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**METHODOLOGY FOR MEASURING BASIC NEEDS REQUIREMENTS AND
IDENTIFYING VULNERABLE GROUPS: KURDISTAN, NORTHERN IRAQ**

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PART A: Background	1
A.1 Rationale for the Mission	1
A.2 Authorship	1
A.3 Methodology	2
A.4 Executive Summary	3
 PART B: Identifying Indicators For Measuring Levels of Basic and Identifying Vulnerable Groups	4
B.1 Introduction	4
B.2 Population of the Region	4
B.3 Access to Basic Needs	6
Introduction	6
Trends in the Price of Food	6
The Costs of Living and Trends in Real Income	10
Conclusions	15
B.4 The Health and Nutritional Status of Children in Kurdistan	15
Introduction	15
Mortality	17
Nutritional Status	18
Humanitarian Aid and a View from the Community	20
Conclusions	22
B.5 Coping with Crisis: Household Responses and Possible Indicators of Vulnerability	23
Kurdish Household Structure	23
Household Responses to Crisis	23
A. Household Risk Management / Insurance Strategies	24
B. Adaptive and Survival Strategies in Response to Crisis	27
Implications for Measuring Vulnerability	29
B.6 Defining and Measuring Vulnerability	31
Introduction	31
Levels of Vulnerability and the Identification of Potentially Vulnerable Groups	32
Selecting Indicators	33
B.7 Targeting of Food Aid	33
Methods of Targeting Assistance used by Local NGOs	35
I. Kurdish Save the Children and Kurdish Charitable Society (Suleymaniye)	36
II. The Nanakali Foundation (Erbil City)	36
III. Kurdistan Women's Union	37
Methods of Targeting Assistance Used by Government Departments	38
I. Food Department/Statistics Department: 'Poverty Survey', Erbil City Centre ..	38
II. Education Department	38
Leaders in the Community	39
 PART C: METHODOLOGY FOR VULNERABILITY ASSESSMENT	42
C.1 Information Requirements: The Role of a Sample Survey	42
A. Proportion Vulnerable	42
B. Location of Vulnerable Groups	42
C. Indicators of Vulnerable Households	43
D. Measures of Trend	44
Limitations and Other Information Sources	44

C.2 Variables to be Measured	46
C.3 Outline of Questionnaire Contents	49
Cluster Level Variables	50
Household Level Variables	50
Variables Measured at the Level of Individuals	57
C.4 Sampling Strategies and Sampling Frames	58
Sampling Frame Options	62
Conclusion	64
Sample Size	64
C.5 Implementation	65
Implementing/Collaborating Institutions in N. Iraq	65
External Staff Requirements	65
Outline of Requirements for Implementation	65
Timetable for Implementation	67
C.6 Costs - Outline	69
References	70
APPENDICES	71
..... Appendix 1: Selected Case Studies	
..... Appendix 2: Income Transfer of Food Packages	
..... Appendix 3: Overview of General Food Distribution Mechanism	
..... Appendix 4: Persons to Interview	
..... Appendix 5: Criteria for Selecting Interview Sites	

List of Acronyms

AMI	Aide Medicale Internationale
CV	Collective Villages
DART	Disaster Assistance Response Team
DRD	Directorate of Reconstruction and Development
ECHO	European Community Humanitarian Organization
EPI	Expanded Immunization Program
FAO	Food and Agricultural Organization
FD	Food Department
GOI	Government of Iraq
IRCU	Iraqi Relief Coordination Unit
KLA	Kurdish Life Aid
KHF	Kurdish Health Foundation
KCS	Kurdish Charity Society
KSC	Kurdish Save the Children
KDP	Kurdish Democratic Party
MORAD	Ministry of Reconstruction and Development
MOH	Ministry of Health
MOLSA	Ministry of Social and Labor Affairs
NGOs	Non Governmental Organizations
NID	New Iraqi Dinars ('photocopy' money, Baghdad printed banknotes used in Southern Iraq)
OFDA	Office of Foreign Disaster Assistance
OID	Old Iraqi Dinars (Swiss printed banknotes used in the Northern Region)
PUK	Patriotic Union of Kurdistan
PPS	Probability proportional to size
SCF-UK	Save the Children Fund, United Kingdom
TRC	Turkish Red Crescent
UNHCR	United Nations High Commission for Refugees
UN	United Nations
UNICEF	United Nations Children's Fund
WFP	World Food Program
WHO	World Health Organization

Glossary of Terms

- Nahia** - Small administrative region, equivalent to a sub-district.
- Rangber** - Working for someone without being paid in order to pay back debts
- Zakhat** - Traditional Islamic tax given by rich to poor.
- Zakhera** - Stock of grain bought at harvest by households; intended to last the family throughout the year.

Exchange Rates (February 1994)

70 OJD=US\$ 1
350 NID = US\$ 1
US\$1.55 = UK£ 1

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PART A: Background

A.1 Rationale for the Mission

The Chairman's Summary of the Consultation Meeting on the UN Inter-Agency Humanitarian Programme on Iraq of 21 January 1994 identified (paragraph 9)

" a need for a survey to reassess the size and location of the most vulnerable groups, in order to better target food aid."

This recognized a lack of information on the number of persons who are in need of basic humanitarian assistance and on how they can be identified within the population.

Three consultants were engaged to address the question of how such information could be collected.

They were to:

1. Make an assessment of the information required.
2. Recommend the methods which should be used to gather and analyze the information, in particular to consider whether a sample survey was an appropriate instrument.
3. Gather information on the current situation in Northern Iraq, including the groups perceived to be most at risk by a range of informants.
4. Use this information to make recommendations on the most important variables that should be measured in any subsequent study seeking to identify the most vulnerable groups and measure the overall level of vulnerability in the population.
5. If appropriate, outline the survey design, including an assessment of the current sampling frame.
6. Assess the local resources available to carry out a sample survey and the level of technical assistance required.

A.2 Authorship

This report is submitted to the OFDA by the consultants, Irma Silva-Barbeau and Guy Templer, in fulfillment of the terms of reference given above. The work in N. Iraq was undertaken in collaboration with a consultant commissioned by the Overseas Development Administration (UK). The recommendations and conclusions of this report are a product of the work of all three team members. The authors alone are responsible for the views expressed and conclusions reached.

A.3 Methodology

The team initially met with UNICEF and IRCU key personnel in Erbil to clarify the goals and objectives of the mission. The process for the data and information gathering then proceeded as follows:

1. Review of published and grey literature available in country on the Kurdish situation since the 1991 popular uprising.
2. Interviews with available staff of the following organizations in the three governorates:
 - 1) UNICEF, OFDA, IRCU, WFP, FAO, UNHCR, ECHO
 - 2) Kurdish government representatives:
Ministries of: Humanitarian Assistance,
Economics and Finance, Education, Reconstruction and Development
Statistics Department, Food Department,
Pediatric hospital, Sociology Department of the Salahadin University
 - 3) International NGOs (CARE, SCF-UK, Oxfam, EquiLibre, AM I, and KLA);
 - 4) Kurdish NGOs (KHF, KCS, KSC);
 - 5) Kurdish Women's Union (Independent Zhinan Women, Afratan/KDP); and
 - 6) Local charitable organizations (Nakali foundation, Assyrian church);
 - 7) Society for Deportees
 - 8) Union of the unemployed (Erbil city and Suleymaniye city)
3. Elaboration of a strategy for field interviews. The team developed a list of themes to serve as "guides" for the interviews. This list was discussed with key persons in Erbil before it was finalized; list of key informant types was also elaborated (appendix 4); and a strategy to sample different sites was determined and discussed with OFDA, IRCU and UNICEF staff for the identification of the specific sites (appendix 5).
4. Interviews then followed with key informants (teachers, shop keepers, local committee members, members of the High Committee in different communities (i.e., collective villages, re-settled villages, isolated villages, refugee camps, "hard shelters" and poor quarters in the inner city).
5. Semi-structured interviews were conducted with households of different economic levels and social groups identified by local informants at each site.
6. Unstructured spot interviews were conducted with retailers in the open market.
7. Interviews were conducted with mothers whose children were enrolled in the Hospital Therapeutic Feeding Program.
8. Interviews were also conducted with women waiting for food assistance.

There was also extensive interaction among the three members of the team at the beginning and end of each day. All members' field notes were constantly shared, reviewed and discussed. The team interacted often with UNICEF, OFDA and IRCU personnel and discussed key findings and issues and updated them on their progress. Throughout the mission the team was based in Erbil and traveled throughout the governorate, the governorate of Sulimanya and, to a lesser extent, Dohuk. No household or key informant interviews were carried out in Dohuk.

A.4 Executive Summary

This study was conducted in Kurdistan, Northern Iraq with the goal to study factors contributing to poverty in the current economic and political context of the region. The specific objectives were to: 1) identify the most vulnerable groups in terms of geographical and socio-economic factors; and 2) identify a set of optimal household and possibly regional quantitative indicators which will identify those households most in need of assistance; and 3) develop a methodology for collection, analysis and data use for better targeting. The team utilized a combination of techniques in gathering the information. These were: 1) review of published and grey literature; 2) interviews with key officials from UN agencies, international and local NGOs, charitable organizations, community key informants and household heads throughout the region.

The double embargo imposed in Kurdistan, Northern Iraq, is slowly and persistently eroding the resource base of the majority of the households. Broadly speaking, employment opportunities in the formal sector have dried up; wages within the formal sector have remained at pre-crisis levels and prices of basic goods have skyrocketed (with the single exception of fuel, whose price has dropped sharply following the resumption of supply from the South). The only section of population not to have seen a net decrease in their real income have been food producers, merchants, and traders; groups which have managed to maintain incomes by holding non-cash items, hard currency or imported goods.

The groups most severely affected by the scissors effect of rising consumer prices and stagnating employment opportunities are those in the 'bottom line' jobs; the manual laborers; farmhands, etc; and those whose salaried incomes whilst retaining their nominal value, have lost their real value in terms of the basic necessities .

Household responses to the economic shocks have been in terms of movement of many people into marginal economic activities (i.e., petty trading, begging, child labor); external support (i.e., reliance on zakhat, extended family support, debt); disinvestment (i.e., sale of personal and household possessions as well as productive assets); and changes in diet (i.e., increased in bulk (substitution of wheat flour for barley), cheaper foods, less food). The outcome of these economic shocks are more difficult to measure. There is some evidence of reduced school attendance especially by girls, erosion of the extended family's asset base, loss of household livelihood, lower dietary quality and less clear (because of lack of reliable data) a trend towards increase risk of malnutrition among the young children.

There is a lack of reliable data on the population of the region. This is hardly surprising given the extent of disruption which the population has undergone. Estimates of total population for 1993 range from 3.2 million (Directorate of Reconstruction and Development (DRD) data) through 3.55 million (Ministry of Economics and Finance) to 3.73 million (UNICEF internal document). Of these the 'well known' vulnerable groups, are some 700,000 to 800,000 persons resident in collective towns; and around 140,000 displaced people from Southern Iraq, of whom 100,000 are found in Suleimaniye. There is also a lack of information about demographic (mortality and morbidity) data.

Although targeting at the household level has not been a well understood concept, among the Kurds, there is a general consensus that there is a need to do this type of targeting especially for food to the neediest groups. A preliminary, set of criteria was devised to begin the process of targeting at the household level. These sets of criteria categorize households into "highly", "moderately" and "lightly" at risk. It was recommended that these criteria be discussed with international and local NGOs, and community leaders to test for their specificity and sensitivity.

Because of lack of reliable data in all areas, the team recommended and designed a sample survey to be implemented immediately. The survey will include community, household and individual level data and will include variables which will be analyzed as process, indirect and outcome indicators. The survey should be able to give a good estimate of how many households fall within each of these categories, who these households are and where they are distributed

geographically. The results of this survey will more accurately provide information upon which the level of humanitarian assistance can be more realistically be assessed.

PART B: Identifying Suitable Indicators For Measuring Levels of Basic and Identifying Vulnerable Groups

B.1 Introduction

Household vulnerability is a complex concept; a composite of the underlying factors which determine a household's exposure to risks and its ability to deal with the consequences of that risk. Chambers provides a definition of these two faces of household vulnerability;

"Vulnerability has two sides: an external side of risks, shocks, and stress to which an individual or household is subject and an internal side which is defenselessness, meaning a lack of ability to cope without damaging loss" (Chambers 1989: 1).

Vulnerability is therefore determined by two sets of inter-acting factors: the fragility and depth of the livelihood system adopted by the household and the extent to which that livelihood system is exposed to shocks. The two sides of vulnerability require that a distinction is drawn between baseline or underlying vulnerability and current vulnerability. Baseline vulnerability refers to the enduring level of vulnerability over time, and current vulnerability to the status of the household at any one point in time. To give an example, a household with a salaried income earner that is faced by large but temporary fluctuations in food prices (price shocks) and hence in real income, will have increasing and decreasing levels of current vulnerability over the period but a steady baseline. Alternatively, the same family, if it loses its main income earner, will have a new lower baseline vulnerability; the household's exposure to risk has been increased (it has a new lower income) and its ability to cope with future shocks has been reduced. The temporal dimension of vulnerability is one that is often neglected, but may be of particular importance in Kurdistan, given that the enduring economic crisis is acting as a series of continuous shocks to the purchasing power of non-producer households. Indeed throughout this report, the emphasis is on process and change rather than focusing on a snapshot in time.

In order to establish a methodology for assessing the absolute levels of basic needs and to identify the characteristics of households at risk, a basic understanding of the way in which people support themselves and the factors impinging upon that ability is required. The methodology required to meet the information requirements of planning basic needs assistance at the macro-level involves being able to make accurate population wide estimates. The only way in which this can be achieved is through a statistically valid household sample survey. To this end, this part of the report outlines aspects of the current situation in order to find suitable indicators of household vulnerability which could be measured in such a survey. This report is divided into several sections; the first looks at the basic characteristics of the population; the second outlines the trends in the economy which are affecting people's ability to support themselves; the third examines the current nutritional and health situation in the region; the fourth outlines the way in which households anticipate crises and the way in which households are responding to the current crisis and related behavioral indicators; the fifth addresses the issues of measurement and definition of vulnerability; the sixth examines the issues of targeting food aid at the household level; and the final section discusses the issues relating to the appropriateness and the implementation of a sample household survey.

B.2 Population of the Region

There is a lack of reliable data on the population of the region. This is hardly surprising given the extent of disruption which the population has undergone. Estimates of total population for 1993 range from 3.2 million (Directorate of Reconstruction and Development (DRD) data) through 3.55 million (Ministry of Economics and Finance) to 3.73 million (UNICEF internal document). The

Department of Statistics use figures from the last census. The results of this census, taken here from the 1990 Annual Abstract of Statistics, give a population of around 2.28 million for the three northern governorates and date the census for the autonomous regions as 1989. Adding four years of population growth at 3% and 700,000 for the displaced and the newly added Kirkuk regions brings the total estimated population to around 3,275 thousand. This is no different from the other estimates, despite the suggestion that the census deliberately underinflated the numbers in the autonomous regions. The Humanitarian Needs Assessment Mission to Iraq gave an estimated total population of 3.1 million for 1991. A comparison of the UNICEF statistics derived from the DRD estimates, the 1991 Humanitarian Mission figures and the Food Department figures is shown in Table 1 below.

Table 1. Population estimates from different sources

Source	Dohuk	Sullimaniya	Erbil	Total
Hum. Miss. ¹	835,000	1,204,000	1,100,000	3,139,000
UNICEF	692,681	1,415,085	1,130,374	3,238,140
Food Depts	727,929			

¹ For 1991

The population has undergone enormous disruptions during the 1980s and 1990s. During the 1980s, the GOI carried out a campaign of forced resettlement in the region, in which many rural villages and towns were destroyed and the population forced to live in 'collective towns'. Possibly some 700,000 to 800,000 persons are resident in collective towns. The combined Food Department figures for 1993 suggest around 800,000, whereas the Humanitarian Mission figures suggest 720,000 for 1991. Given that the major population movements during this period have been out of the collective villages, this is a substantial discrepancy.

Another distinct group in the population are the displaced. These people fled the governorate of Kirkuk after an Arabisation campaign by the GOI. There are believed to be around 140,000 of these people, of which 100,000 are to be found in Suleimaniyah (Food Department, Suleimaniyah). Since many lost land and possessions in their displacement, they are considered to be amongst the most vulnerable in the population. Some of the displaced have integrated into the cities, some are found in camps, and still others are found in damaged ex-government buildings which are on the edge of cities, the so-called 'hard shelters'.

There is believed to be about 20-30% of the population living in rural areas (Humanitarian Mission to Iraq, DRD data). This may increase somewhat as the resettlement programme continues. The resettlement of destroyed villages and towns has been going on since the withdrawal of GOI troops. It is a policy of the regional administration to encourage resettlement and to rebuild the destroyed villages to support this process. This is the main function of the Ministry for Reconstruction and Development, MORAD, of which DRD is a department. The DRD estimates that the total number of families that have returned to depopulated settlements over the two year period from the end of 1991 to the end of 1993 is 89,631.

After the failure of the 1991 uprising, some 1.6 million Kurds fled across the borders to Iran and Turkey. The vast majority returned, however UNHCR estimates that about 70-75,000 Iraqi Kurds that fled during the period between 198X and 1991 remain in Iran. Iran also has a number of Iraqi Kurds that fled in earlier periods, particularly in the mid-1970s, but the size of this

population is uncertain. UNHCR is using a working estimate of 50,000 returnees from Iran this year. There is a small group of Iranian Kurdish refugees in the area, estimated to number about 3,800 (UNHCR).

B.3: Access to Basic Needs

Introduction

All households have three basic methods through which they can satisfy their basic needs: own production; exchange ('labour for wages for food') and transfers from the state, the community, or other households. The vulnerability of households at any point in time will depend upon the stresses being placed upon the particular method by which a household meets its basic needs. The question of transfers between households or between community and household is important in assessing vulnerability and is dealt with in section B.5. This section outlines the stresses being placed upon households who have to obtain their basic needs through exchange and the market. Historically, the Northern Iraqi region was the breadbasket of the Middle East, although the last two decades saw the systematic destruction of the agricultural resource base of the region. Over the last two years, agricultural production has been improving as farmers return to their villages, and as the fall in the price of diesel has brought production costs down. Within a few years it seems likely that the Northern region will, in simple grain production terms, be self-sufficient, although the question clearly remains of whether this macro self-sufficiency will filter through to the poorer sections of the population. Last year's harvest of winter crops, which although severely damaged by pest, provided an estimated 500,000MT of wheat grain, or nearly 80% of the population's grain requirement alone (assuming a population of around 3.2 million requiring about 200kg grain per person per month) (Source: OFDA/Erbil). Therefore making the bold assumption that supply is not an issue (at least in the long term), access to basic needs through the market depends upon the relationship between prices and incomes.

Trends in the price of food.

The imposition of the double embargo upon this region has had a multitude of effects upon the consumer prices of basic foods. Most important has been the loss of heavy GOI subsidies on the main staples. Prior to the sanctions, it exercised monopoly rights on the import of foodstuffs, as well as being a monopoly purchaser of grain within the country. Consequently changes in the price of most imported foodstuffs reflects the shift in the food supply from government control, to competitive private trading, importing at parallel market (real) exchange rates. Table 2 shows the price changes in a number of basic goods.

The food price indices shown in figure 1, show the strong link between prices of basic goods and the unofficial dollar exchange rate. The exchange rate for the Old Iraqi Dinar (OID) does not parallel the exchange rate of the money in circulation in the South of the country (which will be called, for the sake of simplicity, New Iraqi Dinar (NID), currently being around five times the value. The split of the two currencies occurred shortly after the withdrawal of GOI forces from the region and the printing and supply of new currency in a short term attempt by GOI to alleviate the effect of sanctions induced hyperinflation. The disparity in the two currencies reflects the relatively greater confidence in the autonomous region and the knowledge that the supply of OID is limited. However, the fluctuations and the recent decreasing value of the OID reflect the limited confidence in the GOI to keep the OID in circulation; general surges and declines of confidence in the security of the region; surges and declines in the belief that sanctions will be lifted (recent confirmation by President Clinton that they wouldn't saw the OID rapidly increase); and more general declines of confidence in the Iraqi economy.

Table 2. Nominal Price Trends of Basic Goods:

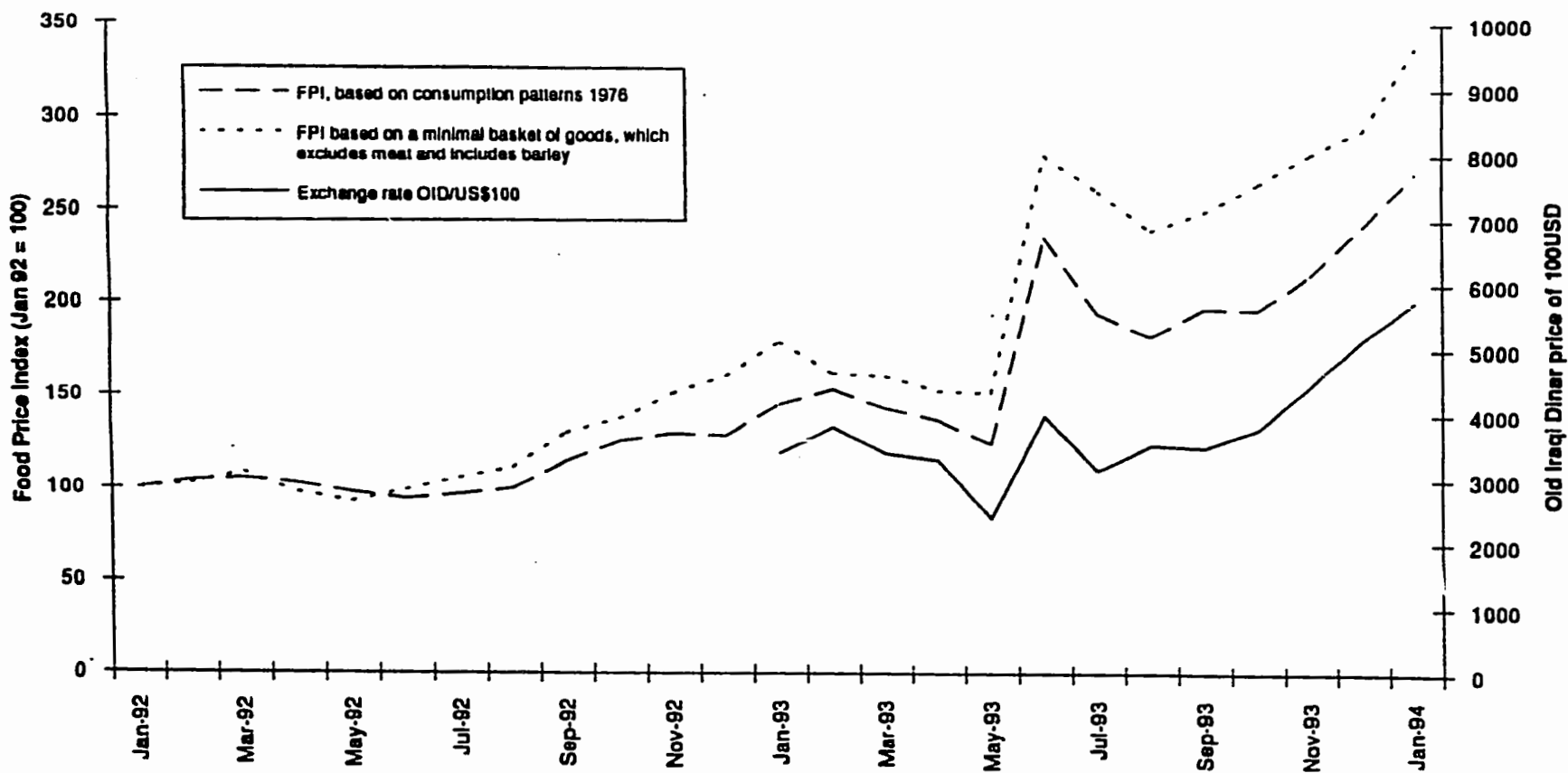
	<u>Jan/92</u>	<u>Jan/94</u>	<u>Nominal % increase over 2 years</u>
Wheat flour/kg	4	14	350.00
Barley flour/kg (1)	n/a	8	390.00
Rice/kg	10	18	180.00
Lentils/kg	8	25	312.50
V. Oil/litre	16	50	312.50
Milk/litre	70	95	135.71
Tomato/kg	13	18	138.46
Sugar/kg	8	27	337.50
Tea/kg	40	115	287.50
Eggs (for one)	1	2.26	226.00

(1) Barley was only sold for animal feed at start of surveys. Price change taken from changes in farmgate prices (source: OFDA/Erbil)

Main Source: WFP market surveys Erbil City center

Figure 1

Food Price Indices, Jan 92 - Jan 94



Source: WFP market surveys, OFDA/Erbil market surveys (for prices); 1976 All Iraq Household Expenditure Survey, Household interviews (for consumption data); and Unofficial Currency Exchange (for OID exchange rate)

The link between exchange rates and food prices for locally produced foods may reflect a number of factors including: large quantities of grain being traded for hard currency, either leaving to the South, or going across the border to Iran; and speculation and hoarding on the part of traders and to some extent by individual households in an attempt to maintain their purchasing power. The peak in the exchange rate and food prices in May/June 1993 resulted in the GOI announcement that it would no longer consider the 25 OID note to be of value. All the borders were closed for two days and people (in the South) were allowed to exchange notes they were holding for the NID. The effect in the North was simple, people suddenly found themselves holding cash which without the confidence induced by a central bank's backing was effectively worthless. This was followed by a rush to get rid of 10 OID and 5 OID notes as rumors spread that all OID notes were to be taken out of circulation. Thus exchange rates soared. The concurrent rise in food prices reflected: traders keeping goods off the market to avoid the implications for their margins of a wildly fluctuating currency; and merchants of locally produced goods either hoarding or selling for hard currency. The harvest which followed shortly after had some mitigating effect but prices have not recovered entirely since.

For households who are not food producers, or have been unable to mitigate these trends by holding assets rather than cash, the effect upon their purchasing power has been dramatic; one hundred OID now buys less than 35% of the goods it was able to buy in January 92.

The food price indices (Figure 1) also tell another story. The bottom index is constructed on the basis of changes in the price of individual commodities, each weighted according to the consumption patterns recorded in the Northern three governorates during the 1976 household expenditure survey. These consumption patterns are clearly out of date and have been used in lack of more recent surveys. The top index has been constructed on the basis of consumption patterns observed by the team in a number of particularly poor households. The main differences between the two sets of consumption patterns are that the 'minimal basket of goods' for a poor household does not contain any meat, but includes barley, which was frequently observed as a substitute for wheat flour. Typically barley flour and wheat flour are mixed to bake a brown bread. The team found households using proportions anywhere between 50:50 and 2 parts wheat flour to 10 parts barley, one woman interviewed reported using barley alone. Box 1 presents a case study of a family using barley in order to make their wheat flour ration stretch the full month.

Case Study 1

Hama Aminali lives with his wife in a compound in Al Gedida Zab collective village with his family and his son's family.

When they first arrived Hama's son would go into Erbil city every week to try to find work as a day laborer, but has been unable to go recently as he couldn't afford the seven dinar return journey. Besides the income from day labor, the family used to receive the standard government rations. Now, the only regular source of income is the supplementary ration supplied by WFP. Unlike many of the other families in the collective they do not have a vegetable plot or any poultry to supplement their diet. In order to make the ration last for a full month, Hama usually exchanges about 40kg of the families' 63kg ration of high grade wheat flour for unmilled barley (he gets about 60kg barley for 40kg of wheat). Someone from the adjacent village mills barley for people in the collective for 10 dinars per sack, or a payment in kind of 2 or 3 kilos of the milled barley. They use the barley mixed with wheat flour for bread.

The introduction of barley into a household's diet is a drastic measure, many people stated that they had never bought barley before 1991. One woman interviewed as she was preparing a

barley/flour dough said that before the uprising she "wouldn't even have fed barley to our donkeys!". There is no information about how many household's are now substituting barley for wheat, but the food price index for the minimal basket of goods may give some indication. The price of barley, a clearly inferior good, has increased more rapidly than any other foodstuff; it has moved from being less than half the price of wheat flour to being around two-thirds the price. The relative increase in the price of an inferior good is usually indicative of increased levels of stress and the decreased purchasing power of large sections of the population who have had to change their consumption patterns to cheaper or bulkier foods. This is made all the more compelling if one considers that the potential domestic supply of burley has increased by an estimated 33% since 1990 (Min. of Finance and Economics estimates). However some caution should be taken in interpreting relative price changes in this way as there may be extraneous factors involved. One clear influencing factor has been the farmgate prices offered outside the region. In 1992, the Iranians were offering a particularly high price for barley and there were reports (unconfirmed) of resulting shortages in the Northern region. Last year the export of foodstuffs was made illegal by the regional Government, but it is possible that there was still some leakage.

Whatever the causes of the relative price increases of barley, the food price index for a poor household shows that it is the basic staples, rather than the 'luxury' goods like meat and milk, that have increased the fastest; poorer households have seen their food purchasing power decline more than wealthier households maintaining pre-crisis consumption patterns.

The Costs of Living and Trends in Real Income

Very little detailed information is available on the current expenditure patterns of households in Iraqi Kurdistan. The only extensive household income and expenditure surveys date from before the crisis, and are consequently of little informative use. From interviews with households and local officials, the team is in general agreement with the trends described by the Harvard Study Team in 1991 in reference to the North. Broadly speaking, employment opportunities in the formal sector have dried up; wages within the formal sector have remained at pre-crisis levels and, of course, prices of basic goods have skyrocketed (with the single exception of fuel, whose price has dropped sharply following the resumption of supply from the South). The only section of the population not to have seen a net decrease in their real income have been perhaps the food producers, merchants, and traders; groups which have managed to maintain incomes by holding non-cash items, hard currency or imported goods. Indeed as Dreze and Gazdar (1991:21) comment, given that trends in food prices are currently the most important, and therefore can be seen as the basic measure of inflation, the real incomes of food producers are proportional to their output and are therefore constant over time (assuming no changes in output).

