevention of diarrhoeal diseases, associated beliefs and practices, and potential constraints on change. This list should be expected to develop and change as fieldwork progresses.

A. Breastfeeding

1. Use of Colostrum

- If used, by what authority (tradition, aids, etc.)
- Pattern of use of animal colostrum
- Beliefs regarding value
- Timing - frequency, time of first use

2. Use Of Other Non-Milks In First Week

(Colic medicines, tisanes, sugar water, any others)

- Use yes/no
- Circumstances of use (why and when)
- Beliefs re. use
- Authority of use (doctors, traditions, etc.)

- Method of administration

3. Lactation Initiation

(With emphasis on first child)

- Support - personnel, relief from labour, mechanisms (such as diet)
- Night feeding
- Mechanisms to ensure letdown and to increase supply
- Other simultaneous demands on time

4. Continued Lactation

- Age or circumstances of introduction of foods (as opposed to introduction of regular solid foods)
- Beliefs, authorities, actual practice
- Age of termination of lactation (or circumstances)
- Beliefs, authorities, decision-makers and activities
- Occurrence of non-milk supply - does that happen? cause? solution for fully breastfed. (Artificial milk, foster siblings, special foods for mother etc.)
- Time/circumstances of termination

B. Other Milks

- Age/circumstances of introduction
- Types (animal, pharmacy, grocery)
- Relation to breastfeeding (supplementary, replacement)
- Relation to introduction of solids
- Frequency of use
- Container of use (and bottle if used for other liquids)
- Reason for use
- Time of termination

- Reason for termination
- Form of preparation (dilution, sugaring, boiling, etc.)

C. Introduction Of Solids And Semi-Solids

- Use of intermittent foods (preweaning)
- What, when, how, why, by whom, how frequently
- Regular feeding - what, when, why, by whom, how frequently
- Eating outside the house
- Foods particularly suitable for children up to 3 years
- Foods particularly unsuitable for these ages
- Foods suitable for sick children (includes milks)
- Foods unsuitable for sick children (includes milks)

D. Personal Hygiene

1. Handwashing of mother

- Timing (before cooking, breastfeeding, after defecation, changing baby, etc.)
- Thoroughness
- Regularity
- Reasons for handwashing
- Method of drying
- Use of soap

2. Reasons behind handwashing

3. Details of the process of handwashing in the presence and absence of running water (and water cleanliness)

4. Handwashing of child (toddler) - same issues

5. Facewashing of child/the cleanliness of face

E. Domestic Hygiene

1. Disposal of infant and child excreta under various conditions

- Presence/absence of latrine
- Presence/absence of water source in home (and proximity within/without home)
- Condition of latrine and type
- Understanding of contamination of excreta, practices which limit or disperse contamination

2. Food Hygiene

- Storage practices - length of storage, covering, accessibility, traditional/modern forms of preservation (especially for meat and dairy)
- Cooking - washing and preservation of cleanliness through preservation
- Eating - utensils, sharing, handwashing

3. Animals' excreta, animals at home

F. Water and Sanitation

1. Water

- Source/location
- Storage patterns - quantities, utensils by materials, use, care in protection
- Distribution priorities in use of restricted supply. Repeat use of same
- Patterns of disposal of used water

2. Solid Waste

- Types generated (what is reused, what is discarded)

- Patterns of disposal and rationales
- 3. Sewerage**
- Urination and defecation in public places
 - Household patterns by age
- 4. For all above, concepts of contamination and means of its prevention**

G. Concern For Flies

- Protection of infant
- Method
- Regularity of action
- Training of child - Y/N
- Presence/absence of flies in house
- Understanding of threat
- Place of sleeping for infants and children

H. Topics For Village Setting (At Community Level)

- a. Basically as explained in RAP manual, pp 35 - 38, as far as feasible, to be supplemented by other items as relevant
- b. Schools in and near village - level of enrollment, ages served, facilities, hygiene, staff (includes nurseries)
- c. Level of migration in recent past (Arab states, urban areas)
- d. Predominant and other housetypes (materials, floors, quantity of furnishing)
- e. Distance and location of local government facilities, presence of personnel in community on regular or intermittent basis (programmes and staffing)
- f. Infrastructure systems - proportion with electricity, piped water, sewer etc

- g. Description of market (weekly and permanent)
 - in terms of variety and level of materials
 - presence of workshops (No. and kind)
 - examination of foodstuffs for sale
- h. Distribution of landholdings, including proportion of landless
- i. Alternative employment (and employers if relevant)
- j. Outreach programmes which deal with child health, currently or in recent past (villagers, staff of health unit, etc.)