The ability of a non-producing household to sustain itself over time can be measured by comparing the basic income of the household with a basket of goods and basic expenditures such as fuel, electricity, and rent. Table 3 draws up a costing (at January 1994 prices) of such a basket. The basket chosen was based on interviews with urban households, and the quantities chosen to provide the minimum caloric intake for a twenty-five year old reference man. In creating this basket, we used the cheapest costing that had been quoted: the rent was based on a one room house in the one of the most rundown areas of the city of Erbil, electricity on the same and fuel on the basis that it would only be used for four months of the year. The results are disturbing, when compared to the income of a range of standard occupations.

Ranges of earnings for a selection of occupations is shown in figure 2 and compared with the cost of the basic food basket in Table 3 for a one person, three person and five person household.

Public Sector

The most basic expenditure to support a single person living on his/her own is nearly twice the monthly salary of a mid-ranking civil servant, one and a half times the salary of a secondary school teacher and about equivalent to a senior civil servant's basic salary and equivalent to that of an experienced doctor. There are currently around 82,000 civil servants in the Northern region, 21,700 teaching staff and around 12,000 health personnel who are on a pay scale starting at 54 OID (for an unskilled laborer with no secondary education) and reaching a maximum salary of 380 OID. In addition to this basic salary scale some bonuses are given for child allowances and hazard allowance (given to border guards and the security police), and overtime earnings for health workers. Nonetheless, the most a public sector employee who is not a head of department can hope to earn is around 800 OID per month.

Given that even at the top of the range, the salary will only cover the barest living expenses of a two person household, there is real question about how some people are surviving. With this in mind, a number of organizations have chosen to target public sector employees for food assistance, and recently they have also been targeted by the fuel programme. The rationale for targeting this group is quite justified. However, even with this assistance (which has not been regular), it seems unlikely that public sector employees have been able to support themselves from this source of income alone. The Ministry of Economics and Finance in a brief survey of its own staff estimates that around 40% of civil servants are engaged in secondary income generating activities, the nature of which tends to be related to the type of primary employment (i.e. electricity board workers as private electricians etc.). Also qualified doctors who hold a full diploma are entitled to private practice, although the numbers doing this are believed to be small. Teachers, and health workers have limited opportunities for secondary employment because of the time requirements of their jobs and the limited opportunities for private sector employment using their qualifications, and therefore they must remain prime candidates for targeted assistance.

If large numbers of civil servants do have substantive secondary activities this should not rule out assistance, which, if appropriately directed, could be used as an incentive for regular attendance and better working practices. One method of achieving this would be by allowing civil servants to purchase foodstuffs at heavily subsidized prices, 'closed monetization' in WFP terminology. There is a need to gather quantitative information on the levels and types of secondary activities people are engaged in, in order to better understand how, if at all, people are coping.

Formal and Informal Private Sector

Figures from 1988 categorized 23,535 people in the Northern region as working in registered companies, including the state-owned industries around Suleimaniyah city. Currently, the state factories (tobacco and cement) have closed production. A skeleton staff is maintained to keep the production lines in working order, and all staff employed before the crisis are still being paid (the wage rates for factory staff start at around 300 OID, rising to around 800 OID for floor managers). There is almost no information on the current status of private industry. Anecdotal evidence in Erbil city suggests that most small scale manufacturing companies have ceased production due to the lack of imported inputs, but similar to the state owned factories they are keeping their staff on a retainer in the hope that the sanctions will be lifted.

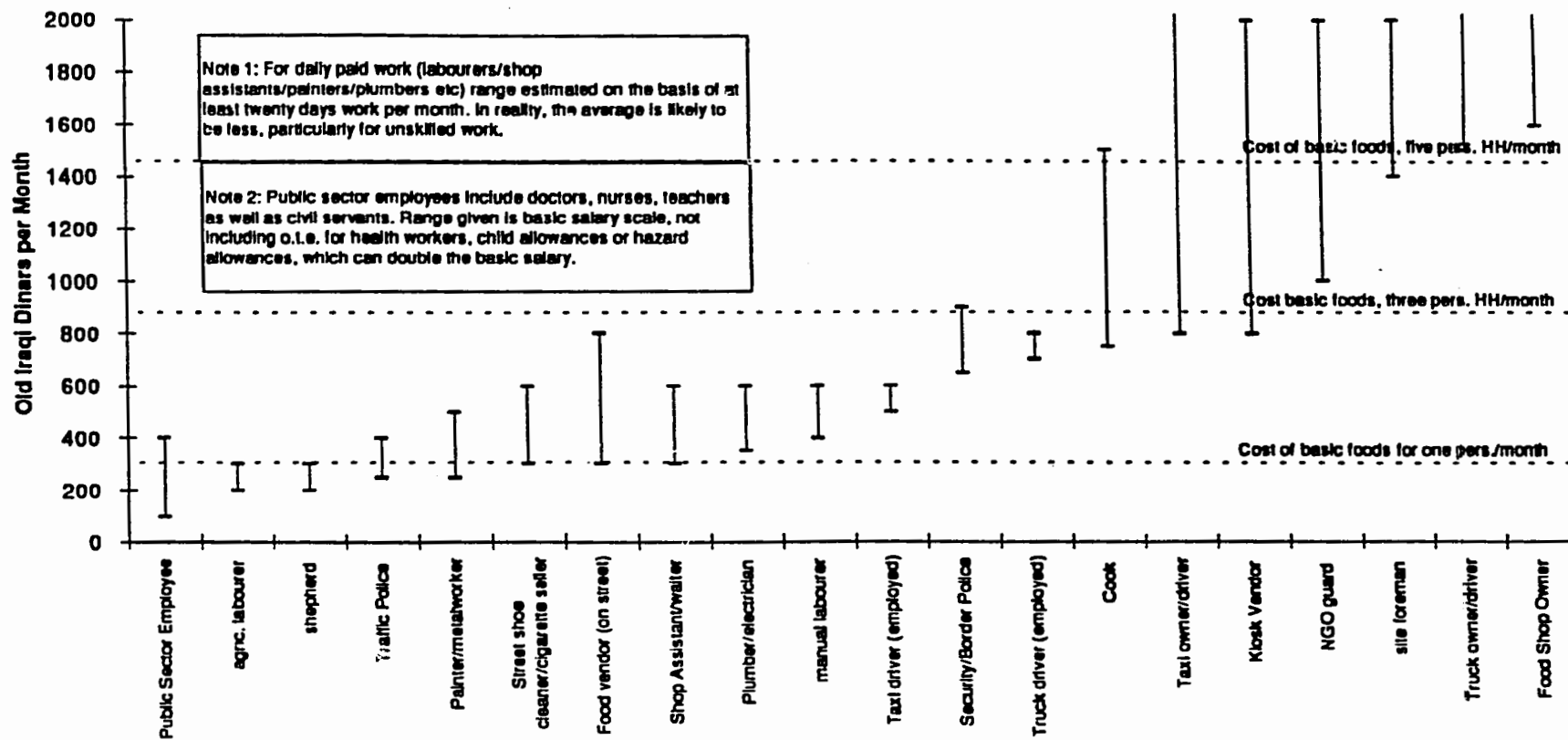
The tertiary sector, formal and informal, is the location of most economic activity. The informal sector has produced a curious situation where cigarette sellers and barrow boys are able to earn more money than public sector skilled workers. No information is available on the number of people engaged in such activities, but comparisons with several years ago suggest that this is expanding at a high rate. Some of these activities, particularly food related, can provide a reasonable level of earnings. However informal interviews suggest that the burgeoning demand for this type of activity is reducing potential earnings. In lack of hard data, it is hard to confirm this. The income ranges suggested in figure 2. for these kinds of activities are based upon 20 days work

a month and the maximum daily amount quoted by each interviewee. It should be stressed that all interviewed emphasized that sometimes they don't make any money at all, and the income range may overestimate real earnings. Another more telling sign that has been observed is the increase in the number of adults and children engaged in the real 'bottom line' activities; begging, portering, selling single sweets at traffic lights in the city, and so forth.

To gauge household vulnerability an accurate assessment of the level of earnings that can be achieved in activities in the informal sector is required. Similarly for manual and occasional work, the number of days which are actually being worked also needs to be assessed in order to examine the extent of under-employment, and consequently of those people's ability to self-provision.

Figure 2.

Monthly Income Ranges for Different Occupations versus Cost of Basic Food Basket (Costed at January 1994 prices)



Source: Informal Interviews, cross-checked with data from the Ministry of Finance and Economics and local NGO workers.

Table 3. Cost of Basic Needs

Foodstuffs (1)	gr/Person/Day	OID/Person/Month
Wheat flour	146	57.2
Barley (6)	286	64.1
Lentils/Chickpeas	55	38.5
V. Oil	23	32.2
Sugar	42	31.8
Wild grasses/vegetables	300	42.0
Tea (4)	12	25.5
Other Basic Expenditures		
Rent (2) OID/Household/Month		50
Electricity (5) OID/Household/Month		3
Kerosene (3) OID/Household/Month		43.6
Total Cost of Basic Needs:		
<i>(OID/Family/Rented Accomodation)</i>		
	Per Week	Per Month
Family of 1	96.975	387.9
Family of 2	180.700	722.8
Family of 3	264.425	1057.7
Family of 4	348.150	1392.6
Family of 5	431.875	1727.5
Family of 6	515.600	2062.4

NOTES:

- (1) This basket of foodstuffs was compiled from interviews with poor households in Erbil City center. Quantities shown are the minimum amounts required to achieve an intake of 2,200 kcals per day (WHO reference, standard 25 yr old).
- (2) This was the rent quoted for a one room apartment in the most run-down area of Erbil City center.
- (3) Kerosene consumption is estimated a 2 lit/person/day for four months of the year (CARE/Erbil) and zero for the rest of the year.
- (4) Quantity of tea consumed estimated from interviews.
- (5) Quoted price for one room house in Erbil center.
- (6) Barley consumption is a new phenomenon and the precise proportions of the wheat barley mix varied from 50:50 to 2:10. Quantity given is based on mid-way mix of one part wheat flour to two parts barley.

Employment and Unemployment

As most of the work available for non-producers is currently limited to the informal sector, there is, unsurprisingly, very little information available on employment rates. Each governorate center has a 'Union for the Unemployed', a form of job placement agency. They keep registers of people seeking work, but only of people who have actively sought them out; the figures they give are an extreme under-estimation (in the opinion of their own representative). Consequently, it should be a concern of the survey to measure the rate of unemployment and to identify the characteristics of households who are currently without sources of income.

We can only make broad generalizations at this point about levels and locations; the areas in which there are very clearly severe problems with unemployment and underemployment. In the cities, underemployment, and low incomes from marginal activities are likely to be a greater problem than absolute unemployment. This is opposed to the situation found in many collective villages where the absolute lack of employment opportunities, and limited access to large markets where petty trade and similar activities could provide a basic income, has created a situation in which many households have almost no means of support beyond assistance.

Collectives are not the homogenous entities which they are often thought to be. The history of the forced 'collectivization' by Sadam Hussein has created a number of notable differences between collectives. The forced movement into these artificial towns began as early as the mid-seventies (although they were not recognized officially as collective villages until 1981) and continued until as late as 1988. One of the results of this has been that there are differing levels of self-provisioning between collectives; families living in the older ones tended to develop their own livelihoods over time, whereas the more recent collectives contain families who have only been there for a few years and may not have yet developed a means of support. One of the most important means of support found in the villages is, of course, land and animals. For a variety of political and strategic reasons some collectives were established very close to the original villages of the inhabitants with the result that some of the inhabitants of certain collectives are able to achieve fairly high levels of self-provisioning. Nonetheless, the lack of employment opportunities for people without access to land in collective villages is a very real problem.

Conclusions

The groups most severely affected by the scissors effect of rising consumer prices and stagnating employment opportunities are those in the 'bottom line' jobs; the manual labourers; farmhands etc; and those whose salaried incomes while retaining their nominal value, have lost their real value in terms of the basic necessities. However making broad generalisations about large categories of people is problematic without having a real understanding of how these families are coping. One of the primary information needs for planning levels and forms of assistance must be to find out the extent of under- and unemployment in the cities and the collectives and the fallback mechanisms of these people. Similarly, for households outside the formal job market, relying on occasional work, very little is known about the number of days work that people are actually getting and where they are, and therefore the level of self-provisioning that these households are able to achieve. In the formal labour markets - the low paid professionals - questions need to be raised over how they are surviving, whether it is through substantive secondary activities, the clustering of similarly employed people within households, or whether these households are facing unsustainably low levels of income and filling the deficit in the short term with the sales of their possessions. Detailed information about household employment and income can only come from a full household income survey, which within the given time-frame, would be extremely difficult.

B.4 The health and nutritional status of children in Kurdistan, Northern Iraq

Introduction

The nutritional status of children under five years of age is often considered a good outcome indicator of deprivation in the community due to a breakdown in the economic systems (i.e., increase unemployment and underemployment, high inflation rates, etc.) resulting in acute or chronic food deficits. At the household level, food deficits compounded by poor sanitation and contaminated water supply act synergistically to deprive the body of essential nutrients by interfering with the normal digestion and absorption. Malnutrition is, therefore, a significant contributory cause of mortality in such diseases as diarrhea of infectious origin, tuberculosis, measles and whooping cough. Diarrhea, for example, is one of the principal causes of death among young children in developing countries. Similarly, under five mortality rate is often used as

an indicator of the health of a community this being sometimes 30 to 50 times higher than in industrialized countries and it is often related to poor nutritional status.

The nutritional status is usually assessed indirectly by the use of anthropometry. While there is no problem when extreme conditions are involved (i.e., marasmus or gross obesity), there are some difficulties when cut-off points are used to indicate less severe degrees of malnutrition. Originally, cut-off points were derived from percentage of the reference population (distribution of normal growth of healthy children from a representative population). This gave qualitative categories of different nominal levels, such as "malnourished" or "not malnourished" or into ordinal levels such as "severe", "moderate" or "mild". The most notable Gomez classification of weight-for age defines degrees of malnutrition (≤ 90 -76 per cent as first degree; ≤ 76 -61 per cent, second degree; and ≤ 60 per cent, third degree). Such cut-off points neither take into account the 'normal' distribution in a community nor the significance of selecting a particular point to be abnormal in terms of immediate or long-term functional outcomes as regards subsequent morbidity and mortality.

The use of standard deviations from the median is based on the knowledge that anthropometric measurements have a 'normal' Caucasian distribution in an "ethnically" homogeneous population. It is expected that some well-nourished children will be shorter or taller than the average. The chances of their measurements being abnormal increases the further away they fall from the median. The most accepted statistical limits of the 'normal' range is from +2 to -2 standard deviations (sd) or approximately from the 97th percentile (or centile) to the 3rd centile. So that in a normal population 3 per cent of the children may be below the 3rd centile (or -2SD) for weight-for-age or weight-for-height. Below is an approximation of how mathematical percentage levels compares with centiles or standard deviations (Jelliffe and Jelliffe, 1989).

Table 4.1. Mathematical percentage compared with centile or standard deviation

	97th centil (+2SD) (per cent)	Median (reference) (per cent)	3rd centile (-2SD) (per cent)
Weight/age	120	100	80
Weight/height	120	100	80
Height/age	110	100	90
Arm circumference/age	115	100	85

Source: Jelliffe, D.B. and Jelliffe, E.F.P., 1989, *Community Nutritional Assessment With Special Reference to Less Technically developed Countries*, (Oxford Medical Publications)

It is important to note that different measurements have different 'normal' distributions. Weight, for instance, in a healthy population has a wider variation than height, therefore, the abnormal percentage levels for various measurements will differ from their approximation with standard deviation, centiles. For weight-for-age is roughly 80 per cent of the median, but for height is approximately 90 per cent of the median

Another aspect of nutritional indices is their significance in terms of consequences or "functional outcomes". What does it mean that a child is found to be severely, moderately and mildly malnourished? The significance is their association with increased risk of morbidity or mortality in the short term; in the long term, it is related to such outcomes as ultimate adult height, work capacity and cognitive development etc. The Gomez classification using weight-for-age, for example, was initially devised because of the correlation of different "degrees" of underweight with the mortality in hospitalized malnourished children (severely malnourished associated with the highest risk of death). Also, the WHO's low-birth-weight level of 2.5 kg was selected mainly because of the higher mortality levels of neonates with weights below this level. In several studies in developing countries, the cut-off point of about 80 percent (-2SD) of weight-for-age and weight-for-height has been found to be highly correlated with increased risk of mortality.

The three indices of nutritional status (weight-for-age, height-for-age and weight-for-height) reflect different things. Besides indicating risk of morbidity and mortality at a cut-off point X, it is also reflective of the extent to which deprivation has been taking place. For example, low weight-for-height indicates that there is "acute" malnutrition and the children are not getting adequate calories/protein to maintain their normal body weight for their height (child is "wasted"). A low height-for-age indicates chronic food deficit (child is undernourished) compounded by multiple episodes of diseases (child is stunted). Weight-for-age, is less specific, and do not differentiate between chronic and acute. Used together, a child may have a low weight-for-height but a normal height-for-age. This would indicate that the child was well nourished in the past (normal height-for-age) but presently the caloric and/or protein intake is inadequate. Conversely, a child may have a normal weight-for-height but low height-for-age. This would indicate that the child is well fed now, but was undernourished in the past. In addition, these indices combined with other clinical symptoms (i.e., oedema, flaky paint (a type of dermatitis), facial shape (moon shape) and hair discoloration) signal protein deficiency in the presence of adequate calories. This condition is called kwashiorkor. In contrast, a marasmic child (wasted) with no oedema would indicate inadequacy in both protein and calories. It should be noted that these indices reflect only protein and/or caloric deficits and not micronutrients deficits (i.e., vitamins and minerals) which also can contribute to growth failure and increased morbidity and mortality.

Finally, since weight is very labile it changes quickly, the true prevalence of wasting in the community cannot be picked up by one time measurement or in a cross-sectional survey. Diarrhoea, for instance, will drastically change a child's weight within a few hours but will not affect the height. This fact is also true of "kwashiorkor" which has the additional symptom of oedema. In contrast, height-for-age is a measure of linear (skeletal) growth and it is not as easily affected. Therefore, its true prevalence is more easily picked up by a one time cross sectional survey. Multiple serial measurements is needed to detect incidence of both stunting and wasting and the true prevalence of wasting and kwashiorkor.

The rest of this section will look at the available data to determine to what extent the recent history and the socioeconomic picture of present day Northern Iraq Kurdistan presented in the previous section of this report have affected these indicators of community well being. It will also identify data needs which could best be derived from a sample survey.

Mortality

Mortality rates in early childhood should be analyzed in age groups. Some type of malnutrition have a particularly high incidence at certain ages (i.e., weaning age between 13 months to 24 months), so that mortality rates at these specific age-periods have been considered as indicators or "suggestors" of the incidence of certain types of malnutrition (Jelliffe and Jelliffe, 1989). This is because the so-called "pre-school age" period, especially its earlier part, is often a time of combined nutritional, infective, and emotional stress. The high 1-4 mortality rate (12 to 59 months; i.e., below the 5th birthday) is due to an accumulation of infection, parasitism and malnutrition during this vulnerable age group, which is normally characterized by rapid growth and thus high nutritional need.

There is no mortality statistics available for the autonomous region. In Dohuk, a village study conducted in 1992 (Dr. Ilham Haji's doctoral dissertation), to measure the under five mortality using the "last birth" technique, found that under five years of age mortality rate (U5MR) was 105/1000 live births. This compares with 86 for Iraq (as reported by Ilham Haji) and 32.4 (as reported by the International Study) in 1990 and 126.8 for 1991 (International Study). The Haji study found that the major causes of childhood deaths were diarrhea diseases and acute respiratory tract infection responsible for 75% of the deaths, 20% caused by cold injury, typhoid, measles, meningitis and home and road accidents. In 1991, an in-depth study was conducted on health and welfare in Iraq after the Gulf Crises which examined, among other factors, infant and child mortality rates (International Study Team, October 1991). This study found that in the northern

governorates which included the three autonomous regions of Erbil, Sulimanya, and Dohuk and the governorates of Ninevah, al Tamin (Kirkuk), al Gubar, Salah al Din and Diyala, the under-five mortality had increased by 390% from 32.4 in 1990, to 126.8 deaths per thousand live births in 1991. The infant mortality rate rose by 428% from 24 in 1990 to 102.8/1000 live births in 1991. The authors suggested that the greater increase in mortality in these northern governorates as compared with other regions in Iraq, may indicate that the displacement of this population, coinciding with the civil uprisings in March 1991, and the destruction of vital infrastructure may have played a significant role in contributing to the overall childhood death rate.

The withdrawal of Iraqi forces from the autonomous region in October 1991 and the final cut of ties between the GOI's Ministry of Health and the local health system in July 1992 may have had a negative effect on the public health system of this region. In particular, the health information system may have deteriorated to the point that basic vital statistics, such as morbidity, needs, mortality reporting and disease surveillance is very unreliable.

The unreliability of basic vital statistics in Kurdistan, Northern Iraq makes any exercise in determining health risk tentative at best, and one with potential of totally misrepresenting the health picture of the population. As for example, in a study conducted in 1992 in Kurdistan, data collected by the directorates of health indicated that the infant mortality rate (IMR) was 14.1 for Erbil and 15.9 for Sulimanya and the U5MR was 19.3 and 23.7 for Erbil and Sulimanya respectively. This compared with 143 IMR and 111 U5MR for Iraq in general (Morgan et al, 1992). What these data may indicate is breakdown on the reporting of vital statistics which is a common phenomenon in times of upheaval. The report goes on to say that "a lot of the data collected by the statistics department of the MOH showed great inaccuracies" with loss of monthly data supplied to the departments a common phenomenon.

Indeed, the team's requests for such data from physicians and from health statistics units in Erbil were greeted with "we don't have that kind of data" or reluctantly providing some data with many caveats regarding their reliability.

Nutritional Status

In the study carried out by the International Study Team in 1991, (International Study Team, October 1991), the rate of malnutrition was determined for the whole Iraq, by a random sample of 2,902 children registered during the household survey. It was found that 24.7% children under five years of age were chronically malnourished (stunted) having a value of more than two standard deviations below the reference median of WHO/NCHS value for height for age. Only 3.6% of children were acutely malnourished (wasted) with a value of two standard deviations below the reference median for weight for height. Children of weaning age (1-2 years of age) were the most affected with 34.0% stunted and 5.2% wasted. Unfortunately, these data were not desegregated into geographical regions, therefore estimates for the autonomous region cannot be derived; and since there was no nutrition baseline of the situation prior to the conflict no comparisons can be made.

UNICEF, in August 1992 through June 1993, however, conducted a nutritional surveillance program in 6 locations in Erbil which were thought to represent the general profile of the governorate. Children 0-5 were measured every two months. It was found that acute malnutrition ($\leq 70\%$ weight-for-height (wt/ht)) was present on the average of 4.6% with a range of 3.6% to 5.4% from October 1992 to June 1993. Moderate malnutrition (70-80%) wt/ht was present on average of 11.5% with a minimum of 8.6% and a maximum of 12.6% in the same period. Since the mathematical averages were used instead of standard deviations these results are not easily comparable with other data. It should be noted that children under 24 months or even up to 36 months, lengths not heights should be taken. Heights of children of this age are very difficult to take and are accompanied by increased error. Therefore, the figures for children under 24 months maybe an over-estimation at best.

In Dohuk, the Department of Health in collaboration with the Kurdish Medical Society and the Kurdish Save the Children conducted a nutritional survey in July-August, 1993, and found that urban areas were more affected than rural areas. The rates of malnutrition (less or equal to 80% weight-for-height) was 21.7% and 36.5% for rural/urban, respectively. The authors commented that the lack of food resources in urban areas was a principal cause of malnutrition in both areas but principally in the urban areas (DOH, Dohuk, 1993).

In December 1993, UNICEF conducted a 30 cluster nutrition survey in the governorate of Sulimanya, Erbil and Dohuk. This was done because of reports that "the impact of the restriction imposed upon the north appear to have been cushioned by an initial ability of families to dispose of their material possession and that this initial safety net was breaking down". UNICEF initiated a monitoring of nutritional status to plan for intervention. It found that 2.5% were malnourished ($\leq 80\%$ weight-for-height). Children under one year of age constituted 39%; those between 1-3 years constituted 46% while those 3-5 years of age constituted 1.5% of severe/moderate malnourished children (less or equal to 80% weight-for-height). It was found that only 5.9% were severely stunted (4.5% - 7.1%); 19.2% moderate stunted (17.5% - 21.7%) and in the mild category (37.5% - 40%). As expected children between the ages of 3-5 years were more severely stunted (50.3%) and in the moderate and mild categories 51.9% and 42.1% respectively. There appears to be no significant differences between the governorates.

It is unfortunate that these few studies that focused on the three governorates were not standardized in their methods and therefore the results are difficult to compare. If, however, we take the information presented in Table 4 which approximately compares the percentages with standard deviations, we can derive the information presented in Table 4.2. It must be noted that even after these adjustments, these data are still not very comparable because the 1991 data was derived from a country wide survey, Erbil and Dohuk was from very purposive samples and UNICEF was '30-cluster' representative for all three governorates. Regardless, one can see that acute severe/moderate malnutrition rates were very similar in 1991 and 1993 (30 cluster). These rates are very close to the 3% expected in the normal distribution of the reference (NCHS/WHO) population.

The discrepancy between the results of the 30-cluster survey and that of the Erbil and Dohuk is difficult to explain. However, we can speculate the following: First, that the Erbil and Dohuk data were collected in the summer months when there is an expected higher incidence of diarrhoeal disease among children of this age group. This can contribute to increased wasting. Also, the 30-cluster survey reported low rates of diarrhea. Second, the Erbil and Dohuk data surveyed children in areas where greatest deficits were expected. The 30-cluster survey was not analyzed by cluster, therefore, cannot identify if certain clusters were more affected than others. The 2.5% prevalence of severe/moderate acute malnutrition should be interpreted in the light of the possibility that most severely malnourished children may have already died. Without mortality data this remains speculative.

Table 4.2. Children 0 - 5 years of age.

Less or equal to 80% weight -for-height or less or equal to -2SD
 (Less or equal to 90% height -for-age or less or equal to -2SD)

Study	1991	Oct/92	Jun/93	July-Aug/93	Dec/93
Int'l Study whole Iraq	3.6% (24.7%)	-----	-----	-----	-----
UNICEF surveillance Erbil	-----	12%(24.7%)	18%(29%)	-----	-----
DOH surveillance Dohuk	-----	-----	-----	21.7% rural 36.5% urban (39.6%) ²	-----
UNICEF 30- cluster three governorates	-----	-----	-----	-----	2.5% (25%)

Indeed, there is some anecdotal evidence that suggests that infant and child mortality rates might indeed be quite high. In the Nutritional surveillance program conducted from August 1992 to June 1993 in Erbil governorate, the low rates of acute severe malnutrition (weight-for-height below -2SD of medium WHO/NCHS value) was thought to be due to deaths of severely malnourished children. It was reported that "some mothers reported the death of their malnourished children after an attack of diarrhoea or chest infection" or that "some mothers reported deaths of their severely malnourished children as a result of measles and chest infections" (UNICEF Erbil, August 1992 to June 1993).

In contrast, the rate of stunting appeared to have varied very little. As was discussed previously, the prevalence of stunting is more easily picked up by a cross-sectional survey than wasting. The data reported in the 1991 survey indicates that a component of the malnutrition predates the crisis. With no baseline it is difficult to determine what is the real increase due to crisis.

Humanitarian Aid and a View from the Community

The higher rates of acute malnutrition reported in Dohuk and Erbil surveys may reflect that there are pockets of population in the community which are being severely affected. Hospital reports, both in Erbil and Dohuk, indicate that the majority of their pediatric admission are diagnosed with malnutrition. Further, physicians reported that marasmic children now common, were a rare event in these hospitals.

² No data on height-for-age was reported, this figure is weight-for-age

Hospitals and other health facilities are targeted for food aid. A child admitted with malnutrition is automatically enrolled in the "therapeutic" food distribution program. At the time of the team's visit there were 150-200 children enrolled in this program. After discharged from the hospital, children are monitored every two weeks and continue in the program until they are 80% weight-for-height in two succeeding measurements. Note that this is the cut-off point separating moderate and mild malnutrition, a child left without monitoring and/ or supplemental foods may easily regress to the severe malnutrition state. The team visited the pediatric hospital in Erbil. The day of our visit about twenty mothers with their children were attending the bi-weekly visit of child follow-up after being discharged from the hospital. During these visits children are weighed and mothers are counseled on the health and nutritional status of the children. The team interviewed three mothers with malnourished children. An analysis of these case studies indicated that in one case the child became marasmic because she was exclusively breast fed until 8 months and subsequently stopped because of mother's illness and fed only rice water. In the second case, illness of the head of the family had forced them to sell their house and possessions and move in with some relatives in a collective village. In the third, the family lived in a collective village near Erbil city and their only source of income was the father who worked as street vendor. In these analysis therefore, in only one out of the three families can the malnutrition be said to be directly related to the economic situation (i.e. underemployment). The other two may have been confounded by father's illness (although if the family was receiving the full GOI ration this condition may have been mitigated) and perhaps poor weaning habits.

Several other factors could possibly be acting to mitigate the rates of malnutrition in the region. These are: 1) water supply; 2) sanitation; 3) and general health of the population. The team found that although the majority of the water and sanitation systems in the region had been destroyed, since 1991 with the UNHCR presence and subsequently UNICEF in April 1992, major progress was achieved in restoring these systems to their previous capacities. The restoration of these systems have taken place in the cities and the rural areas. Support to urban areas has been in terms of building the capacity of the local government in maintaining, planning and managing the water and sanitation systems. In rural areas, the reconstruction of the water and sanitation systems accompanies the rebuilding of houses in villages which had been destroyed. According to the UNICEF Water and Sanitation Advisor in Erbil, in 1993 water supplies and sanitation systems were restored in 278 and 117 villages respectively. In 1994 there are plans to restore 350 and 150 village with water and sanitation systems respectively. In 1993, 70 % of all the houses in the cities had water supply in their homes, and 27 % in rural areas. Regarding sanitation, 50% of the urban homes had a septic tank and 23% in the rural areas had septic tanks or latrines. Adequate supply of water of good quality is available to 70% of the households in the cities. The other 30% access water at the nearest pump or faucet and the supply and quality may be less adequate. The UNICEF Water and Sanitation Advisor informed the team, however, that water supply in the collective villages is mainly by deep wells and both the quality and supply is diminishing since presently there is reduced support in the collective villages because people are moving out. The water quality is also closely monitored by the Department of Health, and water is chlorinated with the assistance and support of UNICEF.

According to Dr. Ashwaq, Medical Advisor to UNICEF in Erbil, the general public health profile of the population is a good one. The Department of Health assisted by UNICEF has been closely monitoring cholera and to this point they have found no real problem. Similarly there has been no major problems with typhoid, hepatitis nor diarrhea. The incidence of diarrhea, according to Dr. Ashwaq, follows a normal cycle of increasing in the summer and decreasing in the winter. This situation is apparently similar in the other governorates.

In Dohuk governorate the disruption of electricity initially was accompanied by a dramatic increase in the incidence of water borne maladies. The immediate, deliberate and effective way in which OFDA and UNICEF responded to this emergency by providing adequate numbers of generators and back-ups prevented what could have been a major disaster. Similarly, the total

impact of the UNICEF's support to the public health system needs to be assessed. The support of UNICEF and other international NGOs appears to have been crucial and the absence of which the health profile of this population may perhaps have been quite the opposite. In the same vein, the presence of WFP and other international NGOs' food distribution programs, the supplementary feeding programs and the therapeutic feeding programs throughout the three governorates may have had a tremendous effect in mitigating the immediate effects of severe economic deprivation.

Conclusions

The situation in Kurdistan, Northern Iraq is quite different from other crisis situations in some developing countries. Before the crisis people were generally well off and endowed with substantial economic resources. In the past twenty years the health and nutrition situation of the people of Iraq had improved considerably due to the oil wealth, the investments in food subsidies, social programs, access to high quality water, sanitation and education. The preceding sections have indicated a progressive gradual deterioration in people's ability to obtain basic needs. The health and nutrition indicators may be reflecting that for a proportion of the people their basic needs are being adequately met through a series of household coping mechanism (i.e. sale of assets, increased activity in the informal sector), donations and income transfers while being vulnerable on most other dimensions. The higher rates of acute malnutrition in Erbil and Dohuk may indicate that in the lower socio-economic status the "safety net" may have bottomed out.

In summary, the general nutritional and health status of the pediatric population of Erbil, Sulimanya and Dohuk as presented by the available data is tentative. Serious nutrition and health problems may exist in pockets of population living in precarious situations in the collective villages, refugee camps, hard shelters and inner cities. The role of humanitarian assistance might have been substantive in mitigating this outcome in the short term. The data available do not adequately assess the nutrition and health status of populations in these conditions nor does it elucidate the process of progressive "erosion" of a household's resource base in the general population. A sample survey, with provision for a monitoring of nutritional status of the general population can be more useful in elucidating the situation, in particular, it might help to answer the question of how pervasive the nutritional problems are in the general population. It is highly recommended that length of children should be used instead of height for children 24 months and younger.

B.5 Coping with Crisis: Household Responses, and possible indicators of vulnerability

Kurdish Household Structure

The understanding of the socioeconomic and household structure of present day Kurdistan is of importance as it may elucidate the hidden dimension of the household coping and support mechanisms which may allow a family to adapt to the adverse economic conditions.

The household here is defined as all those cooking and eating together. Usually a household consists of a nuclear family, although there are increasingly signs of households growing in size with dependent families moving in and being supported by a related family. In poorer areas of the cities, there is also anecdotal evidence that the number of households containing two or more unrelated nuclear families is increasing.

Prior to the crisis a newly married couple would move into their own accommodation fairly shortly after marriage and become recognized, officially and socially, as an independent household. However, in the current economic situation young couples are remaining in the home of the husband's parents. If work is available then this may be beneficial to the household as a whole; if it is not then the additional family can become an extra burden upon the income earners of the household. Generally, within the household, all the families will contribute a certain percentage of their income for household expenditure .

The dependency rated within the Kurdish households shows typical life cycle effects; increasingly high in the first ten to fifteen years of marriage as children are borne, decreasing thereafter as the children reach a working age (Director of Sociology, Salahaddin University, pers comm). However, currently the high rates of unemployment the limited state transfers to the unemployed and the trend toward extended family households may well result in economic dependency ratios (actual income earners to household size) having little relationship with life cycle stage.

The institution of marriage is important for maintaining control over resources and marriage partners are sought within the extended family itself or within the tribe. The main reason for this is to keep the wealth, especially land, within the family. Cousins are the more desired partner, followed by tribal members and persons from the same town or city. The groom's family pays a dowry to the family of the bride. The amount of dowry is set when the groom proposes. This dowry is given in two stages. The first is payable at the time when the couple is legally married and the marriage certificates are signed. If the bride's family is well off, they may use the dowry to buy household items or clothes for the bride, otherwise her family usually uses the dowry to marry off another son or for the father to take another wife. The second dowry is set in gold liras (the old Ottoman coins) and it is only given to the bride in the event of the couple's divorce. The settlement of this second dowry, however, is between the husband and the wife.

Household Responses to Crisis

In attempting to measure household vulnerability, the way in which households respond to a crisis must be understood, both in order to take into account the ability of households to successfully adapt to or cope with changed circumstances as well as to identify indicators which could potentially be used to quantitatively measure the degree of stress households are facing. The literature on household responses to crisis tends to divide household responses into three or four categories: risk management or insurance strategies (those preparatory strategies intended to minimize the potential impact of shocks to livelihood systems); adaptive strategies (adaptations in livelihood to cope with changed circumstances); and survival strategies (short term and often unsustainable responses to crisis). In order to identify potentially useful indicators of household vulnerability, the following sections use this framework to look at the way in which households are coping with the current economic crisis.

A. Household Risk Management / Insurance Strategies

In all societies, households adopt a variety of strategies in order to manage the level of risk to which they are exposed. A risk may be defined as the probability of a certain event occurring that would have a negative impact upon the ability of the household to maintain its standard of living. Risk management strategies have two faces: strategies aimed at reducing exposure to risk (i.e. maintaining diverse sources of income, avoiding reliance on a single crop etc.); and strategies minimizing the impact of a risk on the household should it materialize (e.g. through taking out insurance; building up savings; maintaining grain stores etc.). One method of analyzing the vulnerability of household is to examine the way in which that household avoids risk and minimizes the impact of shocks. In the context of the Northern region, there are several easily identifiable, although not well understood, forms of risk management: the maintenance of grain stores and mechanisms of mutual support within and between households.

Grainstores

The maintenance of grainstores is an institutionalized part of the culture of Iraqi Kurdistan, stemming from the long agrarian history of the society. In normal times, all households, from small farmers to wealthy urban merchants, keep substantial stores of grain. Typically, just after harvest, the head of a household will purchase enough wheat grain to last the entire household for one year with some extra for emergencies. In the cities, it is common for neighbors and relatives to get together and rent or borrow a truck and travel to an area or farm where they have heard there is particularly good grain and buy directly from the farmer. Some families will return to the same farmer year after year, and some may wait until the grain harvest begins to appear in quantity in the markets. The purchased grain, which may be up to three-quarters of a metric ton is usually divided into four parts during the Autumn by the head of the household: the first part is taken off for milling and becomes the household's supply of flour, the second is set aside for making cracked wheat; the third is set aside for making Ganmakota, husked cracked wheat, from which a traditional porridge is made; the final part of the grain is set aside as an emergency supply (Asso Ibrahim Abdullah, Director of the Department of Sociology, Salahaddin University, pers comm).

The household's grainstore has a kurdish term, 'Zakhera', which specifically implies the family's food basket for the year. For most people wheat grain is the only component of the zakhera, although livestock owners will also commonly buy barley. There is anecdotal evidence that urban households have taken to buying barley for the zakhera instead of flour.

In normal times the maintenance of the family's zakhera is thought to have been nearly universal and for wealthy urban families more driven by tradition than by the need to insure against future calamities. Whether or not this was the case is irrelevant in the current economic situation. Most people are fully aware of the continuously growing food prices, and realize that it makes economic sense for the household to purchase grain in bulk at harvest time when grain prices are at their lowest, or at least at their lowest rate of increase. The lack of the zakhera in a household, or the existence of an insufficient one, is indicative of two aspects of the household's vulnerability. Firstly, the lack of a grainstore reduces the household's ability to maintain levels of consumption following future shocks, corresponding to an increase in the household's current vulnerability. Secondly, the household's inability to purchase their zakhera in the first place is indicative of a change in a household's underlying or baseline vulnerability. To give an example, if a household has bought grain in bulk at harvest time in the past, as a measure of protection against rising prices, but external factors such as the loss of the main income earner make it unable to this year, the present lack of the zakhera reflects two changes. Firstly, without the zakhera, it is less able to cope with shocks in the future and vulnerable to rising prices. Secondly, given that it used to keep a grainstore, it reflects a dramatic change in the status of the household (the loss of the main income earner).

Thus knowledge about whether or not a household used to keep a grainstore, and whether or not it does now, allows the measurement not only of the absolute levels of people vulnerable to price fluctuations, but also trends in the vulnerability status of the population.

Mutual Support Mechanisms Between Families

Insurance companies in 'modern' societies are a formalized version of a much older form of risk management; the pooling of risk between households within a community. In traditional agrarian societies risk pooling is commonplace, finding its form in reciprocal action arrangements, or mutual assistance. The maintenance of strong familial/community ties means that in times of crisis kin and/or neighbors can be called upon to provide assistance or support and can act as an effective informal 'safety net' against destitution.

Iraqi Kurdistan finds itself in a half-way house between the highly traditional livelihood systems (frequently referred to as 'feudal') in some of the mountain villages and modern urban life. Consequently, the extent and effectiveness of informal social 'safety nets' is extremely difficult to assess. One of the most obvious forms of informal assistance is the Islamic redistributive tax, or zakat - an institutionalized form of intra-community mutual assistance. Under Islamic law, families who have held or sold (but not consumed) tradable goods or money more

than the value of 95 grams of gold for at least one year, must pay at least 2.5% of the value of this surplus to poorer members of society. Currently this 'cutoff' point is approximately equivalent to 66,500 OID, or around 5MT of wheat grain. Thus even a relatively small farmer who produces, say, 7MT from a six hectare plot may be liable to pay zakat. For poorer members of society, the receipt of zakat may be a substantial transfer of income either in cash or in kind. In interviews with a small sample of poor households in collectives and urban areas, all had received zakat payments at least once in the last year. The size and type of assistance received varied from small payments of 50 OID, to large, and correspondingly valuable payments in kind. One woman had received 150kg of wheat grain from a farmer in a neighboring village (whom she did not know). This was enough to last her family for between two and three months.

Zakat is the most institutionalized form of mutual assistance, and therefore the easiest to measure. However, less easily detectable, but equally important forms exist in the region. Most important in measuring the relative vulnerability of different groups is kin assistance. One form is lending money between relatives. Under Islamic law, usury is prohibited, consequently debts accrued by one family member to another are not 'debts' in the normal sense. A number of households interviewed reported having debts, but probing revealed that these tended to be debts to close relatives, to be paid back 'when <they> have the money'. The expectation of repayment of money lent to close relatives is probably relatively low and consequently constitutes direct support, sometimes of considerable magnitude. Box I presents a breakdown of a poorer household's income and the extent of support that family 'debts' and other donations have provided. In the case presented, zakat and loans from extended kin provided nearly 40% of the family's income at the time of the interview.

Thus, there are a number of conceptual difficulties in interpreting debt as a sign of extreme vulnerability. Firstly, it may be the case that inter-household lending is on extremely 'soft' terms, and actually represents direct income support capable of stopping a household from ever failing to meet its basic needs. Secondly, it is common for farming households to go into debt for production inputs, which may actually be a healthy sign of agricultural recovery (see the case study of Balisan village, appendix 1). Thirdly, the poorest families and the destitute may not be in 'debt' because, quite simply, they do not have richer relatives to borrow money from.

Box 1

Goli Ishmail lives in one of the poorer neighborhoods of Erbil with her husband and five children. Her husband is now working as a waiter in a coffee shop where he is paid 15 OID per day, although during Ramadan the shop is closed so he is not earning anything. At the time of the interview her husband was out trying to find a few days work as a laborer. He has been working in the coffee shop since the uprising, but since the GOI ration has dwindled, the family has been looking for other sources of money. Goli takes in sewing from her neighbors from time to time adding about 7 OID to the family's income every month. Besides this the family has received some money through the zakat and some money from selling some of their possessions. Goli reported that in the last year they had sold their ceiling fan, carpet and a kerosene lamp. The only things they had left of any value was their kerosene stove and Goli's sewing machine.

She has always managed to give her family three meals a day, although they often go for long periods with no tea in the house. The most significant changes in the food that she prepares over the last couple of years has been the introduction of barley into their diets (because it is much cheaper than flour). She mixes 9kg barley with 2kg wheat flour to make bread. While she just about covers food costs, in order to meet contingencies, Goli has had to borrow money from her uncle (a farmer) and her brother (a fridge salesman). She has built up 'debts' of about 4500 OID with them over the last year. At the time of the interview she had no cash whatsoever as she had just bought a tin (14kg) of barley.

Goli described the family's consumption as follows (the figures have been manipulated to fit cost per week):

Approximate Income, Food Expenditure Estimates for Goli's Household

Commodity	Kg/week	Approx. cost (OID)	
Wheat and Barley	14	60	
Sugar	0.5	13	(This figure is believed to be too low, but was quoted by Goli as all they could afford)
Onions/potatoes	1	7	(2kg maybe once every two weeks)
V. oil	0.7	35	
Wild grasses (Kardy or Torka)	9	27	
Tea	0.25	20	(highly irregular - .25 guesstimated)

Total Food Expenditure:

Basic Income:	(Approx. OID/week)	
Coffee Shop Job	90	
Sewing (guesstimated)	2	
Income from other sources from Zakat and donations	2	(avrg over year)
Borrowing	63	(averaged from the 500 OID she has borrowed since new year)
Food Assistance (once only Feb '93)	10	(50kg wheatflour 3kg v.oil; 7kg lentils costed at Feb '93 prices & avgd over the yr)

Total Weekly Income over year: 167 OID/week

There is one further, and more insidious element in the question of consumption 'debts'. A discussion of the problems of debt with households living in hard shelters around the parliament building revealed a practice, common in other countries, but thought to have died out in Iraq; working for someone else in low paid work in order to pay off consumption debts to the employer. This practice, termed Rangber, was disliked by all present, but was thought to be quite common. As Islamic law forbids usury, a variety of methods are employed elsewhere in Islamic societies to overcome this restriction. This includes credit for work not yet done, leading to a highly unequal power relationship between employer and employee, as in the example above: credit in exchange for goods not yet delivered with the price fixed in advance (and usually low); credit given by landlords to tenant farmers with certain 'conditions' relating to the land-use practices of the farmer;

and so forth. Apart from 'work for debt', the existence of other similar practices in N. Iraq is not known.

The level of household debt as an indirect indicator of household stress may potentially be fairly useful, however it will be extremely difficult to interpret in a satisfactory manner without detailed background information. A clear distinction needs to be drawn between debts incurred for consumption and debts incurred for productive activities (i.e. borrowing for capital to go into trade; to buy farming inputs: livestock, etc.). For consumption debts, distinctions also have to be made between debt with 'soft terms' between relatives (which may simply be direct income support) and consumption debts with harsher terms, like *rangber*. The latter, while providing some level of short-term household support, places the household in a far more tenuous situation than money lent by relatives.

Direct support, beyond monetary support, may also be a significant factor in reducing household vulnerability. Traditionally, if a man's brother is killed or dies, the man is obliged to support his brother's family; his sister-in-law and her children, and frequently they will move into his house. In rural areas, this will also include taking control over his brother's land, in order to support the additional family. The violent history of the region has created many fatherless families, and the 'anfal' widows are frequently and justifiably targeted for assistance. However, given these arrangements, the level of informal external support they receive may well be under-estimated. There is a flip side to this; although the economic impact of the loss of the father may be dampened by inter-family support, it will of course be at the expense of the supporting family which now has a much larger number of dependents. In lack of hard quantified data about existing household structure and levels of informal support to fatherless families, it is impossible to draw any firm conclusions beyond speculation.

There is clearly a need for a better understanding of the nature of inter-household redistributive mechanisms and level of support that they provide. It is possible that many families who would be classified as highly vulnerable may well be prevented from failing to meet their basic needs by these informal safety-nets for some time to come. However, there is one aspect of risk management theory which suggests the possibility of a disturbing process. Where repeated shocks affect all members of a community equally, redistributive mechanisms within the community, by definition, cannot be sufficient in the long run as the resources needed by an affected household cannot be provided by another facing a similar crisis (Das Gupta, 1993). It has, for example, been found that in Sudan, community redistributive mechanisms effectively hid a serious crisis for some years until community resources were exhausted and the full magnitude of events was revealed in 1984 (Pyle, 1992). While Iraqi Kurdistan can hardly be compared to the Sudan, the economic crisis is clearly affecting large sections of the population and informal mechanisms of support between relatives may be one element of a mosaic which is keeping the most vulnerable from destitution. They cannot be expected to last forever.

B. Adaptive and Survival Strategies in Response to Crisis

Risk management strategies at the level of the household, like keeping grainstores, building relations within the community, maintaining strong relations with extended kin, are about anticipating crisis. In the context of Iraqi Kurdistan and the continuing economic crisis, the question becomes what are households doing now? Beyond the increased use of inter-household support mechanisms, outlined above, the ways in which households are coping can roughly be divided into two; adaptations in household livelihoods and crisis responses to meet immediate income consumption deficits.

Adaptations in household livelihoods are most evident in the cities where there is a greatly increased incidence of petty trading; begging; and participation in other marginal activities. As suggested in section B.3, some caution needs to be taken in interpreting all informal activities as 'marginal'; many, particularly trade in larger quantities of foodstuffs, may be relatively lucrative. Nonetheless, the team's general discussions with different groups tended to indicate that the crisis

is growing and that not only the "well known" groups are at risk. The following is suggested from an analysis of the changes in livelihoods taking place. First, it is becoming increasingly evident that the displaced from Kirkuki, the refugees and other 'well known' vulnerable groups are not the only ones or even the majority engaged in marginal activities, or making other changes in their ways of life. The results of a rapid market survey and household interviews carried out in Erbil indicate that the poor from Erbil and perhaps some civil servants are engaging in these activities as a way to obtain income. Similarly, there is some evidence indicating that some Erbil residents are finding themselves homeless or in temporary accommodations; a situation which has been "exclusively" characteristic of the displaced. Second, it is also evident that present day Kurdish women, akin with their sisters throughout the developing world, are household managers of the "last resort" that is, in times of hardship it is they who provide the ultimate safety net by doing whatever it takes (e.g. begging) to get some hot food on the table. Third, these behavioral indicators may be reflective of stress not only in the very low socioeconomic groups but in the population in general.

Behavioral indicators, such as occupation, or income earning activity, have been used to target assistance in the past (for examples, see section B.6). If they are used in the future then several questions need to be answered by the household survey in relation to changes in the ways and means of living: what activities are truly marginal and fail to provide sustainable incomes?; and how many people are moving into these activities?

If changes in the way a household provides for itself fail to enable it to meet immediate consumption requirements, then the household can only draw upon the assets and resources it has available to fill the deficit. Swift (1989) provides a useful framework for understanding what resources families are able to draw upon. He argues that household resources can be divided into three categories: investments; stores and 'social credits'. When households are able to generate a surplus over and above their basic needs, the excess resources are diverted into expanding this resource base. Investments refer to productive assets (e.g. livestock, cars bought for commercial use, education of children etc.); stores refer to any store of value that a household accumulates (e.g. jewelry, grainstores, TVs, personal possessions etc.) and social 'credits' are those described in the preceding section (e.g. at the household level building up close ties with kin for mutual assistance, or at the societal level institutionalized mechanisms of support in religion zakat - or in law - social security). If a household becomes unable to meet its present consumption needs through own production or wage labor, it will draw upon these resources; selling stores of value, liquidating investments, and relying on assistance from other households.

The process of mutual support between households has been described in the preceding section: seeking out credit from friends or relatives, drawing on family support and seeking zakat. The other set of elements in the mosaic currently supporting families with unsustainable incomes is the liquidation of assets and investments. There are a large number of stories of people selling personal possessions, household items and even the structures of their houses. It is, of course, impossible to assess the extent of this without any quantified data, although clearly it is not an insignificant proportion of the population. Most of the relatively small numbers of households interviewed by the authors had sold at least some items to meet the basic cost of living. The case study presented in Box 1 is a typical account of the possessions sold off by a family - basic items like carpets, fans, lamps and so forth. There are more extreme cases where the basic means of household survival have been sold. The case study in box two describes a man forced to sell his basic source of income; his car.

Box 2: An Erbilian family living in a hard shelter near the Parliament

This household consists of 16 people: a man and his second wife, his eight sons and four daughters aged between three weeks and 25 years old (the youngest was the child of his second wife) and his oldest son's wife and child. The family had been living in Erbil for about 20 years after having been moved from their village, following the creation of the *cordon sanitaire* on the Iran-Iraq border. They had been renting a house in the city center until just after the uprising, when their landlord put the rent up. They began by selling their household possessions, a refrigerator and eventually their furniture. After some time, they ran out of money again and the man had to sell his taxi - his only source of income. They heard about some empty buildings around the Parliament where the Kirkukis were and decided to move there.

The distress sale of household assets to obtain money for immediate consumption (i.e. not for investment) has two clear implications for vulnerability. Eventually there will come a point where the household will begin to sell assets which will have long term implications on the ability of the household to obtain a living in the future. This is exemplified in the above case study; the sale of the household's most productive asset, the car, has irreversibly altered the household's ability now and in the future to obtain a basic livelihood. This represents an extreme case but the analysis could also be applied to: household's who are now unable to send their children to school because of the costs (they have effectively reduced their chances of obtaining a good income in the future); families selling their accommodation (they will now have to pay rent, reducing their real income and their long-term ability to obtain basic needs); and even to a household selling its last kerosene cooker/heater (they may now have to rely on wood, which involves extra labor time spent in collection which could be directed elsewhere). Many households have probably already reached this stage in the process of surviving, and even if the economic crisis were to end tomorrow, they would still face the longer implications of their actions.

In the shorter term, the ongoing crisis is depleting the asset base of households. The Northern region shows clear signs that the latter situation is occurring for large sections of the population. The sustained economic crisis and the extremely limited purchasing power of non-producers has created a situation in which people are relying on resources built up prior to the Gulf war. If the economic crisis continues, without external support, these resources will inevitably be exhausted and a new more immediate human crisis will begin.

Implications for Measuring Vulnerability

In looking at the way households are dealing with the current situation, this section has drawn out several potential measures which may indirectly indicate the level of stress that a household is facing (debt, grainstores, asset sales) and several factors which should be taken into account and controlled for in assessing vulnerability (inter family support, and 'soft' term loans between relatives). However several points need to be emphasized.

Most of the analytical work on insurance strategies, household responses to crisis and asset liquidation is based on pastoral and agricultural societies in marginal environments, however some useful parallels can be drawn. Firstly a number of authors have described the existence of a sequence in which assets are liquidated (e.g. see Corbett 1988) beginning with stores of value, (e.g. gold, jewelry etc.), moving through nonessential household possessions, to investments (or productive assets, such as the example of the taxi above) and the basic means of production. In the context of relatively homogenous agrarian communities, the sequence of disinvestment is a good early warning indicator. Using asset based indicators in the Northern region of Iraq, given the urban wage-labor based nature of the crisis, is more problematic. Questions over what constitutes essential versus non-essential items have to be raised, and interpreting the motivations of a household selling a particular asset is particularly complex; are They 'playing' the market or selling out of sheer necessity? Nonetheless, if a basic understanding of what type of sales constitute distress sales, and what type of items would be the last to be liquidated, Then a household's assets

and the sales it has had to make become particularly good indicators of the vulnerability status of the household (for example the sale of the household's carpets or of the only stove have already been used as indicators of extreme poverty, see section B.6). To this end, it will be important for any attempt to identify distinct characteristics of vulnerable groups and to make absolute measures of vulnerability, to attempt to measure the asset base of the household, and the type of sales it has had to make. Part C suggests ways in which asset sales and current resources might be rapidly measured for formal analysis.

Secondly, the literature provides clear evidence that informal redistributive processes act as buffers for poor households, and will slow down the process of destitution. However it also suggests that these mechanisms cannot be sustained in the face of prolonged crisis. Given the lack of knowledge about such mechanisms in Kurdistan, there is a need to identify and measure the extent of these support systems. If they are extensive then they must be taken into account in measuring a family's income and potential vulnerability status.

Thirdly, the lack of a grainstore as an indicator of vulnerability in an urban society does not have the same connotations as it does in a poorly resourced agricultural society; the grainstore is of considerably less importance in the former. Consequently, it is likely that the lack of grain stores may not provide an accurate indication of the levels of vulnerability (it will overestimate them) unless complemented by a variety of other indicators. On the other hand, knowledge of the numbers of people who have not been able to buy stores this year compared to last year, will give an extremely good indication of the trends occurring, and will enable the identification of groups who are becoming more (or less) vulnerable. Moreover, unlike many poorly resourced agricultural societies there are relatively few taboos over asking about the amount of grain a household has at its disposal (like asset sales, the nonexistence of grainstores has already been used as indicator of poverty in Iraqi Kurdistan, see section B.6) Before a formal quantitative survey is carried out measuring asset based and other indirect indicators of household stress, it is recommended that:

1. informal focus group discussions are held with households perceived to be at risk, specifically to identify the precise nature of family 'debt', and at what point it moves from simple income transfer to unsustainable borrowing, to enable the accurate interpretation of debt based indicators;
2. informal focus group discussions are held with households perceived to be at risk in different situations (urban, collective village, rural) to identify and rank different categories of household resources according to their perceived importance to the household and to distinguish non-essential and essential resources.

B.6 Defining and Measuring Vulnerability

Introduction

In looking at the economic situation facing households in the Northern Region and by examining the methods used by households to cope with deficits in income, a picture emerges of a deteriorating situation for non-producers and households outside the food processing/trading industry who are unable to maintain their purchasing power by holding tradable goods linked to the price of the dollar. Families have adopted a variety of strategies to attempt to maintain their purchasing power, and some households may have been successful for the time being. However it seems likely that many of these strategies are either inadequate or unsustainable, and although they may be maintaining present consumption levels, this is at the cost of their future vulnerability and future consumption levels. The strategies which have been observed elsewhere in the report are summarized in Table 6, together with potential outcomes.

Table 6.

Shock/Trend	Household Response	Outcome
High/Rising Prices Limited Employment Opportunities	<i>Moving into other activities</i> Secondary activities for fixed income earners	Reduced productivity in primary activity (a very real problem currently facing the civil service)
Low/Unsustainable Incomes Under-employment Elimination of state supported food subsidies	Petty trading Sending children out begging, selling small items <i>Relying on Assistance</i> Claiming <i>zakat</i> Support from relatives Borrowing <i>Disinvestment</i> Personal Possessions Productive assets <i>Changes in Diet</i> More bulky, or cheaper Less food, less often	High risk, requires start-up capital which can easily be lost Reduced school attendance, poor education, etc. None Erosion of extended family's asset base Decreases ability to maintain future levels of consumption (increasing current vulnerability) Gradual erosion of household asset base, decreasing ability to maintain levels of consumption in future (increasing current vulnerability) Loss of household's livelihood (increasing baseline vulnerability) Less dietary variety foodstuffs Increased risk of malnutrition, morbidity/mortality

In order to understand and interpret the standard indicators of vulnerability, the crisis in the Northern region must be seen as a process in which large sections of the population are becoming increasingly vulnerable to household food deficits. Prior to the Gulf war, it would not be an understatement to describe the people of Kurdistan who are now facing the most severe difficulties, as essentially 'middle class'. They had a good resource base, in terms of personal wealth (cars and TVs and air conditioning systems were the norm), a strong currency (prior to 1991, 1 OI bought US\$3 at official rates), and an efficient public provision system, providing food, health care and education. The situation in which they now find themselves is one in which the public provision system is gone, food prices are spiralling, incomes have stagnated and employment opportunities have been severely reduced. Real incomes of salaried workers, in terms of food purchasing power, have declined to just a third of the 1992 levels.

The people most exposed to the economic crisis and the urban dwellers on fixed incomes, the assetless displaced, the unemployed, the landless and households with no income earners. Their reactions have been multiplicit and most are 'coping' for the time being. However there is a real danger in describing the way some households are managing as 'coping', because the term implies a positive action which will have no future negative outcome; for many people who are 'coping' now, this is not the case. It is useful to distinguish three classes of response - adequate and sustainable, adequate but unsustainable and inadequate. There are certainly some households which have responded to the economic crisis in ways which maintain an income sufficient to meet basic needs, although it may be well below their previous standard of living (an example might be civil servants with cars, now adequately coping by moonlighting as taxi-drivers). If these strategies and adaptations continue to maintain income more or less indefinitely, then they are sustainable and such households are not currently vulnerable. However, a second group of households are maintaining an income that is sufficient to meet basic needs by using strategies which are not sustainable. For example, households using the sale of assets to make up the income-consumption deficit will come to a point at which they will no longer have assets to sell. Similarly, when the strategy involves building up consumption debts, there must come a point at which those debts must be paid back or at least the source of lending dries up. Finally, there is a group of households which are currently unable to generate an income adequate through any means to meet their basic needs and may be 'coping' by eating less, less often and would be expected to show signs of nutritional stress. This group can be expected to increase in size over time, as increasing numbers of households exhaust their resources in attempts to maintain consumption levels.