Methodology And Reporting Requirements

Methodology (field)

- No participant/observation as such
- Focus groups - for villagers, as spontaneously develop
- Informal interviewers
- Formal interviewers - usually with officials

Case Studies

- At least one developed case study from each village for use in developing messages

Records

- Village Profile (report)
- Field diary
- Brief notes - made in field, not submitted

Outline for Service Delivery on Health

1. **During the field trips which precede the actual research, collection of information at the Governorate and/or District level on the following points:**

- Types of personnel in the official structure concerned with outreach of various types and with health, including *raidaat* (ریدعات) (rural women leaders) of the Ministry of Social Affairs and National Population Council, agricultural extension agents, nurses/midwives, sanitarians, doctors, etc.
- Job description for all of these people, their numbers in the villages and possibly in the districts where we will be working, possibly their training, size of population served by each individual, and rate of turnover.
- Some idea of what happens in case of a programme beyond the current activities of these personnel (i.e. does something fall off the edge).
- Discussions of the formal arrangements for collaboration between these personnel from various ministries, that is, what mechanisms exist for collaborative undertaking (as in a case such as the *raidaat* working in a vaccination campaign, for instance). In this case, who is responsible for supervision?

2. At the stage of the research itself, clarify the following points :

- For all people defined as relevant to the UNICEF-assisted CDD prevention programme, who are originally from the village, who live in the village.
- What practical problems do they encounter in trying to carry out their terms of reference (which should include items such as transportation, but also lack of realism in job descriptions, and their response to any experience with inter-agency programmes).
- Particularly from *raidaat*, some reaction to the possibility of effectively delivering the kinds of information relevant to this research topic.
- Also, how many positions are available in each category and how many are currently filled, plus difficulty of adding new positions (budgetary as well as organizationally).

The House

Size - plan - position in the village - furnishings - description of types of electrical appliances if any - account of possessions i.e. imported animals and other sundry items - access to water/electricity/sanitation - researchers should also probe into issues concerning the construction of the house, was it built at once or at stages, the availability of space in and around the house, the use of space, privacy or the lack of it, allocation of space in the house; between people and animals, does the house get sunlight and fresh air, the accessibility of the house from the street, neighbouring roofs, etc.

The Family

Number, occupation, physical characteristics, appearance of home and individual life histories of occupants (both those residing in the house and those who are temporarily absent; the latter need not be described) - division of labour amongst residents - power relations in the household - decision making processes, who makes what decisions - hierarchy in the household - daily activity of members - time budgeting in the household - distribution of income at the household level - management of resources at the household level - attitudes of residents towards one another - different roles as played out at the household level, who generates the income, who controls it and who consumes it - mannerisms of family members, if any - occupants' ties with other domains i.e. the bureaucracy, police, religious groups, the town, etc. - accounts of situations in the household, if provided, can draw a vivid picture of how occupants play out their roles, beliefs and attitudes. It would be preferable if these situations were related to health and/or child rearing or other issues. These accounts, even when presented in 'raw' form give insight into behaviour and what it means, what is considered normative and what isn't. In-depth practices of these families relevant to research topics.

The Village Context

The household as perceived by the rest of the village - socio-economic classification - prestige and where it is derived i.e. kinship, wealth, *baraka*, education - how representative is the chosen household of similar homes and of the rest of the village?

Methodology (field)

- No participant/observation as such
- Focus groups - for villagers, as spontaneously develop

- Informal interviewers
- Formal interviewers - usually with officials
- Informal discussions for villagers, as spontaneously develop
- Focus Groups - possible at a later date

Research Strategy

Complete RAP study in three villages in autumn. Based on comparison of results, it will be decided whether to repeat the same study in three more villages or to focus in, also in three new villages, on problematic issues (i.e. ones where we have unaccountable differences in findings). Another possibility is to see the same three villages in the spring or summer.