There are currently no estimates of the numbers which could be placed into these categories, and one task of the household survey could be to shed some light on this. Our experience suggests that a significant proportion of the population in urban areas may be maintaining their income through unsustainable strategies. In the most recent UNICEF survey, levels of child malnutrition were found to be surprisingly low, suggesting that the number of households currently unable to meet basic food needs is small. However, it is clear that there is a process of impoverishment occurring which will mean that the number of households with inadequate incomes will increase over time as unsustainable strategies come to an end.

Levels of Vulnerability and the Identification of Potentially Vulnerable Groups

It is safe to assume that after three years, the lower socioeconomic groups and especially those who were dependent completely on public welfare system, have exhausted most of their assets and have become or will shortly become destitute with family members increasingly ill and exhibiting signs of malnutrition. Joining this group are the recently displaced people, the widows, the ill and the aged with no other family support. These households have no asset base to draw from with incomes below subsistence. Households in this stage would be those considered to be "highly at risk" and might be characterized by but not limited to the following:

1. households with children enrolled in therapeutic feeding programs and/or with children identified with malnutrition or ill as defined in section B.4
2. households with no continuous incomes. No adults (over 15 years of age) with a job and renting their dwellings
3. households with no male head and with children under 12 years of age and renting their dwellings
4. households living in refugee camps, "hard shelters" with no continuous incomes
5. households living in "collective towns" with no access to land and no continuous income and renting their dwellings
6. households with a least one member engaged in a marginal activity with high dependency ratio and renting their dwellings.

The second stage are those households who are currently drawing on assets to meet consumption needs or are building up consumption debts. These households are considered to be at "moderate risk" and may be characterized by, but not limited to, the following:

1. households with a least one member engaged in petty trading with high dependency ratio and own their dwellings
2. households with a household head in a lower ranking civil service job with no other income and high dependency ratio
3. newly appointed civil servants (i.e., teachers) away from their village or city of origin with no access to land and renting their dwellings

The third stage are those households who are just meeting consumption requirements on a day by day basis, but have not yet started the process of disinvestment. These households may be characterized by but not limited to the following:

1. households who are newly resettled villagers who have not yet harvested their first crop
2. households with a least only one household member engaged in petty trading but with low dependency ratio

In practice, it will be difficult to accurately classify households into these three categories, but they represent the broad distinctions that need to be drawn in order to target food aid and to determine the level of aid required. It would unarguably be agreed that food aid should be targeted at the first group of households (the highly vulnerable). We would also argue that it should also be targeted at the second group, in order to prevent or to slow down the process of impoverishment. This is however, a policy issue. In identifying information requirements for food aid policy, a measure of the extent of both types of households would be highly desirable.

An appropriate household survey can be very useful in identifying the basic characteristics of households in each of the three categories outlined above. The survey should give a good estimate of how many households fall within each of these categories, who these households are and where they are distributed geographically. In the meantime we are able to make some broad generalizations:

Selecting Indicators

The criteria for selection of household types as described above are heavily dependent on certain indicators of household vulnerability. These are: 1) household income from all sources; 2) household structure (dependency ratio); 3) household's access to productive resources; 4) asset base (i.e., house ownership); and 5) health and nutritional status of household members. These indicators are a mixture of process indicators, indirect indicators and outcome indicators. Process indicators are those which reflect household access to basic needs (i.e., income, household structure (dependency), access to productive resources (land/livestock)). Indirect indicators reflect the level of stress households are facing (i.e., consumption debts, grain stores, sales of assets and dietary changes), and outcome indicators are those that reflect the household's level of consumption (anthropometric, morbidity and mortality rates). These indicators will be key variables to be explored in the household survey, outlined in section C.

B.7 Targeting of Food Aid

The rationale behind this mission is in response to a need to "reassess the size and location of the most vulnerable groups, in order to better target food aid", specifically that supplied by WFP. Ideally in the context of scarce, and possible increasingly scarce resources, assistance should be targeted at those individuals or households who are most in need throughout the entire

region. However, the question of targeting food and other basic assistance in Northern Iraq raises a number of complex conceptual issues (who and where are the most vulnerable?; at what level should targeting be carried out?) and operational issues (what would an efficient household targeting system with minimal leakage's look like?; how can security risks be minimized?; etc.). A substantive household survey can begin to answer questions of how many people are at risk, and to some extent where and who these people are (see section C), however creating a successful operational system for targeting the most vulnerable households for basic needs assistance will be the most difficult stage of the process. This section draws out some of the issues that will need to be resolved in designing such a system and looks at some of the experience already built up in this area, particularly by local NGOs.

Resources are currently targeted, if the term is used in its broadest sense, at a number of different levels by the international organizations: the governorate, the community, institution, professional/income groups, special groups, households and individuals. Some organizations, like the Turkish Red Crescent, have made use of the public distribution system to distribute food on a non-targeted basis to supplement the rations supplied by the GOI. Others (e.g. HELP (Germany)) have developed their own system of identifying individual households. Table 7 summarizes the target groups and mechanisms used for each of the organizations delivering food aid over the Winter in Erbil governorate.

Of most importance is the food distribution carried out by WFP. A full overview of the current food distribution mechanism used by WFP and CARE is presented in appendix 3. In summary, WFP effectively has two groups of beneficiaries; a 'core' group who receive monthly rations and rotational groups who receive food assistance once every two, three or even five months. Decisions about who constitute these groups are decentralized to each of the governorates, and each operates a little differently. In Erbil, the areas are usually specific collective villages, although over the last winter some resettled villages have also received food assistance under the general distribution. Certain areas considered to be high priorities are targeted for monthly distributions, other areas are put onto a bi- or tri-monthly rotation schedule. In addition to the selection of areas, support is given to the Ministry of Health by providing monthly rations for each 'hospital bed', to Ministry of Social and Labor Affairs institutions (kindergartens, registered disabled etc.) and to returnees from Iran; however these distributions are carried out entirely separately from the general distribution and are comparatively small scale. Thus the majority of WFP food assistance is targeted on the basis of geographically defined areas.

The practice of targeting the whole population of a particular area may be pragmatic but conceptually problematic. It does not address the problem of wealth differences within targeted areas and the different levels of vulnerability between families. More importantly it does not address the needs of households outside targeted areas.

The question of the need to target and the process of targeting at the household level was discussed in-depth with many local NGOs and local charitable organizations involved in the distribution of resources to the needy in the governorate of Erbil, Sulimanya and Dohuk. The team also discussed targeting with local Anjuman, members of the high committee in resettled villages, collective town and refugee camps. We discussed these issues with teachers, grocers, food agents and church leaders. The team discussed targeting strategies with several government agencies such as the Food Department, the Ministry of Education and the Statistics Office.

The following is an analysis of the targeting mechanisms and the criteria used by the local organizations in their programs. This is in order to elucidate local, cultural and household issues which are important in the design and successful implementation of a targeting program at the household level.

Table 7. Groups targeted by selected International Organizations

Organization	Targeted Group	Method of Identification
WFP	Collective villages & other selected geographic areas	Individually prioritized by negotiations w/Governor's office and informal assessment. Post-monitoring for checking on agent practice only.
	Displaced (not Erbil) Refugees	Registers maintained by the Bureau of Displaced Register maintained by UNHCR
	Urban Destitute	Selection process by local charity (Sul.), or sector local committee (Doh.). Pre and Post monitoring present.
	Hospital patients Kindergarten, orphanages, etc.	Through MOH Through MOLSA
Turkish Red Crescent	Urban destitute	Selection process by local charity (i.e. Turcoman Relief Organization in Erbil) No monitoring system
	Urban areas	Through public distribution system (Governor's office decides on precise area).
HELP (Germany)	'Poor families'	Certificates handed out by local committees in rural areas and by sector committees in urban areas, entitling family to collect ration. No monitoring system present
	School staff	Education dept. lists
	Civil servants	Lists prepared by each gov. dept.

Methods of Targeting Assistance used by Local NGOs

The national organizations interviewed are targeting their assistance to the household level and even to the individual level within a specific group of interest. Group targeting is done by several organizations whose mandates are to serve a particular group. As for example, the Women's Union of KUP and KDP focus their activities on poor women, Anfal widows and girls. Similarly, the KSC has a special emphasis on the plight of orphans. Nevertheless, within their special group of interest, there is an overall method for choosing the neediest individuals and families.

The local organizations agree that there is a need to examine what to target, how to target and to whom to target. The process of targeting has to be examined in-depth and not just with a focus on the well known groups.

Generally all groups interviewed agreed on the following:

1. There is a need to target, particularly food, and it extends across all socioeconomic groups with exception, perhaps of the top 20-30% of the population. Food was also ranked as the top priority by some of the UN agencies and representatives of international NGOs.
2. That within the 70-80% of the population in need there are varying degrees of need.
3. Only the "neediest" of the needy should be given basic assistance, others should be given some type of "rehabilitative" assistance.

I. Kurdish Save the Children and Kurdish Charitable Society (Suleymaniye)

Definitions of the "most needy" differ considerably between the two, but the process of selection used is similar. The Kurdish Charity Society (KCS) and the Kurdish Save the Children (KSC) involve the Anjuman (the locally elected area councils) of each sector of the city of Suleimaniye. These committees maintain a list of all households within their jurisdiction along with their current addresses and number of people in each household. KCS and KSC use the local committees to draw up an initial list of the poorer households who are subsequently interviewed by representatives of the NGO.

The Kurdish Save the Children uses a point system for selecting households or individuals (i.e., orphans) which are most needy. A value of 0, 1, or 2 is attached to the presence or absence of certain features relating to the current living standards of the household and the ability of the household to obtain a sustainable livelihood. There are a total of twelve such characteristics. The higher the score the more "needy" the household. KSC uses previously determined cut-off point above which households (or individuals, depending on the program) become eligible to join the program. KSC has used the point system for targeting a diverse range of assistance from financial sponsorship for orphans to seed assistance to small farmers. The use of a point system for quantifying the poverty status of a household and for targeting assistance has been used in the past and is described as "acceptable, and <in line with the> culture and traditions of the people" (Hero Ahmed, Representative of KSC, pers comm).

The Kurdish Charitable Society's method is similar but less formalized. The interviewer determines eligibility by seeing whether or not the household has one of a number of predetermined mixtures of undesirable characteristics (e.g. no regular income and no male adults in the household, etc.). KCS has used their system to select households in Suleimaniye city for regular distributions of WFP food rations. The system is deemed to be highly reliable; in an independent check carried out by CARE/Suleimaniye of the first list of 4000 households drawn up by KCS, only 2% were found to be not eligible. Currently, around 5% of the population of the city is being targeted for food assistance in this way.

In both cases once a household or an individual has been selected, a 'contract' declaring the eligibility of the household (or individual) is then signed by the recipient, (in the case of orphans, by the head of the orphan's household), a member of the local Anjuman and the NGO representative.

The methods of recipient selection have several salient features which may be of relevance in designing a household targeting system for the WFP general distribution:

- a. the use of local informants, in this case the Anjuman, to make an initial identification;
- b. the use of cross-classifications of criteria to minimize the potential number of recipients (the opposite of this, targeting on the basis of a single characteristic, i.e. 'female headed household', while easier to administer, cannot pick up on subtleties which may significantly alter a household's vulnerability status);
- c. the use of a formal 'contract' between all parties to add an air of legitimacy to the process and increase the moral disincentives to cheating.

II. The Nanakali Foundation (Erbil City)

The Nanakali Foundation began in 1993 and in its first year of operation assisted around 1000 poor households in Erbil city center. In 1994, the Foundation plans to assist around 2,000 families throughout the governorate. They estimate that the level of their coverage is about twenty percent of the real need (in Erbil city). The Foundation provides 125 ID to 300 ID per month to each of its registered households based on the number of persons in the household, their location, their status etc. The Foundation supports mostly households where the adults are unable to work: households with large numbers of small children or students; households where the head of

household is ill/disabled; widow headed households with children; students with no other source of income etc. They exclude all households with anyone who is working (however poorly paid), and households with anyone able to work, but currently unemployed. They assist only those families with no income source of any kind or without any obvious means of obtaining an income. For a household to become eligible, a member of the household must actively seek out the Foundation and fill in a questionnaire on the household status. A monitor will then visit the homes themselves and verify the information provided. Eligible households travel to the Foundation's office every month to receive their benefit payment. They review their lists every six months to check on changes of status. Households are removed from the list if their children reach working age and have left school (300 households were taken off the lists for this reason in the first year). While there are no independent checks on the efficiency of the Foundation in reaching the poorest of Erbil's residents, representatives of the Foundation believe that their procedures are rigorous and their eligibility criteria efficient in selecting only the very poorest.

Two features stand out in this operation:

- a. Recipients must actively seek out and lobby the Foundation, introducing an opportunity cost to participation, which may serve to reduce the incentive for non-target groups to seek assistance; and
- b. Assistance must be collected from a central office, rather than delivered to the locality, reducing the potential for harassment from non-recipients.

III. Kurdistan Women's Union

The Kurdistan Women's Union, comprising of the independent Zhinan Women (associated to the PUK) and Afratan (associated to the KDP) focus programs on improving the status of women in Kurdistan. The Independent Zhinan Women's Union was formed on November 4, 1989 in Iranian refugee camps. Presently they are involved in organizing income generating activities geared towards improving the lives of poor women, widows and unmarried young women by finding them employment. They also provide direct assistance to the most destitute families. The most systematically targeted program they run is a direct assistance program to help girls from poorer households stay in school (in Suleimaniye city). The Women's Unions estimate that 30% of school age girls are dropping out of school for financial reasons. They collect student drop-out data from the department of education and a committee from the Union will visit each family listed to determine why a girl has dropped out of school and whether or not this is related to the household's financial situation. The indicators used to judge whether a family is in financial difficulties are essentially subjective, but the Women's Union believe they are extremely reliable: the general condition of the home; whether the family has rugs on the floor; whether they have a dedicated stove (rather than kerosene lamps heaters or homemade electrical devices doubling as a cooker); and whether or not they have any food stocks (Zakhera). Households qualifying will receive financial assistance from the Unions.

No information is available to confirm the reliability of this program in reaching the pre-determined target group. While this method of selecting individual households is the least formal of those described, it does provide an example of using indirect indicators of household stress to identify vulnerable households.

Methods of Targeting Assistance Used by Government Departments

There has been relatively little experience of actively targeting individual households for assistance and services. Prior to the Gulf war the public distribution system provided goods and services more or less universally, one of the reasons behind the skepticism that a discussion of household targeting usually elicits. Although a small income support program to 'destitute' families did exist, it lay outside the realms of the public distribution system. The limited resources now available to the public distribution system have not been systematically targeted on those most in need, but have been distributed on a rotational basis to geographically defined areas or sets of food agents in the cities. Within the cities, the inability to target defined groups (geographically or otherwise) has resulted in a situation in which the WFP has tended to avoid providing assistance in urban areas, where, in a number of opinions, some of the most vulnerable groups may be located. This situation is most severe in Erbil governorate; in Dohuk and Suleimaniye, assistance is provided to a small number of 'urban destitute'. Mounting external pressure on the departments involved in the food distribution system (mainly the Food Department and the Governor's office), has encouraged them to initiate a process of identification of the most 'needy' people in the city of Erbil.

I. Food Department/Statistics Department: 'Poverty Survey', Erbil City Center

In response to the increasing need to target limited resources, the Council of Ministers agreed on a survey in Erbil city "in order to separate the needy families from those who are not" (Khaleel Hassan, Head of Central Statistical Office, pers comm). The final method used to identify the 'needy families' cannot really be defined as 'selection' but rather 'deselection' (of richer Erbilians from the universal food lists). The process of deselection eliminated households with high incomes (determined by the occupation of the main income earner) from participating in humanitarian assistance programmed. This was achieved by sending enumerators to public meetings of the clientele of each food agent in the city. The enumerators with the food agents went through each household on the agent's list 'crossing off' those in certain occupational categories, or with incomes believed to be in excess of 2000 OID/month. The decision to use 2000 OID as the cut-off point was made by the administrators of the survey and was said to reflect the basic costs of living for an average size family. Certain occupational categories were made automatically exempt from deselection, such as low to mid-ranking civil servants, unemployed people, street vendors (not shop owners) etc. Where a household disputed the decision, or the enumerators/food agents were suspicious, a household visit was made to assess the conditions of the house. The results of this process was that around 25% of the population of Erbil city and Ainkawa were taken off the food lists, indicating that in the government's view around 390,000 persons in Ainkawa and Erbil city are in need of assistance.

While we are unable to comment on the final figures arrived at, the process used by the Food and Statistics Departments shows the potential for using local informants in the process of household level targeting, in this case on a much wider scale than the NGOs described earlier. It also demonstrates the use of making the decisions publicly, which may, to some extent, introduce an element of accountability and reduce potential leakage. However, the high resulting figures for those <defined as> in need of assistance suggest that either large numbers of people were able to avoid deselection (e.g. through misinformation and collusion), or that there are genuinely this number of people falling below the set criteria. If the latter is the case, with the increasingly limited resources, more stringent selection criteria will be required.

II. Education Department

The Education Department has not been directly involved in the distribution of assistance, but has been liaising with NGOs who have provided food assistance to teachers or are involved with school feeding programs. Mr. Nadhim Omar Hamaed, Acting Deputy Minister of Education expressed concern over the current practice of universally targeting teachers. For example, he

believed that the teachers in urban areas were far less in need than those in the rural areas. Consequently he advocated a distribution strategy which prioritized certain groups within the education department; the department would have liked to see distributions brought in line with the current government strategy of creating incentives for teachers to work in difficult locations, such as the border towns or the remote villages. Those that live close to or within the cities should have lower priority. There was a feeling that universally targeting teachers for assistance has created a number of problems for them.

Leaders in the community

In the collective village of Al Gedida-Zab, the team met with the head of the subcommittee and about ten older men of the collective. The major problem of this collective is that "there are no jobs". Only 2-3% of the population have jobs as petty traders in Erbil city. In their opinion the "displaced" in general are the most vulnerable because they "don't belong" and have no jobs and no land. The head of the committee, however, acknowledged that within this collective there are those households that are "extremely vulnerable" and those that are "moderately vulnerable". Those that fell within the "extremely vulnerable" had no source of income, had sold most of their possessions or were young families with small children with no other relatives living near by. The team visited and interviewed a sample of these families and some of the case studies are presented in the appendix 1.

In the village of Balisan, the team met with a group of teachers of the local elementary school. Most children of school age are attending school. Those who attend school on a regular basis are those whose fathers are land owners, who have tractors or who work rented land. A small percentage have stopped sending their children to school. These are the poorest families who need their kids to go and collect wood to sell. Some children also are not attending school because their parents cannot afford the 10 OJD to buy a semester's supply of notebooks and pencils. In addition, appropriate clothing to attend school is a problem for some children.

The teachers concurred that the best way to target at the household level is to involve the local committee. They know everyone and their individual economic situation. Since this village was destroyed with chemical bombs, there are about 30% of families with no fathers and high percentage of orphans without a father or mother. They also said that families with many young children are at high risk. The teachers picked four families of different economic levels which the team visited. The details of these case studies are presented in the appendix 1.

In the collective village of Basirma, the team interviewed the head of the High Committee regarding his views on targeting at the household level. At the group level, this community leader felt that the Kirkukis and those from the mountain villages of Haffa and Balakis are the most vulnerable. They have no jobs and no other means to earn a few dinars. He estimated that in this collective 70% of the households are in this situation. He was also able to pick out two families that represented different levels of vulnerability. The details of these case studies are presented in the appendix 1.

The team also met with members of the High committee in Suleimaniye refugee camps, local grocer in the Old Arab quarter of Erbil, and the priest in Ankawa. All these people agreed on the pervasiveness and increasing vulnerability of members of their communities and were able to quickly categorize the households in their community in terms of levels of vulnerability.

Targeting issues to consider

It can be concluded from the above discussion that: 1) there may be considerable differences in vulnerability levels of households within these community; 2) the majority of households in these communities maybe vulnerable to food deficits; 3) targeting at the household level is prevalent among the local organizations; 4) the government have begun to address this issue in a limited way; and 5) there exists substantial differences in opinion between the local organizations, the government and the international NGOs about the process of targeting and the feasibility of implementing a "successful" food distribution program targeted at the household level.

Problems identified in the general distribution process relevant to future targeting

- a) *Inaccuracies in food distribution lists.* The massive population dislocation of the last few years and the constant population movement of resettlers, returnees and the internally displaced has created a situation in which the maintenance of accurate lists is extremely difficult, and many are based on lists several years out of date. Until a full census is carried out, the absolute accuracy of food distribution lists will be hard to verify, although attempts could be made through more systematic monitoring. The current monitoring process does not include provisions for pre-monitoring a distribution list specifically in order to weed out families who have moved out of the area; do not exist; or are not living there, but return to collect rations. Pre-monitoring of the food lists for the kerosene distribution showed up to 20% inaccuracies in some areas of Erbil (CARE/Erbil). This is not an insignificant figure. The post-monitoring process is not mandated to follow up these problems, but rather to check on the efficiency and fairness of the agent; if a family is not at the location given on the agent's list when the monitoring team visits, there is no systematic reporting procedure for this and the monitoring team is likely to move onto the next household. As well as the 'false positives' (names on a list that shouldn't be there), there is the problem of 'false negatives' (people unable to get onto a list). The magnitude of this problem is not known, but given the universality of the previous system, this is likely to be a negligible problem. The only group most at risk of falling outside the ration card system are the internally displaced in Erbil (where there is no formal registration system), whose ration cards are for GOI controlled areas. In theory they can re-register with the Food Department, however in practice the process may take several months of sustained lobbying (see Case Studies, Appendix one). These operational issues need to be addressed before individual household targeting can take place.
- b) *Leakages.* While the public distribution system maintained the GOI may have been 'reliable and efficient', the universality of the system resulted in little incentive to 'cheat'. With spiraling food prices and selective distribution, incentives are higher. While active corruption is probably relatively insignificant in relation to the scale of the operation, leakages resulting from inaccurate lists goes unchecked. Food agent's whose families do not turn up to collect items are under no obligation (other than moral) to return excess rations. In this way the incentive to maintain false names, or remain quiet about families who have moved out of the area is high. Clearly there are some good agents and there are some bad agents, but with no systematic pre-monitoring of lists and post-monitoring carried out on only 15% of agents, there is little disincentive for malpractice.
- c) *Duplication.* With a number of different programs using different criteria for targeting assistance, there will inevitably be households who fall within the criteria of several different programs, or within the same program more than once. An obvious example would be teachers or civil servants living in collective villages, or one household with several members who are civil servants thereby receiving two household's worth of assistance. While these cases probably represent an almost negligible number compared to the scale of the general distribution, a mechanism to avoid this is almost entirely lacking.

- d) *Aid Dependency and Security Issues.* The universality of food assistance under the GOI has fostered a particular perception of 'fairness' in the Northern Region; the equal distribution of resources to all, regardless of how rich or poor recipient families are. The problems this creates in selective distributions are immense in terms of security; stories of monitors' lives being threatened, civilian road blocks set up to stop convoys traveling through areas not receiving assistance, and hostility between neighboring areas are extremely commonplace. One of the main worries about household level targeting voiced by NGO staff is that the security risks faced by delivery agencies will be increased if they are asked to deliver food, or other assistance, to individual households within a community. There are no easy solutions to this problem, but they should not be viewed as insurmountable; local NGO's have already had some successes (although they are delivering assistance on a much smaller scale).

Recommendations

The successes of the local NGOs and charitable organizations in targeting food aid on a household level should be closely studied and customized for a larger scale operation such as those carried out by WFP/CARE and other international NGOs. Several features should be carefully considered:

1. The use of local committees, and other key informants for identifying the poorest households. That local people are readily able to identify the poorest members of their communities cannot be disputed, the difficulty will lie in providing the right incentives for them to do so, and the right disincentives to cheating. Part of these incentives and disincentives will involve a substantive pro- and post- monitoring system. Specifically it is recommended that pre-monitoring along the lines of the fuel distributions be institutionalized into general food distribution and that postmonitoring should incorporate a systematic reporting procedure on families who are not in the area after the distribution or cannot be found. The main disincentive for a local 'selection' committee to cheat would be the threat of withdrawal of all assistance to the community if substantial discrepancies are found. Targeting by local committees should be possible in all the urban centers, with the exception of Erbil city, where there are no sector local committees.
2. All decisions over household selection should be made in public with as much transparency as possible. This would make the 'selection committee' more accountable to the local people and reduce the chance of households not being missed by a committee.
3. The selection of households by the local committees should be based on a firm set of clearly defined criteria negotiated with the local community, ideally with the power to discriminate "highly vulnerable" households from "moderately and slightly vulnerable" households;
4. Extensive use should be made of local media to explain the rationale behind the system and make the categories of people who are entitled to food assistance as clear as possible;
5. Substantial disincentives for planned, or unplanned leakages should be introduced, the first step of which would be to re-introduce monitoring of 5% of the clientele and 100% of food agents.
6. With scarce resources, the system of rotational distribution (i.e., of every three months or every 5 months) should not be entirely disregarded for the "moderately vulnerable" and the at "slightly vulnerable" households, because although the distributions may have negligible nutritional impact, the income transfer benefit of a food aid package can be substantial. Appendix 2 presents an income transfer benefit analysis of single food aid packages;

7. Alternative distribution processes where recipients pick up their goods from a central location rather than the NGOs delivering it to the village should be explored to avoid the security problems that may arise.

Finally, and perhaps most importantly, given the potential security problems of targeted distributions, it is strongly recommended that household level targeting, if introduced, should be carried out initially on a pilot scale in several different locations to gauge different methods of approach.

PART C: METHODOLOGY FOR VULNERABILITY ASSESSMENT

C.1 Information Requirements: The Role of a Sample Survey

Four distinct information requirements can be identified. The first is a measure of the proportion of the total population of the Northern Governorates which is vulnerable at the current time and therefore in need of assistance. This should be supplemented by general indicators of population welfare. The second is the location of vulnerable groups, that is identifying the vulnerable groups in the various places of residence (cities, towns, collective towns, villages). The third is a measure of relative vulnerability of different groups, combined with the identification of indicators enabling the most vulnerable groups to be identified and targeted. The fourth is a measure of trend, that is of how the proportion of the population which is vulnerable is changing over time. A sample survey should be able to meet some aspects of each of these needs.

A. Proportion Vulnerable

The ideal measure of the proportion of the population which is vulnerable is the proportion of households with an income inadequate to purchase basic necessities. Households which are maintaining an income through unsustainable means should also be identified. The measurement of income is discussed in greater depth below; it is a difficult task and it may be that proxy measures to identify households on inadequate incomes have to be relied upon.

The description of the level of vulnerability in the population should be supplemented by anthropometric data describing the extent of child malnutrition in the population. The level of child mortality should also be measured. These are two standard indicators of overall population welfare.

The importance of these measures should be emphasized. Even if some of the more sophisticated analyses to establish the identification of vulnerable groups prove ambiguous, we were repeatedly told of the need for information to establish the overall levels of food aid required for the population.

B. Location of Vulnerable Groups

Secondly, knowledge of where the location of the vulnerable groups is required. The numbers of vulnerable households resident in the cities, towns, collective towns and villages is required. Currently, for example, Erbil City receives no food aid and the amount of food aid allocated to Dohuk City is not based on any firm information. The allocation of food aid between the various places of residence should be based on the number of vulnerable households found by the survey.

C. Indicators of Vulnerable Households

The third requirement is that vulnerable groups can be identified for the targeting of aid. Meeting this objective is not simple. There is no single, standardized methodology for the identification of indicators of vulnerable households in a population such as this one. Two possible approaches are outlined; the second approach is probably less relevant in the circumstances and is mentioned only briefly. The final choice of analysis should be made by the implementor of the survey. In any case, the identification of indicators that are suitable for targeting is likely to be difficult and cannot be guaranteed with any certainty. Any indicator will be imperfect and a difficult tradeoff between the number of vulnerable households excluded and the number of ineligible households included will always have to be made. Despite this, an attempt to identify indicators should be made. Even if unsuccessful, the value of the other information derived from the survey will justify its execution.

One analytic approach is based upon relative risks associated with particular household characteristics. It is analogous to screening procedures that are used to identify individuals at higher risk of negative health outcomes. A set of characteristics are identified which are associated with a significantly higher frequency of negative outcomes - they are 'risk factors'. The associations do not necessarily have to be causal. Characteristics which are not independent should not be used together without making an allowance for non-independence. If one characteristic can be considered a confounder, it can be controlled for analyzing the effect of the other. If the two variables interact, then the risk associated with each combination of the two variables should be assessed. Scores can then be assigned to each value of the variable based on the relative risks. These scores can be added across variables to assign a total vulnerability score for each household which can be used as a basis for targeting, with households having a score above some cutoff value being assigned food aid. It is possible to examine the effect of different cutoff scores for food allocation using the survey data. The proportion of eligible households missed and the proportion of ineligible households targeted using each cutoff score can be examined. It may be possible to use scores to produce more sophisticated divisions than simply a binary division - two cutoff points could be used to define households receiving food aid on different rotations, for example.

In screening individuals, the characteristics used in screening are known to be associated with a higher risk of a future negative outcome, that is, the procedure is used preventively. In the current application, the procedure is being used largely descriptively, since the negative outcomes may already be present in the vulnerable households. The question arises, 'why not simply use the negative outcome as the basis for targeting?' This negative outcome may be nutritional status or a negative socioeconomic outcome such as sale of basic household goods. The reason that a scoring system based on other characteristics may be useful is twofold. Firstly, the scores may in fact have some predictive value, if the households which are currently at a greater risk of a negative outcome are also more vulnerable to the process of impoverishment, as seems likely. Provided that households which are identified by the scoring system as currently vulnerable are also more vulnerable in the future, then by targeting households which are high scoring but which do not yet have the negative outcome, the food aid may be acting preventively. Secondly, the characteristics may be simpler to use as basis for targeting since they may be easier to measure, more objective and unfalsifiable. This may help the targeting to be perceived as fair and allow some monitoring of distribution lists.

The use of this approach is complicated by the negative outcome variables, that is the variables which measure the frequency of negative health or socioeconomic outcomes. Ideally, the variables should be an indication of inadequate household food intake resulting from insufficient income. One variable that should be measured and that can be used as an outcome variable is proportion of children malnourished. However, there are a number of qualifications to this.

Malnutrition in children is being used as a proxy for inadequate household food supply, but is known to reflect many other factors aside from this. Morbidity is the other main cause of malnutrition and may require very different responses than food aid. Weaning practices are also important, partly through their effect on morbidity; there does appear to be malnutrition associated with weaning practices in the population. In identifying targeting characteristics, some of the main confounding variables could be controlled to try to reduce these problems. Frequency of diarrhoeal diseases, water supply, breast feeding and weaning practices could be controlled in the analysis. Although other factors are recognized as risk factors for child malnutrition, a balance will have to be struck between how sophisticated the analysis could be and the time available.

The other limitation to using malnutrition as an outcome variable is that it doesn't identify households which are currently coping through unsustainable strategies, or that have not been living on an insufficient income long enough for the effects to show in child malnutrition. Child malnutrition will reflect distribution of food resources within the household as well as total household food supply. For all of these reasons, socioeconomic outcome variables must also be used. These are discussed further below. A range of variables that could be used to attempt to identify the characteristics of vulnerable households are also outlined.

The second analytic approach to the identification of vulnerable households is the use of discriminant analysis to identify the variables which are most important in discriminating different types of household. For example, Pryer et al (ND) used cluster analysis on a range of socioeconomic variables to identify different livelihood groups. These groups were more sensitive and specific predictors of severe child malnutrition than were other classifications of households based on univariate scales of income or occupation. Discriminant analysis was then used to identify which variables loaded onto the main discriminating function. It may be possible to use a similar approach to define categories for households and, if these categories turn out to be the most useful predictors of negative outcomes, to decide which variables should be used to discriminate the households. These variables may then be used as a basis for targeting, provided they are acceptable to the population.

D. Measures of Trend.

A survey could give some limited information on trends. The anthropometric data could be compared with the results of the previous UNICEF cluster survey to see if a significant increase in malnutrition had occurred over the period. This comparison should be made bearing in mind that it may be affected by changes in malnutrition associated with different seasons. Indirect demographic estimation techniques can give a smoothed estimate of the trend in child mortality over the previous decade. Asking retrospective questions concerning socioeconomic variables with long recall periods, specifically *zakhera*, may give information on changes in this variable between the last harvest and the one before. The information that the survey alone could provide on trends is limited and should be recognized as such. Nonetheless a household sample survey could be used to provide baseline information which can be compared with data from subsequent surveys. This is particularly important in the situation of Kurdistan, where there is considerable uncertainty concerning the time over which the population may take to decline into a situation of food crisis.

Limitations and Other Information Sources

A sample survey is an appropriate method for collecting quantitative information on fairly simple, clearly defined variables and the relationships between them. Assuming the sample was not biased, it is possible to quantify the precision with which estimates are known. Given the lack of information on the level of vulnerability in the population, it seems a worthwhile exercise. However, there are limits to what can be expected both from sample surveys in general and from this sample survey in particular. Particular problems with the proposed survey stem from the lack

of a reliable sampling frame, which could bias the estimates. However, the possible biases are outweighed by the need for some approximate figures. The other particular problem is the short time-scale for the survey, which may introduce measurement error. This could result either from attempts to measure complicated variables which require more careful measurement than is likely to be possible in a rapid sample survey or from using invalid proxies in an attempt to avoid this problem.

General limitations include the following. A sample survey is not an ideal method to study very rare outcomes, since they will give information on the outcome in question only for a small majority of the households surveyed. If severe malnutrition turns out to be very rare, for example, then the confidence with which statements can be made about the groups most at risk will be low. However, it is assumed that the information that prevalence is very low will in these circumstances be the most relevant. Neither is it appropriate to use a survey to study the effects of very rare risk factors, although again it is assumed that the information that a risk factor is very rare will be of most interest in these circumstances. Small population groups are best addressed by specific programs studies. Any groups of particular interest could in principle be treated as a separate domain and sampled with a larger sampling fraction, allowing point estimates to be made more precisely, provided they can be separately identified in the population. This might be considered by the survey manager, but the required sample sizes may be too large to be manageable within the given timeframe.

A survey is not generally a very subtle instrument. It will not be able to finely distinguish the vulnerability associated with a complex of subtle characteristics. We have suggested elsewhere that local communities are capable of identifying the poorest individuals within them without difficulty. They can do so accounting for subtle factors which no survey would be able to distinguish. We do not believe a survey is required to tell local people who the poor are. It is not likely to surprise local people if it concludes that, for example, the urban unemployed are a vulnerable group. What it may do is crudely validate the broad characteristics of vulnerable groups, which may form the basis for the scoring system discussed above. This may provide a way of targeting food aid that is acceptable to the various parties involved.

A sample survey largely provides cross-sectional information concerning the population at the time. It cannot address the future course of events, although socioeconomic indicators may give some idea of future outcomes - if many families are selling basic household goods to buy necessities, it is probably a matter of time before they run out and increases in malnutrition are observed. To assess future developments, future measurements of key variables are required. A sample survey can usefully provide baseline measures against which future statistics can be assessed. It may also be able to validate indicators which could then be measured in future work. Our impression of the situation is that, for at least a substantial minority of the population, a process of socioeconomic decline into destitution is occurring. This suggests that monitoring of the population to see whether the situation is indeed deteriorating is important. We suggest that at the very least, coordination with and support for the regional administration's proposed universal household survey is required. The administration should be encouraged to design the survey with these issues in mind.

The regional administration should be encouraged to use the census in two ways. Firstly, to provide more precise estimates of variables than can be provided by the sample survey because of the much larger numbers involved. In addition, the estimates should not suffer the possible biases resulting from use of either of the current sample frames. In particular, the census should include, for all households, the basic demographic questions used to estimate mortality. The time period to which these estimates apply means that they would not give any information on changes in mortality since the survey but can be used to calculate much more precise estimates. Secondly, the census will provide a much more reliable sampling frame, within which a subsample of the

enumerated population could be taken. It would be sensible to use the opportunity to develop a sampling scheme within which a sub-sample of the population are administered a longer questionnaire, to collect information which would not be appropriate to collect in the standard enumeration form. This could be used to measure variables in two kinds. Firstly, it should be used to measure any key indicator variables which have been shown in the sample survey to be important. Secondly, it could be used to measure variables which have been excluded from the sample survey but are nevertheless of interest.

Interpretation of changes in indicator variables over time is complicated by a number of issues. The first is that finding a cross-sectional relationship between negative outcome and the indicator does not necessarily mean that changes over time in the indicator are accompanied by changes in the outcome. The second is that, because the sampling in a census sub-sample would probably be better and because of other factors, differences between estimates of indicators at two points in time could result from both sampling error and bias. The latter source of difference is difficult to assess and will inevitably raise the question of whether the changes are real. Nevertheless, finding very substantial differences between the indicators over time is likely to reflect genuine change. Despite these two issues, it would be worthwhile measuring in the census sub-sample variables which are found in the survey to be very strongly related to negative outcomes.

C.2 Variables to be Measured.

We have identified a process which we believe to be occurring, in which households facing economic stress are forced to adapt unsustainable strategies to maintain a sufficient income. Some households may already be reducing their food intake as a consequence of having an inadequate income, and others may be forced into this situation as unsustainable income maintenance strategies are exhausted. This analysis suggests that two main types of outcome variable should be measured. The first is malnutrition. Given that the affected population of Iraqi Kurdistan was relatively well resourced and well nourished prior to the crisis, it is likely that most of the affected population is still living off resources built up before the crisis and adverse nutritional outcomes affecting the majority are unlikely to be seen for some time. For this reason, and others discussed above, socioeconomic variables that indicate households living on inadequate incomes and households living on unsustainable incomes should also be collected.

These socioeconomic measures should indicate the frequency of socioeconomic conditions which are expected to result in inadequate food intake as a consequence of an insufficient household income. They should also distinguish households which are maintaining an income sufficient to meet basic needs at the time but which are doing so unsustainably and so in the future will face an inadequate income. These measures may be direct or indirect. The direct indicator of such a situation is derived from a comparison of household income and expenditure, allowing for temporal fluctuations in the two. This would be too difficult to measure accurately in the circumstances, but an attempt to measure income and to compare it to a minimum basket of goods necessary for the household could be made. Indirect measures are proxies, chosen because they are expected to reflect income-expenditure stress in a household.

Variables should also be collected to enable the identification of vulnerable households for targeting. This may be approached as discussed above. Both socioeconomic measures and other descriptive statistics may be useful for this purpose. They are referred to when used in this way as descriptive statistics. The descriptive statistics collected in addition to socioeconomic statistics should include geographical location, household age structure and the migration status of the household (displaced, returnees etc.).

Socioeconomic Measures

Income and Expenditure

There are many problems associated with measuring income and expenditure. They include respondent errors (including intentional decisions not to reveal the household income) and fluctuations in the measures over time - in particular seasonality. For these reasons, it was felt that the best approach would be as follows. An attempt could be made to get a broad measure of income (recognizing the problems of seasonality), and the income could be compared to the cost of a minimum bundle of goods, allowing for household size. The measure of income should distinguish sustainable and unsustainable sources. It should include non-monetary income. Given the possible problems with income, other information should be collected to allow a checking of the reported household income and to provide proxies for income stress which could replace the income data if necessary.

The main components of income that should be distinguished are as follows. The basic income of a household is that derived from its economic activities. This includes income derived from the labor market and from entrepreneurial activity. It also includes agricultural production. Other sources of income are transfer payment of various kinds, borrowing and that derived from the sale of assets and household goods. Income used for consumption that is derived from borrowing or from the sale of assets cannot be considered sustainable. We would argue that transfer payments should also be considered as unsustainable income, since many of these payments cannot necessarily be relied upon to continue. Households depending on transfer payments to maintain a sufficient income may therefore be considered vulnerable. On the other hand, income derived from economic activities is considered to be sustainable. If households are deriving a sufficient income from their economic activities, then they are not currently vulnerable or in need of food aid. However, these terms need to be used cautiously, since it may be that market income for some households does not continue into the future because of changes in the economy. Equally, some forms of transfer payment may continue despite substantial economic changes. Nevertheless we consider these distinctions to be useful. Two commodity-to-income ratios could be constructed, one including transfers and assistance, the other using only sustainable income.

The basic, 'economic' income of a household must include wages, profits and direct production of goods for consumption. For agricultural households the income is a proportion of the production function of the household's land and livestock. The potential productivity of a household with access to productive resources should be established in terms of land holdings, livestock ownership and the length of time that a family has been on the land. Information on productive assets could then be converted into an approximate monetary equivalent during the data analysis to allow income to be treated as a single variable. For urban wage earning and entrepreneurial households, their basic sustainable income is that earned from their economic activities. Food assistance, other income transfers, borrowing and income derived from the sale of household goods and assets should be measured in order to assess the total income of households. Proportions of household income derived from such sources may be an indicator of vulnerability, assuming that income data is sufficiently accurate to allow this calculation to be carried out with confidence. Some of these variables, used alone, may also be useful as a proxy for income stress if necessary.

A number of income measurement options are outlined below. We feel that, before the survey design is finalized, an individual with specialist knowledge in income measurement should be consulted. Although the measurement of income would be ideal, it is difficult to measure and if measured unsuccessfully becomes worthless. It may need to be replaced by simpler proxies of income stress. It is outlined as an option. Although we do not feel that the measurement of total household expenditure is realistic, the measurement of one or two key expenditures may be useful as descriptive variables to discriminate households for targeting.

Indirect Indicators of Income Stress

Consumption Debts

The level of debt accrued by a household specifically for consumption purposes is relatively easily obtained. However it needs to be interpreted in the right context, given the lack of understanding about the extent to which lending between related households constitutes real hard 'debt' or a simple transfer of income. A better understanding of debt should be obtained, possibly through informal focus group discussions with households perceived to be at risk. One possible way of distinguishing income transfers from 'hard debt', may be to find out the source (relative versus acquaintance). Information on debt can be used in two ways: as a descriptive statistic; and to enable the identification of the types of households having to go into debt.

Maintenance of Grain Stores

The lack of grainstores is used as a reliable indicator of stress in poorly resourced agricultural societies, however in an urban society it does not have the quite the same connotations - the grainstore is of considerably less importance. Consequently, it is unlikely that the lack of grain stores will provide an accurate indication of the levels of vulnerability - it will overestimate them - unless complemented by other indicators or used to delineate trends. In this latter respect, knowledge of the numbers of people who have not been able to buy stores this year compared to last year, may give an indication of the trends occurring, and will enable the identification of groups who are becoming more (or less) vulnerable.

Sale of Assets and Household Goods

The sale of household goods and of productive assets is likely to be a good indicator of households facing an income-consumption deficit. Household goods should be distinguished on the basis of how essential they are perceived to be to the household. The sale of productive assets should be distinguished from household goods, since the sale of the former to meet basic needs is a sign of acute distress.

Dietary Changes

The introduction of an inferior foodstuff into the diet of a household is a clear indicator of economic stress. The incorporation of changes in diet, such as this, into a survey questionnaire is relatively easy and gives a measure of the numbers of people facing economic stress. It will also allow the identification of the types of household that are having to take this action. The frequency of intake of certain foodstuffs, like milk and meat, can be used as indicator of dietary variety, nutritional adequacy, and as an indirect indicator of the relative purchasing power of the household. The number of meals per day a family is preparing is another well used and reliable indicator, but needs to be placed into the context of process; it is an indirect outcome indicator showing extreme stress.

Household Goods

The goods owned by household gives an indication of the relative wealth of the household, and thus its ability to gain access to basic needs, and an indication of its ability to survive in the future. However, in the current circumstances, households that were previously well-off may have a number of household goods but may nevertheless currently have a low income. This is particularly true of households dependent on civil service wages, which were once good but which have entirely failed to keep pace with inflation. Thus, this indicator would need to be interpreted with caution. Nevertheless, these assets could be liquidated to meet food needs and so are an important factor in assessing vulnerability. Household goods owned could be used as a descriptive variable, to classify households into wealth categories; it may also be useful as a denominator for asset sales.

Nutritional and Demographic Measures

Anthropometric Data

The extent of child malnutrition can be used as one indicator of the extent of vulnerability. It can also be compared with the previous UNICEF survey to see if levels of malnutrition have changed, bearing in mind the complications of seasonal variation in these indicators. However, anthropometric indicators should be recognized as inadequate measures of total vulnerability because most of the population has probably not yet had to substantially reduce their nutritional intake and because they reflect other factors aside from food intake. Proportions malnourished may also be used as an outcome measure in identifying criteria for household vulnerability assessment, on the assumption that some reduction in food intake is already occurring among the most vulnerable groups. Serious, acute malnutrition (severe and moderate wasting) may currently be too rare in the population to be used as a variable in this way. Other measures of child malnutrition may be used, although they do not reflect acute malnutrition in the way that wasting is believed to reflect it.

Adult anthropometric data should also be considered as an outcome measure. The Body Mass Index of adults may be a better indicator of inadequate food intake than anthropometric measures in children, since it is less likely to reflect the effect of frequent infections.

Child Mortality Data

Child mortality reflects overall levels of (child) welfare in the population. It is readily gathered using a household survey, although estimates will refer to a point in time at least one-and-a-half years before the survey. Child mortality is not an appropriate outcome variable in the identification of vulnerable households for two reasons. Firstly, even more than anthropometric data, it reflects a range of factors outside of food intake. Secondly, the time reference of the estimates means that current risk factors could not be identified.

C.3. Outline of Questionnaire Contents

The above outline of key variables is expanded below, discussing measurement possibilities and issues. We have produced a fairly extensive list of possible variables. These should be regarded as provisional and revised as necessary in the light of further information. This further information should include the comments of organizations working in the field, including UN agencies, national and international NGOs and local organizations. Expert advice on income measurement would be advisable. Focus group discussions held with a range of people in the area may also help to inform the final selection of variables and the questions used to measure them. The objective should be to define the minimum number of variables, each of which is agreed to be relevant and useful in the process of measuring vulnerability and targeting basic assistance. Given the time scale which is proposed for this survey, the number of variables must be kept to the maximum compatible with its aims. We have included a larger number of variables than would ideally be desired in the belief that the implementor of the survey can reduce them to the most important.

Once the choice of variables has been finalized, the questionnaire will need to be designed. Expert advice on questionnaire formulation should be sought. The variables suggested can be grouped according to the level to which they apply. Variables which are measured at the community, household and individual levels can be distinguished. This provides a structure for the questionnaire and a direction for the flow of the interview. The relevance of the variable is outlined in italics. For some variables, some issues of measurement are outlined.

Cluster Level Variables

These variables would be measured once for each cluster selected in the sampling process. They can be recorded on a cluster sheet, rather than on every questionnaire for each household. The following variables are suggested:

1. City/town/rural village/collective town/camp.
 - *geographical location of vulnerable groups; a risk factor for negative outcomes*
2. Accessibility of health services in hours journey time to a doctor and to a paramedic by usual means of transport.
 - *control variable in analysis of anthropometric data.*
3. Accessibility of consumer goods market in hours travel time.
 - *isolation from markets as a possible risk factor.*
4. Accessibility of nearest city in hours travel time.
 - *is lack of access to city labor markets a risk factor?*

Household Level Variables

These variables are measured at the level of the household, defined here as a group living and cooking together. Most socioeconomic data is measured at this level.

THEME I: DESCRIPTIVE VARIABLES

1. Population Category of Household:
 - Displaced?
 - Returnees?
 - Refugees?
 - Resettlers?
 - Long time residents?

These are important descriptive variables which can be examined as a possible risk factor.
2. Number of male and female adults. Number of children: under 5, 6-10, and 11-15. The cutoff between adults and children should be an age between 15 and 18, to be decided.

Household size, basic dependency ratio; calculation of household consumption requirements.
3. In the household, how many persons are:
 - widows with children under the cutoff age 15?
 - orphans (father has died).

Groups commonly targeted by indigenous NGOs. Are they at risk?

4. Is the house rented, owned or a squat?

This may be an important descriptive variable for urban households and may, in conjunction with other indicators, be used as an indicator of the relative wealth status of the household. However, it may not be useful in collective villages and rural areas as nearly all accommodation is occupier owned. Amount of rent paid may be a possible descriptive variable.

5. Nature of the water supply: piped/well/surface water.

Control variable in analysis of anthropometric data; descriptive variable.

THEME II: INCOME AND EMPLOYMENT

Sustainable income should measure that part of the household income which is a result of its economic activity. For agricultural households this is a proportion of the production function of the household's land and livestock. The potential productivity of a household with access to productive resources should be established in terms of land holdings, livestock ownership and the length of time that a family has been on the land. Information on productive assets could then be converted into an approximate monetary equivalent during the data analysis to allow income to be treated as a single variable. For urban wage earning and entrepreneurial households, their basic sustainable income is that earned from their economic activities. Any income from land holdings and livestock should also be included - for some poor urban households, the contribution of small scale farming can be important.

Total income should include other sources of income outside of these sources. Food assistance, borrowing, other income transfers and income from the sale of household goods and assets should be included.

1) Basic ('Economic') Income

a) Levels of Employment

Number of working persons and regularity of work: how many persons in the household are:

- working regularly?; if so, do they have a secondary activity to earn extra income?
- working casually/occasionally? if so, how many days did they work in the last month/week?
- actively seeking work and unable to find it ?
- unable to work through illness, disability or old age?
- unable to work, because of household responsibilities (mothers etc.) or other reasons (students etc.)?

Allows:

Calculation of a dependency ratio based on economic activity rather than just age, enabling use of dependency ratio as a possible risk factor; statistical description of level of an- and under-employment in the population; assessment of an or underemployment as a risk factor; statistical description of the proportion of full time workers engaged in secondary economic activity, providing better information on who and how many people are having to (and are able to) supplement their primary income.

Issues:

- Whether children should be included here or as a separate question. There are implications for the accuracy of income measurement and the questionnaire design. Children working in household may be a useful discriminator for poorer households, therefore should be included at some point.
- The number included in above categories should total the number of adults in household, enumerator could cross-check total with that obtained under household descriptive variables to reduce measurement errors?

b) Earned Income

Option I:

Occupational category of all income earners in household. Possible categories:

- merchant
- shop owner
- petty trader
- farmer
- teacher
- doctor
- public sector employee/civil servant other than above and other than state factory worker
- skilled labor
- unskilled labor
- agricultural laborer
- unemployed
- marginal
- other

The average weekly money income for the last month from the economic activities of each working household member will be asked as a direct question. The reported incomes can be cross-checked with known income ranges for occupational categories.

Allows:

Direct measurement of the sustainability of the household as a viable economic unit by comparing income with cost of pre-priced basic basket of goods (multiplied by the number of consumption units); statistical description of the number of people engaged in pre-defined marginal activities; assessment of occupational category as a risk factor.

Issues:

- Prior to survey, occupational categories need to be defined by the survey team, and clear distinctions need to be drawn between standard occupations and economic activities of the last resort (e.g., begging, cleaning shoes).
- Pre-survey, defined occupational categories may be analyzed in depth to establish accurate income ranges for each, which could be used as a cross-checking device for reported weekly income.
- Problems of measurement very substantial, including whether required respondent is present in household at hours of survey.

Option II:

Occupational category of each income earner only.

This is combined with external data on the income range of each occupational category derived from an informal, detailed income survey of purposively selected individuals within each category.

Allows:

As Option I, but potentially with less accuracy.

Issues:

The level of accuracy achieved with this method is directly related to the manner in which income ranges for occupational categories are estimated; the choice of method (informal versus

small sample) will be decided by the survey manager on the basis of time and resources available. The main problem with this approach is that, in order to measure the income brought in by secondary activities (which are probably very important to total household income in the current circumstances), the income from a wide variety of activities would have to be assessed. It would probably be simpler to do this within the survey itself.

Option III:

Occupational Categories of each main income earner as above.

A set of income ranges are shown only to persons who live in urban areas and so are largely receiving monetary income. They are asked to state in which category their average money earned income for the entire household falls, mentioning that the income of everyone who has been stated as working in the previous question should be included. It should exclude loans, gifts, zakhat and food aid.

Allows:

As Option I, but potentially with less accuracy.

Issues :

Easiest of the three options, but also the least accurate and most prone to respondent error.

c) Agricultural Production

- how much land is cultivated, how much land is owned, how much land is rented (using appropriate term), how much land (if any) is rented to others?
- how many of each kind of livestock is owned, covering cattle, sheep, goats, poultry, rabbits?

Uses:

A component of income, for farming families often the major source, combined with information on other income to give total income.

Issues:

Access to basic productive resources like land and livestock is the key in protecting households from an entitlement failure caused by spiraling prices. Prior to a formal survey being carried out (or in parallel with it), it is recommended that the potential productivity of a household with access to productive resources be established in terms of land holdings (under different tenure arrangements; different land types; and different levels of access to water resources); livestock ownership (for different types); and the length of time that a family has been on the land (given that newly resettled families who have not been assisted will not have the benefit of last year's harvest to provide for this year's inputs). In other words, the significance of different resources to a household's income should be established *a priori*. This should enable the reported resources to be converted to an equivalent monetary income, to be combined with earned income to calculate total sustainable income. This can be compared with the cost of a basket of basic necessities, standardizing for household size. For collective towns, it should be emphasized that land currently farmed in the village of origin should be included.

2) Additional Income Sources

These other sources of income are important to many of the poorer households and should be measured in order to assess total household income.

a) Assistance: food and money.

Option I:

Quantities of all food and financial assistance received from all sources in the last one or two months.

Uses:

Component of total household income; may be possible to examine the extent to which income transfers and food assistance form a substantive part of a poor household's income.

Issues:

Quantities received, although providing precise data, may be too complex a question to ask. Moreover, if income is not measured with any precision, then this will be an unnecessary complexity. Kurdish phraseology should be used which implies money given as a gift, not as a temporary loan.

Option II:

As above but simplified for food assistance: the number of times food assistance received in the last six months and the source on each occasion. This could be combined with external data on the food package given by each source to produce an accurate costing of additional household income.

Uses:

As above

Issues:

This option would slightly complicate data processing, but would probably provide a more accurate figure for additional household income as people are more likely to remember the source and approximate date of receipt than the exact quantities involved.

b) Debt

Debt is being incurred by some households in order to meet consumption needs. The measure should distinguish debt resulting from meeting household consumption needs rather than invested in productive activities. Debt may also act as a proxy for households in economic stress. A simple question such as asking about whether money has been borrowed within a stated time period to buy food, medicines, fuel or to pay the rent could be answered either yes/no or by an amount. Buying essentials on credit should also be classed as debt.

Uses:

Proportion of households going into debt to meet basic needs could be an important indicator of the level of vulnerability in the population; mean debt for the population or sub-groups may supplement this information; comparison of proportions of households in debt or mean debts between groups could be used as a measure of the economic stress faced by different groups; debt

as a proportion of income to compare groups may be more useful as an indicator of stress because poorer families may be unable/unwilling to borrow sums as large as richer families despite facing greater hardships.

Issues:

Distinguishing the source of the debt may also be useful (i.e., 'Is your creditor a relative or acquaintance?') since family debts may be direct income transfers with little expectation of repayment. Pre-survey informal focus group discussions might be held with households perceived to be at risk, specifically to identify the precise nature of family 'debt', and at what point it moves from simple income transfer to unsustainable borrowing, to enable the accurate interpretation of debt based indicators. Interpretation of measures of debt will need to be made in the light of the knowledge of normal patterns identified in the population.

c) Sale of Goods and Assets

The sale of household goods and assets is discussed below as an indirect indicator of economic stress. The value of income derived from this source should be measured if possible since it is a component of income.

THEME III: INDIRECT INDICATORS OF ECONOMIC STRESS

1) Sale of Assets and Household Goods

Sale of assets and of household goods in order to meet basic needs is an indication of households maintaining an income through unsustainable means. A question regarding assets currently owned and assets sold in the last six months in order to buy food, medicines, food or to pay the rent could be used as an indicator of vulnerability. Assets and household goods which could be considered in such a question include:

- car
- tractor
- livestock
- ceiling fan
- television
- refrigerator
- man's watch
- bed
- floor rugs
- kerosene heater/lamps

In practice, a set of common items of broadly equivalent status (in terms of how essential they are to a normal household) could be grouped together and the respondent asked whether any of the items in the category had been sold. Respondents would also be asked whether they currently own the items on the list.

Uses:

The proportion of households selling any assets/goods and/or selling the most basic of household goods in order to meet basic needs is a measure of overall levels of vulnerability in the population; can be used as an outcome variable in identification of vulnerable groups; household goods owned as indicator of wealth (with stated provisos).

Issues:

It would be necessary to establish which are the most basic household possessions and the last to be liquidated. These sales are particularly good indicators of the vulnerability status of the household. Informal focus group discussions could be held with households perceived to be at risk to identify and rank different categories of household resources according to their perceived importance to the household. For items which are not owned by all households, i.e., all but the most basic items, interpretation of the number of households selling the items will require information on the number that owned them initially.

2) Foodstocks

An almost universal practice in both urban and rural areas is for households to buy or store a stock of grain at harvest time that is intended to last them for the entire year. Farming households will set aside a proportion of their grain harvest. This stock of grain is known as *zakhera*. Two or four questions could be asked in relation to the maintenance of the *zakhera*:

- Did you buy/set aside a *zakhera* last harvest?
- Did you buy/set aside a *zakhera* the harvest-before-last?
- How long did/will your *zakhera* from the last harvest last?
- How long did your *zakhera* from the harvest-before-last?

Uses:

The proportion of households that were unable to buy/set aside a *zakhera* in the last year may give an indication of vulnerable households. The interpretation of this statistic is complicated by a number of issues (see below). A more reliable measure may be the comparison between reports for the last harvest and the harvest-before-last, giving a measure of trend for the population as a whole and indicating groups which are becoming more vulnerable. Asking about duration of the *zakhera* will enable similar statistics to be calculated for households which bought some *zakhera*, but which were unable to buy sufficient for the entire year.

Issues:

The interpretation of this measure is complicated by a number of issues. Firstly, the lack of grainstores as an indicator of vulnerability in an urban society does not have the same connotations as it does in a poorly resourced agricultural society; the grainstore is of considerably less importance in the former. Consequently, it is likely that the lack of grainstores will overestimate the levels of vulnerability if interpreted as a direct indicator of vulnerability. Secondly, the farmers which have recently resettled may have been unable to establish a *zakhera* and be dependent on aid for the first year, but this situation can be expected to improve after their first harvest, whereas it may not for urban groups. However, knowledge of the numbers of people who have not been able to buy stores this year compared to last year, may give an indication of the trends occurring, and will enable the identification of groups who are becoming more (or less) vulnerable. This may justify the collection of this data, although changes in food aid may complicate even this measure.

3) Changes in Consumption Patterns

The consumption of inferior and culturally distasteful commodities like barley flour is evidence that a household is under economic stress.

Uses:

The proportion of households consuming barley flour at the current time could be used as an overall descriptive statistic for the population and as a means of identifying the types of households under most economic stress.

Issues:

It is difficult to interpret what level of economic stress is indicated by this variable.

4) Consumption Debts

As discussed under the theme of income and employment.

Variables Measured at the Level of Individuals.

1. Adults

A. Of all or a subsample of adults:

- weight and height

Uses:

Allows the calculation of weight-for-height indices as indicators of adequacy of nutritional intake in adults; proportion below specified cut-offs can be used to describe levels of adult malnutrition in the population as a whole and as an outcome variable in the identification of indicators of vulnerable households.

Issues:

Availability of adult males to be measured; may have to be limited to women, who are more likely to be available.

B. Of ever-married women:

Asking ever-married women aged 15-55 about the number of children they have given birth to and how many of these children are still alive can be used to estimate trends in child mortality over the past 10-15 years. The proportions of children dead for each 5 year age group of mother, or alternatively for mothers classified by the length of time they have been married, can be converted into standard child mortality measures according to an established methodology.

Uses:

Trends in child mortality over the past decade are of interest as descriptive statistics on the general welfare of the population - there is a complete lack of current measures of child mortality in the population at present.