- Appendix B -

Research Schedule

Phase 1A

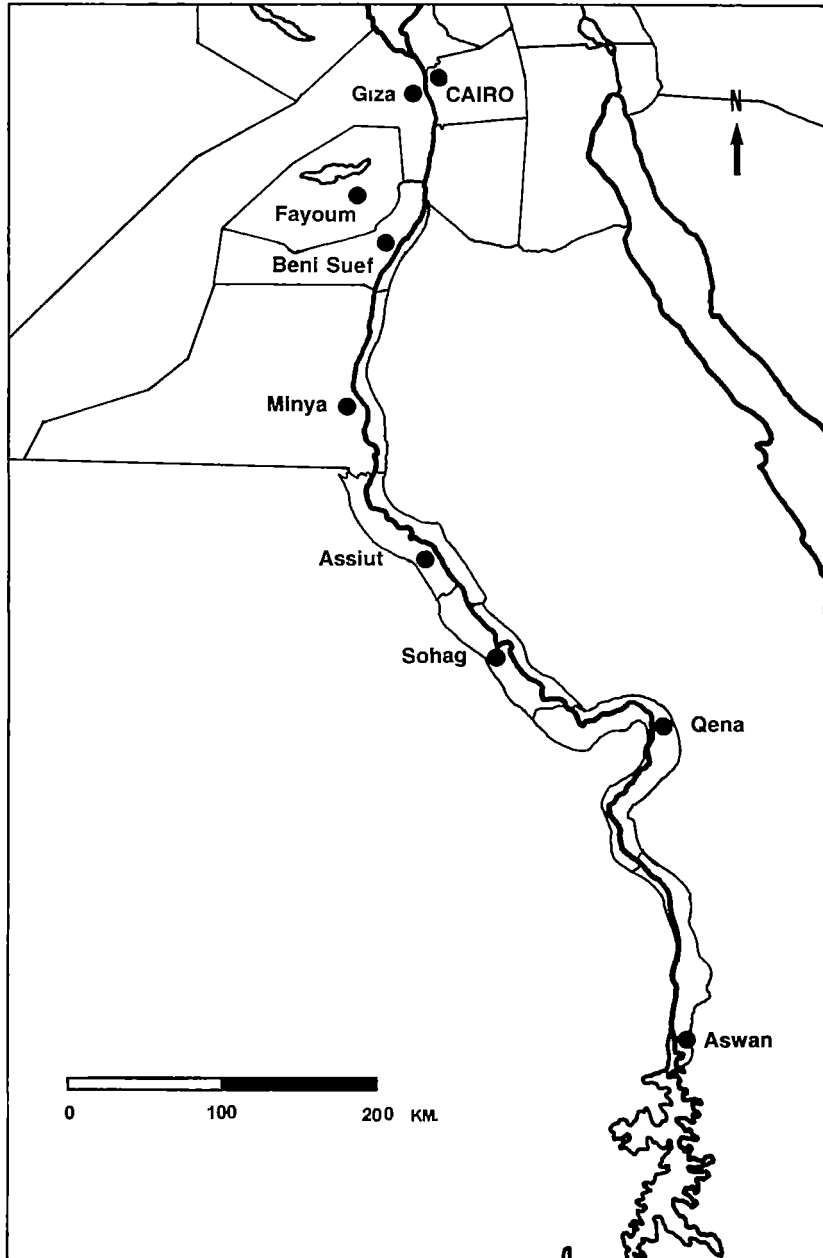
Introductory Visit	Sunday 22nd - Thursday 26th January
First Meeting in CCO	Sunday 29th January
Field Work (15 days)	Saturday 4th - Saturday 18th February
Second Meeting in CCO	Thursday 23rd February
Field Work (15 days)	Sunday 26th February - Sunday 12th March
Third Meeting in CCO	Thursday 16th March
Report Writing (10 days)	Saturday 18th - Monday 27th March

Phase 1B

Introductory Visit	Sunday 14th - Thursday 18th May
First Meeting in CCO	Tuesday 23rd May
Field Work (15 days)	Sunday 28th May - Sunday 11th June
Second Meeting in CCO	Sunday 18th June
Field Work (15 days)	Saturday 24th June - Saturday 8th July
Third Meeting in CCO	Wednesday 12th July
Report Writing (10 days)	Saturday 15th - Monday 24th July

* CCO: *UNICEF Cairo Country Office.*

- Appendix C -



Editor
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Art Work
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