Issues:

The marriage-duration variant of this method is more likely to be useful in this population, because the age-of-mother variant usually shows biases for the most recent estimates. Marriage is

relatively stable in the population and the duration of marriage is likely to be reported at least as well as mothers' ages. The most recent estimate for child mortality will be dated one-and-a-half years before the survey.

2. Children

Measured for children under five years of age in either all or a subsample of the households.

1. Morbidity:
 - has the child had diarrhea in the last two weeks?
 - as control variables in the analysis of anthropometric data.

2. Anthropometric data:
 - age, weight and height.

 - allows the calculation of standard measures of child malnutrition (weight-for-age, height-for-age, weight-for-height); these are key measures of poor nutritional outcomes and may be used to describe the overall welfare of the population and of subpopulations; may be used as an outcome variable to compare groups and identify characteristics of groups most at risk of having malnourished children. Collection of this data would also allow comparison with previous nutrition survey to give some indication of trend.

3. Food consumption:
 - For children under one:
 - being breastfed? exclusively, partially, not at all.
 - For older children:
 - how often in the past month did the child eat: milk/yogurt, meat/eggs, cereals/potato, green vegetables, chickpeas/lentils, tea?

Uses:

The breastfeeding data may be used as a control in the analysis of anthropometric data of children under one; the other data may be converted into a diversity score which may be used to measure the proportion of the population on restricted diets and to identify the characteristics of groups currently having an impoverished diet.

Issues:

The food diversity measure may not be sufficiently important to justify the complexity of its collection.

C.4. Sampling Strategies and Sampling Frames

The choice of sampling strategies depends to a certain extent on the choice of sampling frames. The current UNICEF sampling frame and the quality of Food Department lists of families, considered as a possible sampling frame, are discussed below. An outline of three possible sampling frames and the sampling schemes associated with them is then given.

Some aspects of the sampling scheme can be outlined regardless of the sample frame chosen. Cluster sampling is essential given the size of the population. Within these clusters, households must be sampled. Household level variables should be measured. Individual level variables should then be measured for household members. The distribution of the population between cities, towns, collective towns and rural villages is not known with great accuracy, differs between sources and is changing as the resettlement program proceeds. Very broadly, the distribution is probably in the order of 30%, 20%, 25%, 25% respectively, although these figures

should be considered to be plus or minus at least 5%. If this distribution is roughly correct, then taking a larger sampling fraction in any particular domain is probably not justified, given that estimates for all four residential categories is probably required with about equal accuracy. If any is of particular interest - the collective towns were sometimes singled out - then a larger sampling fraction could be used. It is not reasonable to treat cities and towns as a single domain (thereby enabling a reduction of their sampling fraction) because they are probably different in many respects.

Assessment of Sampling Frames

There are two possible sources of information that could be used as the basis for a sampling frame. One is the UNICEF sampling frame. The other is information held by the Food Departments of the governorates. The UNICEF sampling frame is held at the UNICEF office, Erbil. It was used as the basis for two EPI-style cluster surveys, one measuring vaccination coverage and the other measuring the nutritional status of children. It consists of a listing of villages, towns and sectors of the cities together with their population size, for each of the three governorates. The list for Sullimaniya includes the areas north of the GOI line that were not previously part of Sullimaniya but that are now being administered by the Governorate of Sullimaniya. The lists were put together by the Ministry of Reconstruction and Development (MORAD) with information compiled by the Directorate of Reconstruction and Development (DRD). It does not provide a listing of households, but can be used to select clusters within which EPI sampling strategies can be used.

The other source of information that could form the basis of a sampling frame for the entire population is held by the Food Departments. Food Departments of the respective governorates keep and update lists which, in theory, include all households in the population. Even quite wealthy families are generally found on them. The lists are based on a system of food agents which were the means by which food rations were distributed to every family by the GOI. These lists of food agents and the families which they serve are currently used to distribute the continuing GOI food aid. They are also used to distribute food and kerosene provided by UN and NGO bodies. They are supposedly being continuously updated in all three governorates. The Food Department lists could in theory be used as a complete sample frame for households. Three-stage sampling could sample clusters of food agents located in particular geographic areas, followed by the selection of agents and then households from the lists of families served by the agents.

The Food Department lists and the UNICEF sampling frame bear some relation to one another, since the UNICEF sampling frames for Sullimaniya and Dohuk Governorates were constructed partly from information provided by the Food Departments. The investigation of the two sets of data in the limited time available does not suggest that either are reliable sample frames; neither is it easy to decide which is a better choice.

Assessing the quality of the frames ideally requires an assessment of whether there are any areas that have been omitted and whether the estimates of population sizes are accurate. This is a difficult task due to the lack of other reliable, external information with which to check them. In the absence of such data, two approaches can be taken. Firstly, to compare them with one another to see if they are consistent. Secondly, to consider the way in which they were constructed, whether they continue to be updated and whether there are reasons why the figures are open to doubt. Considering the latter issues, neither of the frames are particularly trustworthy. The UNICEF frame uses estimates for the population of rural villages derived from DRD surveys. These surveys are conducted by a DRD staff member visiting the village and asking the village committee and others about the number of families in the village. They are therefore fairly crude measures of population size, but surveys have been carried out in all three governorates within the last six months and so quite recent data are available. The UNICEF frame was constructed before the DRD surveys in Sullimaniya and Dohuk were completed and if it is to be used for the current sample survey it can now be updated with this information. The estimates for urban areas are of more concern. For Sullimaniya and Dohuk, the estimates are believed to derive from Food Department data; specifically, the kerosene lists. For Erbil Governorate, the population estimates for the city,

towns and collective towns were derived from the 1977 census populations by applying an annual growth rate of 3.2% over the period. This is unlikely to be an accurate estimate of population growth for subpopulations during a period in which very substantial population migration occurred. These procedures were applied not only to the city as a whole but to sectors of the city, which are very unlikely to have grown at the average rate of population growth.

The list of households held by the Food Departments are probably also inaccurate. Since the lists are used to distribute food and kerosene rations, there is a clear incentive to be registered in greater than one place if possible in order to receive additional benefits. Similarly, there is a disincentive to register deaths of family members since the amount of food received is related to the number of persons in the family. There is also the suggestion that sometimes names may be maintained on the food lists by officials when in fact the person has moved, or never existed, in order to collect more food aid. We encountered reports of particular places where the population was believed to be substantially overinflated, although the 1993 listings were believed to be much better than those of the previous year.

If all populations were approximately equally over-inflated, then selection of clusters would be unbiased and an appropriate sampling rule for dealing with non-existent families could be devised. Unfortunately, this is probably not the case and particular populations, in particular the ones where food rations are delivered more regularly, are believed to be more inflated than others. Pre-monitoring of the kerosene distribution lists, which are based on Food Department lists, was carried out by the implementing NGO, CARE. In Erbil Governorate, it was found that between 2% and 20% of persons on the list that were not in fact resident. However, these figures are not reliable guides to overall levels of over-inflation, either within a particular population or for the population as a whole, because food agents who were suspected of having overinflated lists were targeted for monitoring. This is rather unfortunate from the point of view of constructing a sampling frame because they cannot be used as estimates of the necessary deflation for each population. Omission of people from the listing is probably a much less serious problem, at least at present. CARE post-monitoring of this winter's kerosene distribution used a random selection of households to see if they had in fact received kerosene, and none were found to have been missed. It should be noted that the food distribution lists for Sullimaniya were recently updated by obliging all members of the population to hand in their identity cards on a particular day, allowing them to be checked off against a central register. This is believed to have greatly improved the accuracy of the food lists in this governorate. Updating in the other two governorates, while it is supposed to be an ongoing process, is probably much less adequate.

Comparison of population sizes from the two sources can be used to assess consistency. However, interpretation of differences between the sizes of populations given by Food Department lists and the populations of the UNICEF sample frame is complicated by questions of administrative boundaries, since families are no longer compelled to register with a food agent in a particular area and may select the agent of their choice. This means that population estimates for villages, for example, may be distorted by individuals registering elsewhere. However, most individuals will register with an agent nearby for convenience and estimates of population for towns and *nahias* (sub-districts, usually centered on a town or main village) should be reasonably comparable with estimates derived from elsewhere. At the level of governorates, the estimates should be entirely comparable.

Comparison of population sizes from the two sources, where possible, does not suggest that they are consistent. A comparison of a selection of sub-populations taken from the most recent Food Department estimates for Sullimaniya Governorate show generally larger populations in the Food Department listing than in the UNICEF sample frame, commonly of the order of 20% - 30% larger in the former. These differences must be interpreted with care since there was some uncertainty about the organization of the Food Department figures which remained unresolved. However for Dohuk Governorate as a whole, which is not subject to the same uncertainties about exact comparability of populations since it includes the entire governorate, the Food Department population is 727,929, whereas the total population of the sample frame for the governorate is 629,681. Dohuk Governorate has not been subjected to the same relisting of Food Department lists

as Sullimaniya, however, so the difference is as likely to reflect inflation of the Food Department lists as much as underestimation in the UNICEF frame. Unfortunately, the most that can be concluded is that the two sets of figures do not show a reassuring consistency, as would have been hoped.

Two other complications to either of the two sample frames are summer migrants returning to the rural villages and refugees returning from Iran with the improvement of the weather in the spring. The summer is a time when families will migrate to the rural villages, either to farm for the summer or to resettle permanently. Any listing of households or of population sizes is likely to miss the most recent migrants, some of which may have moved just before the survey. Returning refugees are another population movement that needs to be considered. UNHCR is using a working figure of 50,000 refugees returning over 1994; if they return to a restricted area, it could be worth incorporating the changes in the size of populations, although in fact the number is a rather small figure given the inaccuracy of the sampling frames overall. The documentation of returnees by destination, which is carried out by CARE, would make any adjustments simple to carry out.

One other possible sample frame was considered, that is the listing of enumeration areas produced by the last census. These could be used as a sampling frame. If sufficiently small, selected enumeration areas could be rapidly enumerated to get an current estimate of population size within them, and a sample of the enumerated households or dwellings taken. However, we were informed by the Head of Statistics that the maps of enumeration areas for Dohuk and Sullimaniya Governorates had been destroyed by the withdrawing Iraqi troops. There is some uncertainty about this because a statistical officer in Sullimaniya claimed that the maps existed for that governorate but were not centralized to Erbil (which is the center of the regional government). Even if this is true, it is unlikely that enumeration area maps are available for the areas that were previously part of Kirkuk governorate, since these maps will be kept in Kirkuk

Sampling Frame Options

There is no adequate sample frame available for the region. However, even if a poor sample frame results in some bias in the estimates, the value of approximate estimates is sufficient to justify the survey. The uncertainty over when a census is likely to take place, and the likelihood that it will not occur in the near future, suggest it would be a mistake to wait until the census provides a better sampling frame. The choice between possible sampling frames is not clear. Three options can be outlined. These are: updating the UNICEF sample frame with better estimates of population sizes, some of which will need to be derived from the Food Department estimates; using the Food Department lists as a sample frame; using a combination of the two. The sampling schemes that would be used with the frames are also discussed. Final choice of sampling frames and strategies should be left to the implementor.

Option 1. Updating the UNICEF sampling frame

Sampling Strategy

The UNICEF sampling frame does not include a listing of households. It is therefore necessary to use EPI-style selection of households within the clusters. This method has been detailed extensively (WHO, 1988) and this detail will not be repeated here. The complications with this sampling strategy in the current situation are as follows. Firstly, some variables are being measured at the household level and some at the level of the child. It would be difficult to ensure a fixed number of both households and children were sampled for each cluster without the probability of introducing bias. Either a fixed number of households or a fixed number of children should be sampled. This means that the sample will not be self-weighting for the other set of variables. Secondly, in the case of EPI surveys of vaccination coverage, the protocol specifies selection of the sequence of households (aside from the first) by choosing the nearest household. This is appropriate when a substantial proportion of households do not have a member of the target group within them (e.g., children 12-24 months). However, if a survey such as this one is being carried out, in which every household can respond, then this will be less satisfactory since it will lead to an excessive clustering of households within the cluster. A rule to select the fifth subsequent household may be proposed (David et al, 1990). The benefits of the increased heterogeneity must be balanced against the danger of introducing enumerator bias into the selection of households when the sampling scheme is finally decided.

Sampling Frame

If the UNICEF frame were to be used, it should be updated with information that has become available since its construction. This includes the completed DRD rural surveys for Sullimaniya and Dohuk and, if possible, the Sullimaniya Food Department updates for urban (or possibly all) areas. The estimates for urban areas of Erbil should also be updated with Food Department data if possible. Any major resettlements to particular rural villages, will be recorded by the DRD and should also be used to update the frame.

There are a number of problems associated with this approach. Firstly, the population estimates derived from the Food Department lists may themselves be inadequate; this would also be a problem using the Food Department lists as a sampling frame, but it may be possible to overcome it if using the food lists (see below). Secondly, if there is a common, systematic bias in all Food Department estimates, then this will cancel out if the population estimates used are all from this source. In combining estimates from the DRD and the Food Departments, this cannot happen. Thirdly, there are questions over the administrative boundaries to which the Food Department estimates refer. In Erbil Governorate at least, some families may be registered with agents in the population center of the *nahia* when they in fact live in outlying villages. If the population estimates for the main villages include these families, then the sampling will be biased. Fourthly, the UNICEF sample frame contains some large urban clusters (up to 30,000 persons), in which

application of EPI-type sampling is difficult. The Food Department lists cannot be relied upon to break these populations down - again in Erbil, people may choose food agents across city sector boundaries. This would mean either accepting some degree of error in the estimates of population sizes of city sectors, or using the population size of the city as a whole and then having to select random sites within the city at which to begin the household survey.

Option 2. Using the Food Department lists as a Sampling Frame

Sampling Strategy

The lists are available as a list of food agents grouped by area, with the number of families and individuals that they serve. Clusters could be sampled from this using probability proportional to size. Food agents could then be sampled within the cluster, again using probability proportional to size. Finally a fixed number of families could be sampled from the lists of households served by the food agents. This scheme would be self-weighting for household level variables.

Sample Frame

The Food Department lists, if they were reliable and regularly updated, would provide an ideal sample frame. The problems with the lists have been discussed above. For Sullimaniya, the list is believed to be of good quality and would make a useful sample frame. This is not so true of the other two governorates. One option that could be considered is using the listings as sample frames and then estimating deflation factors to reduce the weighting for some clusters in the analyses, based on the level of overinflation found for the sampled populations. The proportion of families that are sampled from lists but are that are not resident could be used to calculate this deflator. For single clusters, the sample sizes are too small for the estimates to be used, but if clusters can be grouped into categories expected to show similar levels of overinflation, then estimates could be derived. These categories could be based on urban/rural/collective town divisions or on the regularity with which food aid is delivered to the clusters. At the least, these weights could be used to explore the possible effects of biased population sizes on the estimates. It would be necessary to sample extra households to maintain final sample size to allow for households not being present.

The two main problems associated with this approach are the uncertainty associated with using the deflation factors and the problem of unlisted households. The most serious problem of unlisted households is likely to be families returning to the villages over the spring and summer. Some of these returnees may not be on the food lists for their new residence and would therefore be missed entirely in the survey.

Option 3.

Strategy and Frame

One approach which may overcome some of the problems of the other two approaches is to use DRD data combined with EPI-sampling for the rural areas and to use the food lists for the urban areas. For the rural villages, this approach would ensure that summer migrants returning to their villages were included in the survey. For the urban areas, including collective towns, food lists would provide a convenient way in which households could be selected in large clusters. Deflation factors could be calculated for the areas which were sampled using food list population sizes in the sampling of clusters, as discussed for option two. However, in this case families which were sampled from the list and were found to have moved or to be resident outside the urban area would both be counted as overinflation. People are aware of the boundaries to administrative areas near where they live, so this would be possible. This approach would allow the possible biases associated with combining DRD and Food Department estimates to be reduced, assuming that the major problem is overinflation of the Food Department figures.

The problems with this approach are that care would need to be taken to ensure that, for the chosen urban clusters, the limits to the cluster are known by the enumerators. The uncertainty associated with deflation remains an issue. This approach assumes that the number of households in urban areas which are not on the Food Department lists is negligible. It also assumes that the rural population sizes are reasonably accurate, which may be invalidated if very extensive migration back to villages occurs over the period.

Conclusion

There is no adequate sample frame available for the region. However, even if a poor sample frame results in some bias in the estimates, the value of approximate estimates is sufficient to justify the survey. Further investigation of the Food Department lists, which was not possible at this time, in particular checking the extent of omission of families, would help in the final choice of sample frames. It would be useful, in the analysis of the resulting data, to explore the effect upon estimates of assuming a range of errors in the population sizes used for sampling. This could estimate limits to the error likely to have resulted from the use of a poor sampling frame.

Sample Size

The specification of sample size will depend upon the variables which are finally selected for inclusion in the survey and the sampling scheme adopted. It will also depend on the level of precision which is required from the estimates at the level of the governorate and at the level of residential areas (city, town etc.) How large a relative risk is considered to be important in targeting aid is also a factor. Specifications of significance and power are also required. In practice, the cost of an additional thousand households is relatively small. It will be the balance between precision and measurement error, the latter dependent on the quality of available enumerators and the training they can be given, that will have the largest impact on sample size. Again, final choice of sample size must rest with the implementor.

An outline of the implication of a sample size of four thousand households is given below, using approximate figures to illustrate the implications of the sample size. This sample size has also been used as a basis for the costing. The calculation below has been based on proportions, such as proportion malnourished. A proportion of particular interest in the survey is the proportion on inadequate incomes. This is a more complex proportion since it is based on an estimated income in the numerator and an estimate requirement in the denominator; this may have implications for the calculation of sample size which should be examined by the implementor, if necessary with assistance from a sampling statistician.

A total sample size of four thousand households would mean:

- i. An estimate of a relatively low proportion - such as the proportion of under-fives in the population who are malnourished which falls between 2% and 20% could be made:
 - for the population as a whole, with 95% certainty that the estimate is correct to within 2%;
 - in each governorate, with 95% certainty that the estimates are correct to within the range of 2% (if the proportion is under 10%) to 3.5% (if the proportion is over 10%);
 - within each type of residential area (if it constitutes 20% of the population), with 95% certainty that the estimates are correct to within the range 3% (if the proportion is under 10%) to 4% (if it the proportion is over 10%).
- ii. An estimate of a larger proportion would have wider confidence limits, but they would represent a reasonable range of variation given the higher value of the estimated proportion.
- iii. It would be possible to detect a relative risk of 1.5 with a power of over 90%, for rare outcomes (population risks of less than 5%) and to detect lower relative risks for outcomes that are less rare.
- iv. It would be possible to delineate a trend in child mortality over the previous 10-15 years;

C.5. Implementation

Implementing/Collaborating Institutions in N. Iraq

In so far as could be established, there does not appear to be any single institution in the area that is capable of implementing the survey and has a staff member available to do it. UNICEF itself is the only organization with experience in both of the two key areas, that is the implementation of population-based surveys and the computer-based analysis of such results. The staff members who were involved in the previous surveys are committed to other work and did not feel that they had sufficient time to take on responsibility for the survey. Other organizations that were considered as sole implementors were the Ministry of Health, the Department of Statistics, the College of Medicine and a public-health-oriented local NGO called the Kurdish Health Foundation (KHF). None of these organizations have experience in both of the two key areas. An external survey manager with knowledge in these areas would be required to assist in the implementation of the survey for the entire duration of the survey.

However, it is important that local institutions are involved in the process, both to build local capacity in this area and to ensure local ownership of the results. The organizations mentioned above could be considered as possible joint implementors in the survey. The Ministry of Economics and Finance may also be a possible collaborator, given the importance of economic variables. UNICEF is currently seeking possible collaborators.

External Staff Requirements

An external survey manager is required for the duration of the survey. This person should have knowledge of survey methods, questionnaire design, data entry and data analysis. Since the questionnaire is a multi-subject questionnaire, it is unlikely that any manager will have direct knowledge of all subject areas; additional assistance in some areas will need to be provided. This will be necessary for the initial period in which the choice of variables and the formulation of the questionnaire is undertaken. Given the time-scale for the implementation, the data analysis should also be assisted by an additional external consultant. This suggests that the survey manager should be supplemented by an additional consultant, not necessarily the same consultant, for two periods - in the initial period of finalizing the choice of variables and the questionnaire format, and in the final period during data analysis. In outlining the out-of-country items on an external budget, five additional days of consultancy has been included. This may not be necessary but allows for the possibility that particular issues could be discussed with specialists in certain fields, for example a sampling statistician or demographer, if these fields are outside the area of specialism of the survey manager.

Outline of Requirements for Implementation

1. Sample Frame:

Final decision on appropriate frame and compilation/modification as required.

Requires: Cooperation of Food Departments (can be expected).

2. Survey Design, Detailed Plan of Implementation:

The survey design and implementation plan outlined here should be finalized.

Requires: Collaboration between external and local survey managers; input from additional consultant; possibly, some input from sampling statistician.

3. Questionnaire Design

Finalization would follow final choice of variables. If there is time, focus group interviews should be used to assess variables and forms of questions to measure them.

Requires: Use of focus groups. Input from additional consultant for special questionnaire issues outside survey manager's field.

4. Recruitment and Training of Enumerators

Depending on finalization of sample size, an estimated 40 enumerators would be required; this is probably the maximum that could be realistically trained in the time, and should be reduced if possible.

Requires: Enumerators - a common source of enumerators for such surveys are teachers and medical students; unfortunately, neither are likely to be available during the period of the survey. UNICEF used Ministry of Health staff (mostly medics) for the surveys, who would be very useful team leaders if they can be seconded again; it seems probable that at least some will be available.

Training requires knowledge in areas of: anthropometric measurement (available in country); measurement of income and other socioeconomic variables; demographic measurement. It also requires anthropometric measuring instruments, which can be provided by UNICEF.

5. Fieldwork.

Requires: Enumerators (see above); vehicles - can be hired from CARE at reasonable rates provided the organization is still working in the region after March. CARE could also be considered as possible contractors for the logistical side of fieldwork as they have extensive experience of delivery of food aid/kerosene and some experience of survey-type work in pre- and post-monitoring distribution lists. This should be considered given the time-scale of the project. The price would need to be negotiated by the survey manager.

6. Data Entry.

Requires: Data entry staff - students should be available; data entry supervisor; the necessary machines (five 286s or better) are available in Erbil. Recommended package for data entry is EPI-INFO, which is free; data can then be merged to produce single file for analysis in SPSS or STATA.

7. Data Analysis and Report Preparation.

Requires: Requires at least one 486 machine - the purchase of a portable 486 machine for the survey managers is included in the budget and could be left with the collaborating institution. Another 486 machine could probably be hired. Requires a copy of SPSS/PC+ or STATA depending on survey manager. Given the time scale and since the collaborating survey manager will not have experience of data analysis on a computer, an additional consultant with appropriate data analysis skills may be necessary.

Timetable for Implementation

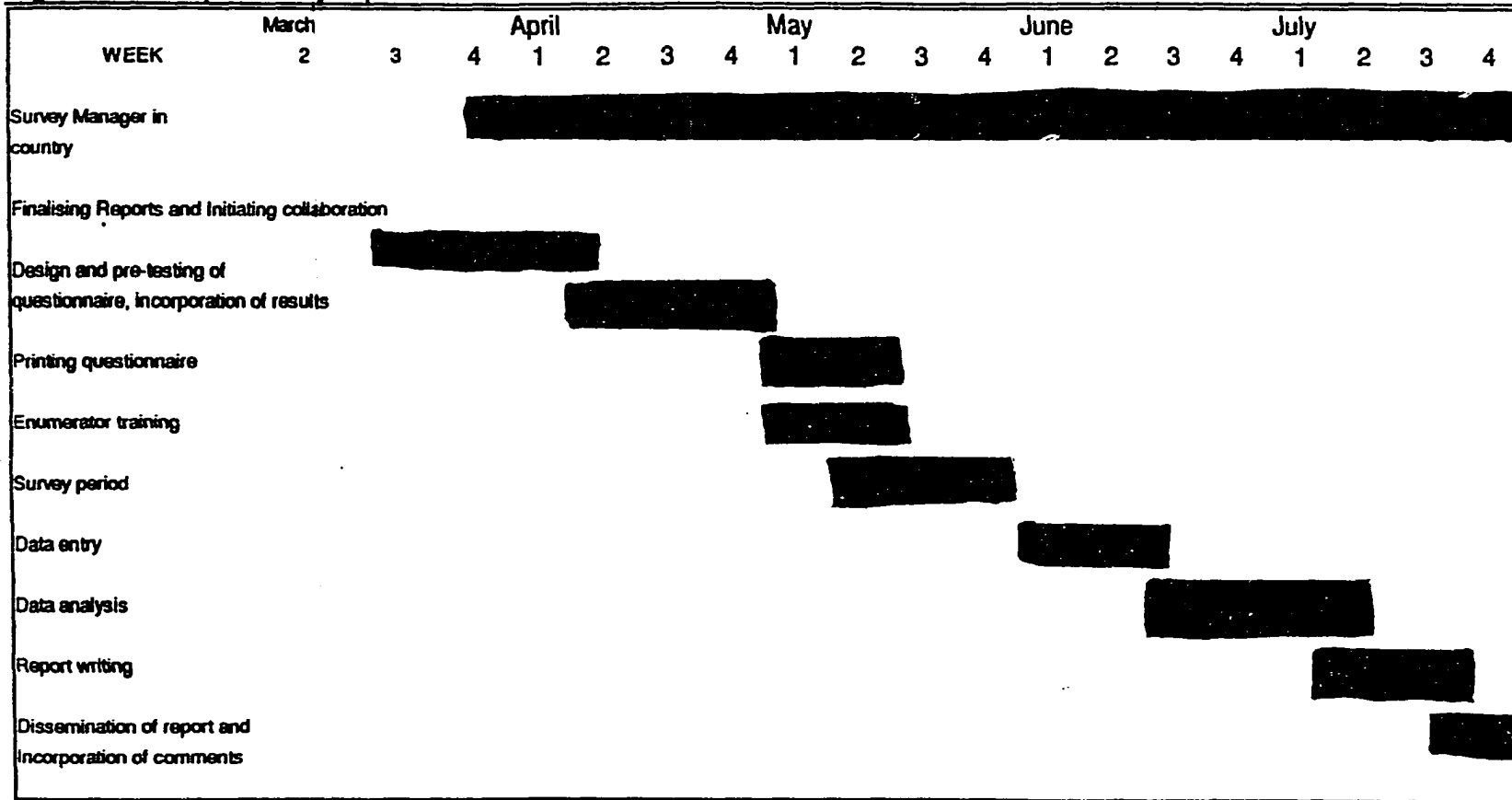
A provisional timetable for the survey suggests that it could be carried out within the necessary time frame. This has been specified by the agencies in-country, which require results by early August. However, the schedule is extremely tight - many surveys are carried out over a much longer period. The involvement of additional consultants at the crucial periods discussed above will help to fit the survey within the timescale. The most reliable outputs from the survey, that is the descriptive statistics on levels of vulnerability in the population and on the location of vulnerable groups, should be available by the August deadline. It is possible that the targeting information, which requires much more sophisticated analyses, will only become available after this date. However, it is the more basic data which must meet the August deadline, since it will have the most important role in the early stages of the planning of the food aid program. The targeting information would be used in the later stages, when the food assistance is being distributed.

An outline of the schedule is shown on the next page. In order for the August deadline to be met, the survey manager must be in country very soon, at the latest to begin work by about the 18th of April. If the survey is to go ahead, steps must be taken to organize this almost immediately.

<u>Activity</u>	<u>Time in Weeks</u>
Compilation of sample frame, Final questionnaire draft	2-3
Training interviewers, Printing questionnaires	2
Fieldwork	3
Data entry and cleaning	2
Analysis and write-up	6
Dissemination of results	1
Total time period for survey	16-17

(See also figure 3)

Figure 3
 Figure : Sample Survey Implementation Schedule



- 89 -

C.6. Costs - Outline

Costs are provisional as they will depend on the final choice of sample size and variables to be measured.

A) IN COUNTRY COSTS	£
1) Internal Survey Manager 18 weeks @ £5 /day	565
2) 20 Teams of enumerators (2 individuals per team) 18 days of data collection 5 days training @ £2/day	1840
3) Vehicles (20 four wheel drive pickups etc.) 20 days @ £2.30/day/vehicle	920
4) Survey manager's vehicle (four wheel drive) 18 weeks @ £2.30/day	290
5) Petrol (8000 litres) 1.3p/litre	104
6) Printing of Questionnaires and Manuals (estimate)	300
7) Data Entry (6 persons + supervisor) 18 days @ £1.50/day/person 20 days @ £3.00/day for supervisor	162 60
8) Computer facilities Five 286 machines for 3 weeks One 486 machine + printer - purchase One copy of data analysis package STATA Hire of second 486 machine for six weeks	207 1700 200 100
Total:	£6448

Note:

1. Does not allow for the contracting of the fieldwork logistics to CARE. This would considerably increase costs and may be decided necessary by the survey managers.
2. Assumes secretarial support to be provided by UNICEF/ UNDHA free of charge.
3. Assumes data analysis package is STATA; if the survey manager prefers to use SPSS then the costs will be higher.
4. Does not include cost of second copy of data analysis package on assumption that the collaborating consultant will have a copy. Again, if this is not the case, the cost will be higher.

B) EXTERNAL ASSISTANCE

One survey manager for 17 weeks	TBA
One consultant for 9 weeks	TBA
External advice on selected issues for five days.	TBA

Note:

Costs of consultants denoted as To Be Arranged as rate will depend on consultants involved.

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APPENDICES

**APPENDIX ONE:
SELECTED
HOUSEHOLD CASE
STUDIES**

Balisan Visage

Background

Balisan village lies at the south eastern end of the Balisan valley in Erbil Governorate. The village is perched on the northern side of the valley, overlooking the villagers irrigated land on the valley floor, which spreads across the valley as far as the main road (approx. 2km) to the South, and a small river (approx. 34 km) to the East. Most of the village's rainfed fields lie to the North of the village in the mountains.

Originally there was around 500 families living in and around Balisan Village. During the Anfal campaign of 1987, the village was subject to an attack with nerve gas. The men, women and children who survived, or who had not fled, were rounded up and taken to Rania Hospital for one or two days, where most received no treatment, and then on to Erbil security prison where they remained for three months. From Erbil prison they were moved into several collective villages in the Rania area (most went to Sarwchawa) where they remained until the uprising. Gradually families have been returning to the village, although this particular village has not had any substantial assistance with reconstruction. There are currently about 100 of the original 500 families in the village.

Prior to the Anfal campaign the villagers had grown barley, wheat and a few vegetables for their own consumption and tobacco and tomatoes as cash crops. Most families had donkeys/oxen for plowing, and goats and dairy cattle. The nerve gas attacks which killed most of the livestock in the area and the subsequent relocation of the population has resulted in a situation where less than ten families own anything more substantial than poultry.

The agricultural problems identified by the village assembly were the lack of equipment, particularly for plowing and the lack of livestock, again particularly donkeys for plowing. Currently most of the villagers were having to rent a tractor at considerable cost (although we were unable to find out how much). Most people also wanted to return to their previous position of being able to produce their own dairy products for consumption. The other major problem identified was the lack of adequate storage for vegetables, which last year they were unable to keep in any large quantity. Last year, for example, the farmgate prices of spring onions collapsed as farmers were unable to store any for gradual sale.

Nonetheless the general view of the village assembly was that slowly the village was recovering. They described the majority of families as 'struggling', and only about ten families as OK. Last year the recovery of villager's livelihoods was slowed by a poor cereal harvest due to pest problems, no spraying and low fertilizer application rates. Indeed none of the village assembly could remember a time when any household's grainstocks had been consumed before the following harvest, whereas this year they believed that many household grainstocks would be depleted up to two months before harvest. Wild grasses have always been collected for some consumption (some are regarded as a delicacy), but in the last two years they have made up a substantial proportion of the diet and, according to the assembly, have been a great help in overcoming the shortfall in production. The assembly also described how a number of families had been building up substantial debts (see case studies), previously unusual. While this may appear to be a worrying sign, it should be noted that the existence of debt in productive farming households may actually be a positive indicator of the process of recovery in the village economy.

Services

The village has a dispensary and an elementary school. The dispensary is staffed by a single medical assistant. The dispensary was clean with adequate facilities and basic drugs. The villagers were described as a generally healthy group and there were only occasional cases of diarrhea among children, no specific disease problems were identified.

In the elementary school, the majority of the teachers are from Erbil city. There were two local teachers, one from Balisan itself and another from a neighboring village in the valley. The Balisan school serves several other neighboring villages, the furthest being half an hour's walk away. The teacher's believed that nearly all children of school age are attending school, but some more regularly than others. Only three families were not sending their children to school at all, the reason being the lack of other labor in the household. The main problem facing the school is the lack of basic equipment such as copybooks, pens and pencils. Children should supply these themselves, and the cost is not insignificant at around 10 OI/yr for one child. The school had received some copybooks from UNICEF, but only enough for sharing one between three children.

Perceptions of Well-Being

The ten families who were perceived to be "OK" were clearly differentiated from the rest of the village (described as 'struggling'). They all 'owned' their own land and had been farming more than 25 "donums" of land in the last year, and all had some small stock. This contrasted to the majority of families who had been farming only small amounts of land (between 4 and 15 donums) and 'owned' very little of it. Rather the majority of these families (estimates ranged from 60 to 85 families) were 'renting' land, either from a local "aga", someone else in the village, or from families who had remained in the collectives and towns. Renting arrangements were typically on a sharecropping basis, with the sharecropper handing over part of the cash from the sale of his/her harvest in exchange for the use of the land. Unlike the patron-client relationships between landowner and tenant described in other parts of Kurdistan, in Balisan, landowners did not provide any of the production inputs, or exert any control over land use. The current land lease rates were a third of the value of the tomato/tobacco harvest and about a fifth of the value of the barley/wheat harvest.

In addition to these basic differences between households, villagers identified families with no adult males as having particular difficulties, as they face a severe labor shortage. The village has many such families (estimated between 30 and 40), as a large number of men from the village were killed during Anfal. For widows with a brother-in-law, the situation is less severe, as the brother-in-law is obliged to support the family. Typically such 'anfal' widows have moved into relative's compounds, and the male head of household takes over the management of the family's land. The practice of labor sharing between households for farm tasks like weeding (referred to as "harowiz" in Kurdish) to some extent moderates the effect of losing a working household member.

Nonetheless, the confused land tenure situation, the gradual and uneven rehabilitation process with families re-building their livelihoods from a very different starting points produces a community which is not as homogenous as it outwardly appears. The case studies of individual households demonstrates this clearly and bring out several key points relating to the ability of resettling households to secure their own livelihoods. Firstly, the household interviews demonstrate, unsurprisingly, that access to a sufficient quantity of land and livestock in rural areas where there are currently virtually no income earning opportunities, is a pre-requisite for household self-sufficiency. Secondly, land and livestock are necessary, but not sufficient factors in determining household self-reliance. The large number of men and boys killed over the last decade, particularly in rural areas has left many households with a large number of dependents, making comparisons between households based solely on land inaccurate. Household 3, for example, was considered to be relatively 'wealthy' before the troubles, but the family's situation has changed dramatically as it has had to support an extra five people following the death of the head of

household's brother. Finally, the type of land tenure that a family has, will have a significant effect upon the income of a household, given current leasing arrangements.

A selection of Balisan Village Households:

Case Study 1

This household was identified by the teacher as one of the richer families in the area, and a major landowner. The household consisted of a married couple and their six children: 4 girls and 2 boys aged between 3 months and 15 years. She is breastfeeding the baby but she is also giving her cow or goat milk.

They rent out the majority of their land which is irrigated, charging their tenants one third of all production. The family itself grows mainly tobacco, but also onions, tomatoes and a small amount of chickpeas.

This year was good for tobacco but they have not yet sold their harvest (now nearly five months old) as they are waiting for a better price. Presently, the price is 151D/KG which won't even cover the costs of production. They had less success with their tomato crops, which although they had used the correct amount of fertilizer, failed due to pest infestation; the family had no insecticide. The family owns a large number of livestock including donkeys (for plowing), cattle, sheep and goats. They also keep a lot of ducks and geese.

Case Study 2

Mohammed lives with his wife, five sons and three daughters in a ten by six metre, two room traditional house. He grows wheat and barley on a six "donum", rainwater fed plot about a kilometre to the North East of the village in the mountains, and 'rents' from the local clan leader another four "donum", irrigated plot about a kilometre to the South West on the valley floor where he grows tobacco and tomatoes. Before the Anfal campaign he also had two mules for plowing and transport, a horse and eight dairy cattle. The dairy cattle supplied a substantial supplement of milk, yogurt and other dairy products to the family's diet, and the family was also able to sell milk and yogurt. All of his animals were killed in the gas attack and he now only has poultry.

Last year his wheat crop failed due to what he described as 'bad luck'; a little probing revealed that there were a number of reasons including late planting, too little fertilizer too late and sunnipest damage. He had planted about 160 kg of wheat seed and had applied about 200kg of fertilizer (at a cost of 250 OID per 50kg sack), but managed to harvest only around 150kg of wheat. He estimated that he had lost 11 OID per kg of wheat harvested. last year's tobacco harvest was a little better and his four donum plot produced about 100kg, which he will not sell, "until the price is a bit higher". He hopes to get about 2000 OID for it. For this year's wheat and barley he has bought and applied 250kg of fertilizer (50kg of this was assistance from FAO), and if the insecticide spraying goes ahead as planned, he expects yields of between 200 and 300 kg/donum.

The only way he has been able to buy production inputs and basic goods for his family in the last year has been by borrowing money from relatives in Erbil. He is currently 3000 OID in debt, half of this money having been spent on fertilizer. He is under no pressure to pay it back and will do so only when he is able. His family is in good health and was eating three meals a day before Ramadan. They cook over a wood stove and have a kerosene stove/heater which they use sparingly; the only kerosene they have been using has been the 200 litres they received from CARE a few months ago.

Case Study 3

The second household consists of a married couple, three children, the sister in law of the man and her two children. The man's brother was killed during the Anfal campaign and he is now supporting his brother's family. The two families do not have usufruct rights over any land, but "rent" all of their land from the local clan leader. He is planting ten donums of rainfed land with wheat and barley one donum of irrigated land with tobacco and 0.5 donum with tomatoes. He pays for the land he farms with part of his crop, or cash from the sale of part of his crop. For wheat and barley one-sixth will go to the landlord and for tobacco and tomatoes, one-third.

Last year he had problems with sunnipest and was only able to obtain a wheat and barley yield of around 80kg per donum. This year he bought 250 kg of fertilizer for 1250 OID, and expects a much better harvest. He is still using last year's cereal harvest, but his wife only expects it to last for about another month after Ramadan, leaving them 3-4 months short. He does not know what he will do then, but expects he will have to borrow more money to support his family over this period. He explained that he had never been in this position before; there had always been enough wheat to last them the whole year. He still has last year's tobacco harvest and wants to sell it as soon as possible but is currently unable to find a buyer for it.

He is currently finding it hard to support the 12 household members; he estimated that the household's expenditure is around 4000 OID each season (half of which is spent on production inputs). His wife explained that besides production inputs, they have to buy vegetable oil, tea, sugar, salt, rice and washing powder regularly and occasionally clothes for the children, (although they hadn't bought any in the last year). At the moment he is heavily in debt to relatives, who are beginning to put pressure on him to repay them as they too are facing increasing financial difficulties. The day we talked to him he had just borrowed more money to pay for vegetable oil.

His wife ranked how important different basic commodities were for the household. Besides their own production, vegetable oil was indispensable while she thought that meat, although desirable, was of least importance. For other commodities, given a set of mutual exclusive choices, rice followed by tea and sugar was the order in which she would buy the commodities if she had very little money. The family has however not been going without the basic goods; prior to Ramadan the family were eating three meals daily: tea and bread for breakfast, lentils and cracked wheat for lunch and supper. This she regularly supplemented with eggs and onions. The last meat that the family ate was several months ago when they killed one of the hens.

Case Study 4

This household was identified as typical of the poorer families in the area. The household consists of an 'anfali' widow (her husband died during the chemical attacks), two daughters, a son (who is a local peshmerga and rarely at home), and her elderly mother. She is not one of the more fortunate 'anfali' widows who have had relatives to fall back on. She does not own any land or even her house (which is a one room wooden building in very poor condition and highly unsuitable for winter), but has been allowed to live there rent free. She plants a three metre by two metre patch of land with some tomatoes and onions and she also has two laying chickens. Her son's income is very little and she has been surviving on WFP rations which they have been receiving every two or three months, her vegetable garden, and donations from neighbors. Family members were in a very poor condition and were showing clear signs of malnutrition.

Al Gadida Zab Collective Village

Al Gadida Zab is a collective village about 35 kilometres to the East of Erbil city. The population of the collective is about 4800, distributed amongst about 500 families. Originally the inhabitants came from villages throughout the Northern region, but since the uprising most of inhabitants from Iraqi Kurdistan have returned to their villages. The remaining residents were almost exclusively from the other side of the government line and therefore unable to resettle. Since the uprising the existing Kirkukis population attracted more families fleeing from the GOI. The result is that, unusually for a collective, a significant number of families do not own their houses but are renting them from people who have returned to their villages. An estimated 60% of the population is from Kirkuk, mainly from urban areas, while the remainder comes from Makhmur.

The village is administered by an elected committee or focal parliament who deal with government and other institutions' relations with the collective. The collective is divided into five sectors, each with its own elected neighborhood committee dealing with problems within the collective. Two further committees have also been formed, one to deal with the matters relating to Kirkukis, and the other for the people from Makhmur. The collective has two elementary schools and a secondary school, a police station and five potable water points spread throughout the collective.

As the majority of households come from the other side of the front-line, very few families have access to farmland, consequently paid employment is vital to the collective's inhabitants. A number of families do have small vegetable gardens, plowed in the rubble of houses that have been pulled down by resettlers. Opportunities for employment are extremely limited within the collective and are largely restricted to petty trading, which only an estimated 20 - 30 families are engaged in. In the Summer there are opportunities for women to help with the harvest on the farmland surrounding the collective, but the wages are low (around 10-15 OI/day) and this coming harvest there will be even less places than last year, because farmers have been rehabilitating or buying new machinery. The only alternative sources of income are to be found in Erbil, a seven dinar round trip. The cost of the journey becomes significant if one considers that a day's manual labor, if it can be found, may provide as little as 20 dinars. Some of the poorer families cannot afford to take the risk of spending this money and not getting a days work (see case study 1). The plight of families in this particular collective is to some extent recognized as all the families here have been receiving rations every month during the winter programmed which for many has formed the main part of their diet (see case study 2).

The inhabitants of the collective ultimately would like to go back to their original homes, but only when they have confidence that they will not suffer persecution. In the meantime, there is a strong desire to build their own secure livelihoods, however basic, here in the collective. A number of people expressed the desire for land, but all realized that they were unlikely ever to be allocated any agricultural land. The members of the local parliament, and other people who were present suggested the alternative of providing livestock. As one man put it, "if every family had two cattle or five or six goats, then we would not need assistance". This solution is too ideal, as obtaining access to adequate grazing land would seem highly problematic, but the assembled crowd was adamant that they would be able to come to some arrangement with the local villagers over the surrounding land that is currently lying fallow.

Perceptions of Poverty

The local parliament members have a very clear idea of exactly who the most impoverished families are and why they are impoverished. They immediately pinpointed families with no working age males; families with handicapped children; families with large numbers of children; families who had fled with no possessions after the uprising and are having to rent property in the collective; and pensioners living alone and/or supporting grandchildren. They explained the differences in wealth between households:

- richer households tended to be those with productive resources, particularly cars or trucks and were able to make a good living as taxi drivers or traders;
- middling households tended to be those that were already wealthy and had come prior to the uprising (they were able to bring their possessions with them) and had been able to establish some form of livelihood, or to buy livestock (although they noted that since the economic problems began, these households are also suffering);
- the most vulnerable households were typically those who had fled after the uprising with no possessions and little money; and the other types of household described above.

The 'rough and ready' estimate of the categories they had described were: 5-10% in the first category; 15% in the second; and 75-80% in the category of impoverished or 'struggling'. People are generally coping with their new situation. The people are clearly resourceful and willing to try anything; it has become popular to keep and breed rabbits - they are easy to rear and grow very quickly - providing a rare source of meat. However the appearance of the collective's inhabitants as a group of families in similar circumstances is superficial and hides subtle differences between households. It is entirely uncertain what will happen to many families if the level of assistance is reduced.

The case studies illustrate a range of different household circumstances from those that are coping and have adapted reasonably well (case number 4, a family that arrived prior to the uprising) through those that came over the uprising with few possessions are struggling (case number 1) to those who are made up entirely of dependents with little or no resource base and are now facing extreme difficulties (case number 2).

Case Study 1

Hama Aminali lives with his wife in a compound in Gedida al Zab collective village with his family and his son's family. His three other sons had been killed during the Anfal campaign. In all there are four adults, Hama, his wife, his son and daughter in law, and three children. The two families moved to the collective at the beginning of the Gulf war in 1990, after Iraqi soldiers destroyed his house near Kirkuk city where he had grown cereal crops. The families brought as many of their possessions with them as they could, but over the last three years, they have sold nearly everything and now only have a kerosene stove, a few cooking utensils, bedding and some reed mats to sleep on.

When they first arrived Hama's son would go into Erbil city every week to try to find work as a day laborer, but has been unable to go recently as he couldn't afford the seven dinar return journey. Besides the income from day labor, the family used to receive the standard government rations. Now, the only regular source of income is the supplementary ration supplied by WFP. Unlike many of the other families in the collective they do not have a vegetable plot or any poultry to supplement their diet. In order to make the ration last for a full month, Hama usually exchanges about 40kg of the families' 63kg ration of high grade wheat flour for unmilled barley (he gets about 60kg barley for 40kg of wheat). Someone from the adjacent village mills barley for people in the collective for 10 dinars per sack, or a payment in kind of 2 or 3 kilos of the milled barley. They use the barley mixed with wheat flour for bread.

The families do not have any other sources of income, although they do receive help from some of their relatives in Kirkuk. In the last six months, Hama has been sent a total of 1000 New Iraqi Dinars, equivalent to about 250 OID. Neighbors with vegetable gardens also give them onions and pulses from time to time.

Case Study 2

Omer Hamamawlod, in his sixties, lives with his wife and two children in Gedida al Zab collective. His household was identified by members of the collective's committee as one of the poorest households in the collective. He has four children, but has had to send two children to live with some of his relatives as he is unable to support them. He used to work as a merchant in Kirkuk city, but fled to Iraqi Kurdistan after the uprising and subsequent reprisals. He came to Gedida al Zab with no possessions at all, but enough money to buy a house. He has been unable to work since he arrived and relies exclusively on WFP rations and a four metre by three metre plot of beans and onions.

The two children living with him are handicapped and he and his wife spend considerable time looking after them. Last year he was unable to pay for some medical expenses for his children, so he was forced to sell the structure of his house to obtain some cash. The four of them are now living in a five metre by three metre, one room shelter that was the compound's former outhouse.

The family cooks over a wood or dung fire and have a small kerosene heater; they used to have a kerosene stove but it was one of the items that they had to sell. The only income besides the WFP ration has been from the zakat or money given to him by neighbors and relatives: last summer he received 200 OID as zakat, and he is regularly (about once every two weeks) given 5 or 10 OID. Food is prepared from the WFP rations supplemented with onions and beans from his garden. The family rarely has tea and Omer reported that he had only eaten meat once in the last two years.

Case Study 3

This household is composed of a married couple and their two children aged three and six. They came from Kirkuk city after the uprising with few possessions, although enough money to buy a house. Her husband is a laborer and gets occasional work breaking up building materials, usually for about two days a month, and he earns between 10 and 15 OID a day, depending on the quantity he is able to get through. Besides this and their monthly WFP ration, the only other source of income they have had has been from the sale of their house. Last year they sold their house in the collective for around 1000 OID in order to have a little bit of cash. The one room house they are living in now has been lent to them until the end of the summer. The man did not know what they were going to do after that.

They have not sold any possessions other than the house, but thought that if they were going to start paying rent after the summer then they would have to. The family has four chickens which provide them with a couple of eggs a week, and a small four metre by four metre vegetable garden where they grow onions and beans. As well as the supplements provided by the vegetable gardens and chickens, the woman, like many other households in the collective, swaps part of the WFP wheatgrain for barley, adding bulk to their diet. Generally she prepares bread (made from a wheat/barley mix) and tea for breakfast; bulgur or boiled potatoes with tomato paste or lentil soup; and for supper they generally have the left-overs from lunch with some onions. The last time the children had milk or yogurt was about eight months ago and meat about three months ago. They generally have an egg every two days or so, which they split four ways for breakfast.

Case Study 4

This household had arrived here from Kirkuk nearly six years ago and has adapted quite well to the change in circumstances. A married couple in their sixties live here with their two sons and three daughters, aged between 18 and 30. They lost a further three sons during the anfal campaign. The father is too old to work, and the two sons do not have regular employment, although they pick up work as day laborers from time to time. They own a large number of ducks, chickens and turkeys and earn some money selling eggs and the occasional bird, they also have a large healthy-looking grapevine.

We were unable to obtain information about other sources and estimates of income, but from the general appearance of the household, it seemed likely that they were managing fairly well. Indeed, unlike many other families, they have not had to sell any of their possessions over the last couple of years to get by. They also reported a varied diet of yogurt, bread, lentils, eggs, potatoes, dates and meat. This was the only family interviewed that had eaten meat in the last six months.

Barsima Collective Village

Background

This collective village was formally built and 'opened' in 1988, however there has been a settlement here since 1976, when villagers from the border region with Iran were forced out of their villages by the creation of Hussein's cordon sanitaire. The majority of the households living here now moved here in 1987/8 from the surrounding villages, an unusual feature of the collective in that it was general policy to place villagers in collectives as far from their original lands as possible. During the anfal, the villages of the surrounding areas saw the fate of other rural communities in Kurdistan and lobbied the authorities to allow them to build a collective where the border refugees were settled. The main consequence of this has been that many households enjoy access to farmland adjoining, or very close to Barsima. However not all households enjoy this access, as a number of them come from the mountain villages of Haffa and Balakir, some distance away, or from Kirkuk (the other side of the front-line).

Most of the farmland in the plains surrounding the collective is owned by one ala, and families of the collective 'rent' land from him, as they always have done. The rate charged is variable, and seems to depend upon the whim of the ala, but figures as high as 50% of the value of production were quoted.

The collective houses about 13,200 people (around 2000 families). It has a three person high committee (or local parliament) that takes care of the affairs of the collective in relation to external institutions, and a number of sub-committees one from each neighbourhood, who deal with internal problems in the collective.

Services

The collective has a large dispensary (substantially funded by KHF), a primary school, a secondary school and a clean water supply in all sectors. 1400 children are in the primary school and 180 in the secondary school. The head teacher reported a high drop-out rate, estimating that perhaps 30% of school age children in the collective were regularly not attending. Two main reasons were given for this: firstly, the oldest children were being sent out to look after livestock herds; and secondly, he thought that there were a large number of families who could not afford the price of the copybooks, pens and pencils. He explained that generally in the latter situation it was the girls of the family that lost out. The school had received some copybooks from UNICEF, but not nearly enough.

Poverty

The apparent homogeneity of the housing in the collective hides the wealth differentials found between families. The gap between households that are managing reasonably well and those that for the last two years have been struggling to survive is largely a function of access to land as there are no employment opportunities locally. Barsima is close to the small town of Harir, but few openings are available there. Erbil, where poorly paid daily work is occasionally available is an expensive bus journey away, making it unaffordable for most households to seek work there. The only work available within the collective is collecting firewood, or petty trading. Mainly women and children collect firewood, earning a maximum of only about 10 OID per day, but the work is highly irregular, and firewood is becoming increasingly difficult to find. Petty trading in the collective requires a reasonable start up capital and involves a good deal of risk; a number of traders in the collective cited maximum earnings of about 25 OID / day, and many days where they make losses. The only other types of income earning activities found within the collective are taxi drivers and businessmen (i.e. large scale merchants and smugglers). These people, who have considerable resources, are extremely few in number.

For the majority of the inhabitants of Barsima access to land is vital for household self-sufficiency, but this is largely restricted to households who have come from the surrounding area. The Kirkukis and households from the mountain villages are in an increasingly difficult situation. There are no figures on the number of families with access to land and estimates from key informants varied wildly from 30% to 70%. For those without, the only sources of income are from the NGO's working in the area, the tri-monthly WFP food rations and gifts and loans from neighbors or relatives. The apparent resilience of the people may reflect the view that quite a large number of families do have access to land and/or livestock and provide substantial support for those that don't. The following case studies are of two households thought to exemplify the nature of poverty in the collective.

Case Study 1

The household of one woman in her thirties was identified by the primary school head teacher as being typical of the poor families in the collective, characterized by having no access to land, no regular employment or no members of the family able to seek employment. She lives in a small compound in the center of the collective with her seven children - the oldest, a seventeen year old boy, is unable to find work. Originally she came from Sisawa village, where her husband was a civil servant in the local administration and acted as the local electrician, and her family was generally considered to be relatively 'well-off'. During the second year of the Anfal campaign when her village was cleared, Iraqi troops arrested her husband and took him to the South where she believes he is still in jail. She moved to the collective soon after that in 1989. Because her family did not farm any land she has had no regular source of income since she moved here.

At first she was able to feed her family with the rations supplied by the GOI, but since the uprising her family has been in an increasingly precarious situation. Over the last two years she has been selling off various assets the family had accumulated prior to the Anfal campaign. In the last six months she had sold a kerosene lamp, the family's only kerosene heater and the air conditioning system of the house. The only items of any value she has left to sell are a fridge, sewing machine and a ceiling fan. The family has now started cooking over a wood fire, which she or her children collect wood for.

Besides selling various items, the only cash she has been receiving has been from relatives who give her between 20 and 50 OID every two weeks or so, and it with this that she feeds her family. Last summer she also received 180 kg of wheat and barley from some of the farmers in a neighboring village as part of the zakat. She fears that things will get worse as people who give her money are facing problems of their own and recently she has been receiving less and less. At the time we visited her she had no cash at all.

The family are eating only two meals a day, with only sugary water for breakfast; they sometimes have tea when they are able to find the money to buy it (she reported that the last time that she had had tea was five or six days ago - in a neighbors house). They receive WFP rations once every two or three months, and she explained how long this lasts: wheat flour for about 3 weeks; sugar only 2 or 3 days; vegetable oil only about a week and the lentils for about four weeks. She has no animals at all, having killed her last rooster to celebrate "ede" last year (this was also the last time that the family had eaten any meat).

Case Study 2

This household was a young family from Kirkuk living in a rented one room house with a courtyard for which they pay 40 OID. They arrived here during the 1991 uprising with almost no possessions. They still have very little apart from bedding, tattered carpets covering the floor, a kerosene heater and a kerosene lamp and some cooking utensils. The household consists of a married couple and their four sons, aged between three and 13 years old. Last year they lost their eight month old son because she explained that she was unable to afford the medicines he needed. The woman could not tell us what was wrong with him.

Before the uprising her husband was a civil servant. Now he stays in Erbil city where he sells cigarettes, pencils and other assorted items from a barrow. He visits the family every two weeks and brings some provisions (i.e. some potatoes, green onions, etc.) and a little money (he earns perhaps 500-600 OID/month). The only other sources of income are from their children: oldest child who gets work for one day every 2 weeks or so cleaning blocks for which he gets about 10 OID per day; one of their other sons, who lost one of his arms, is regularly sent out begging, but makes very little money.

The only food that they had in the house at the time was the remainder of the WFP ration which they received last month. She had had to sell the vegetable oil to buy sugar and tea. She cooks over a wood fire generally preparing bread and tea for breakfast and a chickpea soup with bread for lunch and supper, supplemented with potatoes and onions when her husband brings them.

1) The Arab Quarter (Mihllat) of Erbil City

The Arab quarter of Erbil is one of the oldest parts of the city where most of the population was engaged in small private enterprise. The population was mainly made up of Turcomans, but following the destruction of the villages at the beginning of the seventies, many Kurds began moving into the area which was rapidly falling into neglect as the rich traders and merchants of the old city moved into new more modern areas of Erbil. The quarter is now characterized as one where most of the people are either unemployed or engaged in the 'bottom line' jobs: petty trading; selling cigarettes; shoe-cleaning; market porters; helping on other people's stalls in the market and so forth.

The Turcoman Cultural Society (now renamed the Turcoman Relief Organization) recently carried out a survey on the levels of poverty of its 5328 member families. The member families are made up of Turcomans and Kurds living in the Arab quarter and adjoining districts of Taajel and Tairawa, and represent an estimated 70% of the population living in these areas. The society found that at least two and half thousand families were living on incomes below 200 OID per month. They have used this survey as the basis of targeting the small amount of aid that the society has been able to get from international agencies and from the richer members of the society. In the arab quarter itself the poverty is extreme. One food agent interviewed described that of the 54 families he serves in the quarter, about 25 have no regular sources of income although the families with adult men sometimes obtain a day's work laboring.

Poorer families in the area have survived the last two years by changing their diets to cheaper more bulky foods; eating less food less often; borrowing money from wealthier relatives; and selling possessions. While the sale of possessions and levels of debt of the household are difficult to measure and interpret accurately, changes in the variety and quantities of the household diet is a phenomena that has not been formally measured but it is the clearest indicator of increased stress. The most important, and obvious, change has been the introduction of barley as a partial substitute for wheat flour (it is bulkier and much cheaper). A number of separate reports from households and graintraders supported this and suggested that it was increasingly usual for a family to mix about 10 parts of milled barley with two of wheat flour for making bread. For many households this is a drastic measure, many people stated that they had never bought barley before 1991; one woman interviewed as she was preparing a barley/flour dough said that before the uprising she "wouldn't even have fed barley to the donkeys!". For many families these indicators point toward a slow process of attrition, ultimately leading to destitution, but it is far from clear how long this process will take. The length of this process will undoubtedly be some function of the asset base of the household combined with the informal social safety nets prevalent in this society.

Recently, a number of families are having to face a new problem. Much of the property in the Arab quarter is rented from the former inhabitants of the quarter, the traders and merchants who moved into wealthier areas of the city. With the rampant inflation and the universally difficult economic climate, many landlords want to increase their rents (we were quoted rent increases since January in excess of 50%). This presents some of the poorer households with a dilemma, increase spending on rent and significantly reduce it on food, or face eviction and possible homelessness. The number of people facing this problem is unknown, but it is not believed to be insignificant. Indeed, the interview team, in a short three-quarter hour visit to the hard shelters around the parliament building, heard of at least three families who were not Kirkukis (internally displaced), but former residents of the Arab quarter who had been evicted from their homes. Case study number two illustrates this problem.

The case studies illustrate a range of different situations in the area, from households who, with some assistance from relatives and friends is just about making ends meet (case 1 and 4), although they remaining highly vulnerable, to a household for whom all social assistance has broken down (case 3). Case two illustrates the problem of eviction.

Case study 1

Goli Ishmail lives in one of the poorer neighborhoods of the area with her husband and five children. The family came from the village of Shivas where her father farmed and her husband was a local merchant earning between 500 and 600 OID monthly; "plenty to live on then". She moved to Erbil city when the Iraqi troops destroyed her village during the Anfal campaign. Unlike many of the villagers her family did not go to a collective village because they were afraid that her family would be moved to the South.

On arriving in Erbil they rented the house which they are still living in. They pay 40 OID per month for the house which consists of one room and a partially covered courtyard where they cook. The house is now in a particularly bad state of repair and they do not use the room during the day because they are afraid that the ceiling will collapse.

Her husband has gone through a variety of jobs in the last seven years including buying and selling cigarettes; working as a grain merchant; and manual labor. Prior to the uprising they were also receiving supplementary monthly rations from the GOI. Her husband is now working as a waiter in a coffee shop where he is paid 15 OID per day, although during Ramadan the shop is closed so he is not earning anything. At the time of the interview her husband was out trying to find a few days work as a laborer. Goli explained the differences in the jobs that her husband has had. Cigarette selling was the best job as, at the time (1988/9), very few people were engaged in the same activity and wholesale prices were low. He was regularly earning between 20 and 30 OID a day. She rated buying and selling grain as the second best activity he had engaged in because although it produced high returns (as high as 100 OID in a day), money came in very irregularly. She thought that his current job was slightly better than manual labor because although low paid, it is a regular source of income; manual labor is a highly erratic source of income.

He has been working in the coffee shop since the uprising, but since the GOI ration has dwindled, the family has been looking for other sources of money. Goli takes in sewing from her neighbors from time to time adding about 7 OID to the family's income every month. Besides this the family has received some money through the zakat and some money from selling some of their possessions. Goli reported that in the last year they had sold their ceiling fan, carpet and a kerosene lamp. The only things they had left of any value was their kerosene stove and Goli's sewing machine.

Goli described the family's consumption as follows (though the figures have been manipulated to fit cost per week):

Approximate Income, Food Expenditure Estimates for Goli's Household

Commodity	kg/Week	Approximate Cost (OID)
Wheat and Barley	14.00	60
Sugar	0.50	13 (This figure is believed to be too low, but was quoted by Goli as all they could afford)
Onions/potatoes	1.00	7 (2kg maybe once every 2 wks)
V.oil	0.70	35
Wild grasses (Kardy or Torka)	9.00	27
Tea	.25	20 (highly irregular - .25 est.)
Total food expenditure:		162 OID/Week

Basic Income:	(Approximate OID/week)	
Coffee shop job	90	
Sewing (guesstimated)	2	
<u>Income from Other sources:</u>		
From Zakat and donations	2	(averaged over year)
Borrowing	63	(averaged from the 500 OID she has borrowed since new year)
Food assistance (once only, Feb.93)	10	(50kg wheat flour;3kg v.oil; 7kg lentils costed at Feb93 prices & averaged over the year)
Total weekly income over year:	167	OID/Week

Goli's wife has always managed to give her family three meals a day, although they often go for long periods with no tea in the house. The most significant changes in the food she prepares over the last couple of years has been the introduction of barley into their diets (because it is much cheaper than flour). She mixes 9kg barley with 2kg wheat flour to make bread. While she just about covers food costs, in order to meet contingencies, Goli has had to borrow money from her uncle (a farmer) and her brother (a fridge salesman). She has built up debts of about 4500 OID with them over the last year, and she reported that her creditors are beginning to put pressure on her to pay it back. At the time of the interview she had no cash whatsoever as she had just bought a tin (14kg) of barley.

Based on these estimates, this household, spending well over 90% of total income on food expenditure, would by nearly all definitions be classified as highly vulnerable. However it should be noted that it is possible that informal redistributive mechanisms (such as lending between relatives, with little expectation of being paid back in near future) may well prevent this household from failing to meet its basic needs for some time to come.

Case Study 2 (interview cut short due to over-curious neighbors)

Kizhkhan Ibrahim is a friend of Goli's and her current situation was described by Goli as being even worse than her own. Kizhkhan lives with her six children, the oldest being a girl of about 10 in a large three room ground floor flat with ten by three metre courtyard in a street running parallel to Goli's. She described her family as relatively affluent before the uprising, as her husband was a senior civil servant in Kirkuk city. Her husband retired in 1990, and they had to move out of the government owned house. They decided to come to Erbil as her husband had grown up in the city.

With her husband's pension of 200 OID per month, which she described as "a lot of money back then", they were able to rent the flat she is currently living in for 80 OID per month. Following the uprising they found it increasingly hard to make ends meet, particularly as her husband had to cross the front-line to pick up his government pension in Kirkuk, and on occasions has been unable to make the journey. Kizhkhan described the way in which she has managed over the last two years as "mixture of borrowing and selling <her> possessions". The last two months have dealt several cruel blows to the family.

When her husband went to collect his pension in January, he showed his ID card as he routinely does, but was told by the Iraqi officials that because he had received kerosene from CARE, it was not up to GOI to look after him anymore (his ID card had been stamped to show that he had received kerosene). Consequently, the family lost its only source of regular income. At about the same time their landlord fell into severe financial difficulties, and decided that he would have to sell their house. The family refused to leave, as they did not have enough money to be able to start renting anywhere else. At this point their landlord took legal action against the family and tried to have them evicted. Six days before the interview took place, bailiffs came to the house and when the family still refused to move, the local police arrested her husband. They told her that he would remain in jail until she vacates the property. At the time of the interview, she did not know what she was going to do, she did not have any money or "anymore than two more days of food" in the house.

Although the interview had to be cut-short before we were able to ascertain more detailed information about her income, asset base or consumption patterns, we discovered that her situation is not untypical. Her neighbors described how an increasing number of families in the Arab quarter are having difficulties with their landlords. With the high rate of inflation, landlords want to raise rents, but existing tenants do not have the means to pay. This situation has resulted in a large number of families faced with eviction or illegal squatting and the subsequent harassment. While figures are almost certainly impossible to obtain, in the view of the residents of the area, the number of families in this situation may not be insignificant.

Case Study 3

This household demonstrates an extreme situation in which the traditional family support mechanisms have almost completely failed, due to an economic situation which is affecting all households, not perhaps equally, but to the extent that the resource flows between surplus and dependent, or 'deficit' households are being seriously eroded.

The household consists of one elderly woman in her sixties who lives in the heart of the Arab quarter in a one room apartment. She came from Baghdad, moving here with her sons' families after her husband was killed in the bombing during the Gulf war. Immediately after the Gulf war, her sons and brother in law were supporting her, but her brother-in-law died last year, and her sons can no longer support her and their own families. Her sons used to give her money regularly, but now they "just come and complain about their own situation and the price of flour".

She pays 50 OI\$ rent per month, but is facing eviction as the landlord wants to increase the rent. Over the last year she has problems just paying the existing rent; she has had to sell her "best Kurdish dress", her refrigerator, her last remaining jewelry and her wedding ring. She no longer has a stove and uses the kerosene heater for boiling water and preparing food on. She has a few remaining possessions which she is intending to sell over the coming months to cover the rent. We were unable to find out where she was obtaining money for food from, but there were clearly no 'hidden' savings as her diet was so meager; she did not have any food in the house except a cooking pot with boiled vegetables in, which she said she had been eating for the last three days.

She was in extremely poor health, with diabetes and a chronic renal infection. She has been to the hospital, and was prescribed some drugs (she showed us the empty bottles), but said that she was unable to afford the full course of treatment. The only assistance she has received from NGOs and other organizations was a food package from the Turkish Red Crescent, five months ago. She is rapidly giving up hope of a better future, as she herself said, "I just want to die and end all of this".

Case Study 4

This case study illustrates a family well advanced in its lifecycle, with a relatively high number of working age adults to dependents, which before the crisis was relatively affluent, and completely self-reliant but, since the imposition of the double embargo, has been facing increasing problems providing for itself with the high levels of unemployment. However the household has managed to retain a reasonable level of provisioning through assistance from wealthier friends.

This house was on a back street with water and sewage running down the middle. Many children were playing in this street and there was strong smell of sewage; we were informed that the sanitation system in the street had become blocked up some months earlier, but no one had been there to fix it. The house was occupied by an old man and his wife, in their late sixties, with their two daughters and three sons, aged between 18 and 30. Two girls are students in High School, and do not provide any form of income. None of the sons have had a regular job since the uprising, but all have been doing odd jobs from time to time which provides a small income (we were unable to find out how much because it was so irregular).

To cover the rent of their three room house (150 OLD/month), they, like many families, have been selling possessions from time to time. For food they rely on the small income of the sons, as the father does not have a pension, but also to a large extent on the generosity of some wealthy friends who have been supplying them regularly. The only formal assistance they have received were GOI rations, once last year, and the 200 litre kerosene distributed by CARE. Their diet usually consists of tea and bread for breakfast and very occasionally yogurt and an egg for the children (when they are given them). Lunch consists of lentil/chickpea soup and bread, and supper is whatever is left over. They haven't eaten meat for over a year. They cook using a rudimentary electrical stove and have a homemade electrical heater (which is illegal), they only have one kerosene lamp, which they have been using as a heater.

2) The Kirkukis Community around the Parliament Buildings

Following the uprising and subsequent reprisals, a large number of the citizens of Kirkuk city and its environs (now under GOI control) fled to the Northern region. The majority are now scattered all over Sulaimaniye Governorate in temporary camps (e.g. Shanadary), in collective villages, or in 'hard shelters' - abandoned government or military buildings. A relatively small number of the displaced made their way to Erbil governorate (an estimated 9000 families, Society for the Displaced), where they live in rented accommodation in towns and collectives. A small number who fled with virtually no possessions now live in 'hard shelters' around Erbil city. The Ministry of Reconstruction and Development recently registered them, and has estimated their number at around 300 families, most of whom are living in abandoned buildings immediately surrounding the Parliament building.

Apart from the lack of adequate shelter, and the difficulties of finding employment, debt was considered to be an increasing problem in the Kirkukis community, because they were increasingly having to borrow for consumption which they could not repay. The discussion of the problems of debt revealed a practice, common in other countries, but thought to have died out in Iraq; working for someone else in low paid (and exploitative) work in order to pay off consumption debts to the employer (see case study 1). This practice, termed *Rangber*, was disliked by all present, but was thought to be quite common. As Islamic law forbids usury, a variety of methods are employed elsewhere in Islamic societies to overcome this restriction. This includes credit for work not yet done, leading to a highly unequal power relationship between employer and employee, as in the example above; credit in exchange for goods not yet delivered with the price fixed in advance (and usually low); credit given by landlords to tenant farmers with certain 'conditions' relating to the land use of the farmer; and so forth. Apart from 'work for debt', the existence of other similar practices in N. Iraq is not known. Case study 2 illustrates another increasing problem; families who are from Erbil, but have been unable to pay the rent on their homes and have been evicted and are 'squatting' along with the Kirkukis.

Case Study 1

The 'senior' family in the group of buildings visited, consisted of two brothers in their sixties, the wife of one and their six children (from 15 - 30). They live in a two room building with a small courtyard which has running water from a nearby tap and electricity (they have illegally hooked the building's electrical circuit onto the power lines running into the Parliament building). The whole household fled from Kirkuk city immediately after the reprisals following the uprising. The older brother had been a coffee-shop owner, whilst the younger brother had farmed 100 "donums" just outside Kirkuk, which he believes is now being farmed by Arab farmers which have been settled in the area. The whole group left Kirkuk with no possessions, but with some money and gold.

The younger of the two brothers had been working as a shepherd for seven months of the previous year, and was about to leave for another six months work. However, he was not being paid; his wages (about 350 OID/month) were being kept by his employer to pay off money borrowed at the beginning of the year.

This practice, termed *Rangber*, was disliked by all present, but was thought to be quite a common problem facing Kirkukis, as they are currently highly vulnerable to usurers. Apart from this 'work for debt', none of them has a regular source of income, but they go out looking for manual work every day. The last time any of them had found any was about six weeks ago. As one of the sons explained, "if a Kirkukis and a local both apply for some work, the foreman will choose the local". The older brother explained how they have been living for the last two years:

With the gold that they had brought with them (about 5000 OIDs worth in 1991), one of the son's started a business buying and selling chickens, which for a time was quite successful, but he ran out of capital about six months ago. The five hens the family keeps is all that is left of his business. This money combined with the money they had brought with them has been feeding the family. After that, the oldest son tried to start a business buying and selling cars. He borrowed 13,000 OID for the venture from a local businessman, but it collapsed fairly quickly because about 5000 OID was spent on repaying debts that the family had already built up. The oldest son explained that he was in 'a lot of trouble' because the last time he saw his creditor, the businessman threatened him. He was not sure what he was going to do next; he was contemplating fleeing to Iran.

The household is currently eating two meals a day, with tea for breakfast (with the occasional egg from their hens).

This household consists of 16 people: a man and his second wife, his eight sons and four daughters aged between three weeks and 25 years old (the youngest was the child of his second wife) and his oldest son's wife and child. The family had been living in Kirkuk for about 20 years after having been moved from their village, following the creation of the *cordon sanitaire* on the Iran-Iraq border. They had been renting a house in the city center until just after the uprising, when their landlord put the rent up. The man had been a taxi driver with his own car, but had sold it to pay the rent. After some time, they ran out of money again and began selling their other possessions, a refrigerator and all their furniture. They heard about some empty buildings around the Parliament, where the Kirkukis were and decided to move there.

Now they are occupying 4 rooms in one of the buildings. They get water from a standing pipe nearby and electricity by tapping (illegally) onto the power lines going to the Parliament building. The head of the household does not work, but two of his sons make some money for the family by buying and selling sugar, tea and other foodstuffs. None of the children of school age are attending school, because, the woman explained, they couldn't afford to clothe them properly or buy them pencils and copybooks.

While they are able to support themselves adequately for the time being, their next big fear is that the government might want to take these buildings over again before next winter. They have no idea what they will do if this happens.

Case Study 1

Said and his family have been living in Shanadary camp since the uprising, when they fled from the reprisals of the Iraqi army. He had been working as a laborer on building sites in Duz, and had never had any problems 'getting by'. He now lives in one half of a prefabricated hut with his wife, his elderly parents and his three children. His sister-in-law lives in the other half of the hut with her five children. Said's brother was killed during the uprising. The two families cook together and more or less completely share their resources (Said is obliged to provide support for his sister-in-law's family). As Said himself pointed out one of his biggest problems is that there is only one person, himself, to try to provide for 12 people.

He has no work at the moment and explained that the only time when there is substantial work available for people in the camp is during the Summer on the local farms, helping with the harvest and so forth. Typically this sort of work pays about 15 OI\$/day. He very occasionally gets odd-jobs portering or looking after a stall from the people in the market along the road through the camp. He has also managed to get a couple of shifts working on the SCF sanitation project, which actually pays a substantial amount (in terms of food).

He is finding it very hard in the camp, and he and his wife often wonder whether or not they are able to make the WFP ration last till the end of the month. They make the ration last by selling half to three-quarters of the wheat flour (between 50 and 75kg) and buying milled barley - they are able to obtain between 75 and 110 kg in this fashion. They also sell some of their allocation of vegetable oil to buy more barley and tea. The only supplements they add to this are green onions and occasionally potatoes. They have not had milk or yogurt in over six months and have not had meat since they came here. They were given a chicken last year which they wanted to keep for eggs, but it was stolen soon after they got it.

He thinks that as long as the WFP ration continues they will be all right. He explained that they did not want to move anywhere else except back to their homes; as long as they stayed here the powers that be could not ignore their plight.

Case Study 2

In contrast to the first family, this household - a married couple, the husband's mother and the couple's seven children - is considered to be in a relatively good position. The family came here from Baghdad, where the head of the family owned a successful restaurant. Following the uprising, he and his family were harassed and his restaurant was burnt down. He lost most of his possessions on the journey here, but not, as his wife put it 'his culinary skills'. He is now working as a the cook in the camp's school - one of the only regular jobs available in the camp. His salary of 750 OI\$ is paid by Equilibre who run the school feeding program, and his wife explained that for the time being, this and the WFP ration was plenty to live on. However her mother-in-law pointed out they were one of the lucky ones.

**APPENDIX 2: THE
INCOME
TRANSFER
BENEFITS OF FOOD
PARCELS**

Market values of food aid packages delivered in Erbil Governorate

Non-targeted or geographically targeted distributions on a less than regular basis to groups considered to be slightly vulnerable, should not be entirely disregarded. While a tri-monthly, or even once-off distribution is unlikely to have any nutritional impact whatsoever upon the household, the income transfer benefits of such distributions can be substantial. Table 1 shows the market value of different ration bundles which have been distributed in Erbil governorate. The actual income transferred by a food aid package is likely to be less than the market value as some commodities in the package may be substituting for cheaper alternatives. In the Northern Region, for example, it has been observed that wheat flour given as food aid is replacing cheaper barley flour in the diet. For a family receiving a once-off distribution from HELP (Germany), the income transfer is roughly equivalent to a mid-ranking civil servant's income for three months. This ration bundle will allow a household that is just about 'making ends meet', to free up cash resources which it would otherwise have spent on food, in order to buy other basic goods, such as clothes or medicine.

Table 1

Basic Commodities Erbil Governorate, Jan 94: Food Assistance and Market Price Equivalents

Erbil Market Price (ID)	W. Flour	Rice	V.oil	Lentils	Sugar	Tea	DSM	Market Value	Income Transfer
14		18	50	25	27	115	95		
January									
WFP Ration per Family Member									
(KG)	9	.9	.9	0	.3	0	0		
Value (ID)	126	16.2	45	0	8.1	0	0	195.3	141.3
Turkish Red Crescent Ration (Ration per household, once off Erbil City center)									
(KG)	5	1	1	.6	1	0	.25		
Value (ID)	70	18	50	15	27	0	23.75	203.75	173.75
(bundle also included 0.5kg of weaning food - no equivalent Iraqi price)									
HELP, Germany (Once off, civil servants and selected families only)									
(KG)	25	12.5	2	0	3	0	0		
Value (ID)	350	225	100	0	81	0	0	756	606
GOI (Figures for January Distribution, selected areas of city centers in Erbil)									
(KG)	0	0	.375	0	1	.75	0		
Value (ID)	0	0	18.75	0	27	86.25	0	132	132
(Each ration bundle also included 5 pieces of soap)									
IRO (School staff only)									
(KG)	25	0	0	0	0	0	0		
Value (ID)	350	0	0	0	0	0	0	350	200

Source: Interviews and WFP Market Surveys

Note: Figure for income transfer is approximate only and is based on assumption that wheat flour is replacing an equivalent quantity of barley flour (8 OI/kg, January 1994), while all other food aid commodities do not substitute for alternative goods in the household shopping basket.

**APPENDIX 3:
DESCRIPTION OF
GENERAL
DISTRIBUTION
MECHANISM**

Overview of Current Food Distribution Mechanisms

Introduction

Prior to the 1991 uprising, GOI provided a relatively comprehensive welfare state described by the Harvard Study Team as "remarkably equitable, efficient and reliable" (Dreze and Gazdar 1991:31). Provision by GOI included free health care, education, food distribution and other social and economic safety nets. Following the withdrawal of the GOI from the Northern region, the resources to fund this system have been seriously eroded, although the basic structure of the welfare system, in terms of government departments, procedures and personnel, still exists. Of particular importance in the current context of static incomes, growing unemployment and spiraling prices is the food distribution system, which continues to function as it had prior to the uprising, but on a much smaller scale. The structure of the food distribution system is now extensively utilized by WFP food assistance program and some NGO's, and provides a basic mechanism for targeting selected groups of beneficiaries.

Structure of Current Food Distribution Systems

The ration system of the GOI was universal and provided bundles of heavily subsidized foodstuffs to all families in Iraq. The bundle provided 8kg wheat flour, 1.5kg rice, 1.5kg sugar, 0.25kg v.oil 0.05kg tea and 1.8kg baby milk (for children under one year) per person per month, equivalent to about 1400 calories per day, or 63% of the basic requirements. Just prior to the withdrawal of GOI from the region, the ration bundle was providing more than nutritional support to recipient households; being priced at about 5% of the market value of the equivalent goods, it provided a substantial income transfer. The implicit value of the ration for a family of six in 1991 was equivalent to the monthly salary of a mid-ranking civil servant.

Three actors were involved in the distribution system; the household, the distributor (called a food or grain agent) and the local administration. A ration card and a set of coupons is held by the nominal head of every household, who once a month would present the coupon to the household's food agent together with payment for the ration. The agent would pass on the coupons and money (less a 10% service charge) to the food department of governorate's administration in exchange for the ration items which the agent would in turn pass onto the family. Coupons were checked against food department lists of all the households served by the particular agent to minimize possible leakages. The lists and coupons were renewed at the end of every year. For a family moving from one area to another, in theory it would simply have to exchange its old coupons (which would be destroyed) for new ones in the local administrative office. The information relating to the household's move would then be passed onto the food department to update its lists. For a newly married couple seeking to get registered as a separate household, either they could wait till the end of the year, or present themselves for registration with the food department (but long waiting periods before the receipt of coupons were reportedly common).

Prior to the uprising, the efficiency, reliability, and coverage was deemed to be relatively high, and levels of corruption low. This should not be seen as anomalous with the repressive and racist regime of Saddam Hussein, as it is frequently the case that public distribution is used as a counter-insurgency tool by such regimes to contain dissent by providing the basic means of living (Dreze and Gazdar, 1991). Since the withdrawal of GOI, the quantities of goods delivered to the region by the central government has dwindled to around 4% of the Northern region's share.

The ration food which does reach the region is distributed in the normal way, but only to selected food agents and their clientele. For example in Erbil, the food department together with the governor decide which areas to distribute available rations to and a group of agent's representing households in that area are chosen. Announcements are made on the radio and television stating which agents will be receiving food that month, and the old procedure of the agent's households handing over the relevant coupon begins. In the Northern region the food department has limited the distribution of GOI commodities to the cities; an area which they feel is least well served by international assistance.

The food distributions carried out WFP and CARE utilizes the mechanism but not the structure of the public distribution system. WFP effectively has two groups of beneficiaries; a 'core' group who receive monthly rations and rotational groups who receive food assistance once every two, three or even five months. Decisions about who constitute these groups are decentralized to each of the governorates, and each operates a little differently. In Erbil, at the beginning of winter, and each month for the rest of the year, a committee consisting of the head of the governorate's food department, the WFP representative and the Governor meet to decide on which geographic areas to target for food assistance. The areas are usually specific collective villages, although over the last winter some resettled villages have also received food assistance under the general distribution. Certain areas considered to be high priorities are targeted for monthly distributions, other areas are put onto a bi- or tri-monthly rotation schedule. In addition to the selection of areas, support is given to the Ministry of Health by providing monthly rations for each 'hospital bed', to Ministry of Social and Labor Affairs institutions (kindergartens, registered disabled etc.) and to returnees from Iran; however these distributions are carried out entirely separately from the general distribution and are comparatively small scale. Following the decision over which areas will be receiving assistance, the food department prepares lists of and the agents in those areas together with the number of beneficiaries on each agent's own list. This is forwarded to CARE who then prepare distribution timetable and dispatch advices for the stores. Teams of CARE staff carry out a reconnaissance of the area to inform the local committees and food agents and arrange for enough tractors/trucks to be at the distribution point on the allotted day. On distribution day rations are handed over in bulk to the agents. A member of each household on an agent's list will show his/her ID card and the family's ration will be weighed out according to the number of people marked on the list as belonging to that household.

Immediately following the distribution a CARE post-monitoring team visits 5% of all the households distributed to (not 5% of the households of each agent). Currently they are aiming to cover 15% of agents. They check whether the family received the correct amount from the agent; whether or not they paid the correct agent's service charge (250 fits); and whether or not there are any discrepancies between the list of families held by the agent and the list held by CARE. The primary concern of the post-monitoring process is to check on the practices of the food agent, not to examine whether a family should be receiving food assistance.

The mechanics of the distributions in Dohuk and Suleimaniye are similar, however choices over the precise groups distributed to differ. In Suleimaniye, the entire governorate is divided into five sectors which receive rations on a rotational basis; no geographically defined group receives rations every month. The 'core' group of beneficiaries receiving monthly rations (during the winter program) is limited to the MOH (for each hospital bed), the MOLSA institutions, and clearly defined social groups: refugees registered with UNHCR; displaced persons registered with the Bureau for the Displaced (part of the governorate's administration) and the urban destitute. Urban destitutes are identified by a local NGO, the Kurdish Charitable Society (the process of selection is described in the next section) who maintain a register. The mandate of the KCS is to select not more than 5% of Suleimaniye city's population, and it should be noted that this figure results from the limited food resources available, rather than the perceived level of poverty in urban areas; KCS has been lobbying to increase its lists to 15 - 20% of the city's inhabitants. The urban destitute list is the only register pre-monitored. CARE monitors are sent to check on the living conditions of 5% of families on the list prior to distribution to assess the register's validity. The results have been described by CARE/Suleimaniye as highly satisfactory; in the first round of pre-monitoring only eight families of 280 (2.9%) were deemed to be 'not sufficiently poor'.

The general distribution in Dohuk is more similar to Erbil, and collective villages are divided into three groups for monthly, tri-monthly and 5 monthly distributions on the basis of negotiation with the Governor's office and an informal assessment of each collective. Besides the collectives, the standard MOH and MOLSA institutions are also assisted. Limited assistance has also been given to urban 'destitute'; families identified by the sector committees, or "mukhtar" (local mayor), as highly vulnerable.

**APPENDIX 4:
PERSONS
INTERVIEWED IN
COMMUNITIES**

Appendix 4

Persons to be interviewed

Household is defined by groups leaving under the same roof and sharing the same kitchen. For example eating from the same pot.

Community level

Key informants were sought in every community and were interviewed. Key informants included local committee people, food agents, mayor and district heads, chief of clans and subdistrict level, village elders male and female, teachers, grocers, etc.

Household level

1. Household head and a woman in that household with children under 12 years of age.
2. Women household heads
3. Teens and school children
4. Grandparents

**APPENDIX 5:
CRITERIA FOR
SELECTION OF
INTERVIEW SITES**

Appendix 5

Criteria for purposive selection of sites to visit in Erbil and Sulimanya governorates

A four-day schedule for each governorate, with three to four sites maximum/governorate. One day at each site.

Sites to include:

1. Collectives villages (CVs): Several different cases fitting into the four ideal types:

- a) CVs without access to land, close to urban center
- b) CVs with access to land, close to urban center
- c) CVs without access to land, in a remote location
- d) CVs with access to land, in a remote location

Using this simple typology as a guide (c) is most likely to have most vulnerable populations, followed by (d) or (a), with (b) having the least vulnerable populations.

- 2. Recently resettled villages, ideally one that hasn't received assistance.
- 3. As above, but remote in terms of access to roads/markets
- 4. Certain sectors of city centers, to include hard shelters and quarters identified as poor.

If there is not enough time to visit all ideal locations, the order of priority should be #4., #1. (a or d), #2, and #3.

Key informants and a sample of households will be interviewed in each site.

**APPENDIX 6:
ALPHABETICAL
LIST OF CONTACTS**

Alphabetical List of Contacts

Abdirahman Meygag, WFP Coordinator for North Iraq, Erbil
Abdulla, Muhammed, CRA, Suleimaniyah
Ahmed, Arid, CRA, Suleimaniyah
Allen, Steven, UN representative, Kurdistan, Northern Iraq
Alp, Col., Co-Commander, MCC, Zakho
*Ashwaq, Medical Officer, UNICEF, Erbil
Ammar, Walde, Field Delegate, IRCU, Suleimaniyah
Balata, Sherzad, Unicef, Health Officer, Dohuk
Benjamin, Rafael, Bishop, Erbil
Blinloe, Bob, Northwest Medical Team, Dohuk
Brenneman, Bob, Shelter Now International, Dohuk
Bruel, Chartel, France Liberte, Suleimaniyah
Clarry, Stafford, Director, IRCU, Erbil
Collion, Yann, Equilibre, Suleimaniyah
Cooley, John, Senior Logistics Officer, OFDA/DART, Zakho
Demetz, Lt. Col., MCC, Zakho
Dalwar Rifan, Program Officer, OFDA, Suleimaniya
Dana, N. KHF, Suleimaniyah
Duamelle, Phillipe, Field Representative, IRCU, Dohuk
Haji, Ilham, Directorate of Health Preventive Depart., MOH, Dohuk
Hassell, Col. Leonard, C/S, CTF, OPC, Incirlik Air Base, Turkey
Haque, Anamml, Oxfam, Suleimaniya
Hunar Fadhil, OFDA, Suleimaniya
Hussam Hakim, K.C.S.
Jones, Andrew, CARE Australia, Erbil
Jones, Jason, SCF-UK, Suleimaniyah
Jordan, Mike, SCF-UK, Shaqlawa
Kasim, Ahmed, WFP, Dohuk
Khalil, Reabar, QANDIL, Dohuk
Khalil, Director, Directorate of Statistics, Erbil
Kiumanj, Mohammed, Secretary of High commitee, KSC, Suleimaniyah
Kumar, Sampath, M., Water and Sanitation Advisor, UNICEF, Erbil
*Laylan, secretary, IRCU, Suleimaniyah
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Marcillac, Laure, Midwife, AMI, Koisanjack
Medd, Victoria, France Libertes, Suleimaniyah
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*Moyad, Field Officer, OFDA, Erbil
Nadhim, Omar Hamaed, Deputy Acting Director, Ministry of Education, Erbil
Nawzad, Noori, KHF, Suleimaniyah
*Mr. Nesradine, Driver, IRCU, Erbil
Nihad, Mudrik, ECHO, Suleimaniyah

*These are people whose full names we did not record but who we feel indebted for their assistance.

*Mr. Omar, Data Analyst, UNICEF, Erbil
Owen, Steve, Fuel Program Officer, Dohuk
Pilkington, Brig. Gen. Scott, Commander, CTF, Incirlik Air Base
*Mr. Risgar, administrative assistant, IRCU Erbil Saad, Rahman, A., Field Officer, OFDA-Erbil
Saeed, Moayyad, WFP, Dohuk
*Mr. Sadiq, Education Advisor, UNICEF, Erbil
Shahpur, Chief of Society for Deportees
Smith, Paul, S.C., Global Partners, Dohuk
Stiles, John, SCF-UK, Suleimaniyah
Strzok, Peter, P., Team Leader, OFDA/DART, Zakho
Solomon, Juhan, Operation Mercy, Dohuk
Talbot, Sarah, Health Officer, UNICEF, Erbil
*Ms. Tara Secretary, IRCU, Erbil
Tawfik, Mohammed, Kurdish Minister for Humanitarian Affairs, Erbil
Thomson, Col. Jerald L., Co-Commander, MCC, Zakho
Vagg, Henry, Oxfam, Suleimaniyah
Van Driesseche, Gerard, ECHO, Suleimaniyah
Younis, Schwan Rasheed, Program Officer, OFDA, Erbil
Woolnough, John, Administrator, Co-ord, CARE Int., Dohuk

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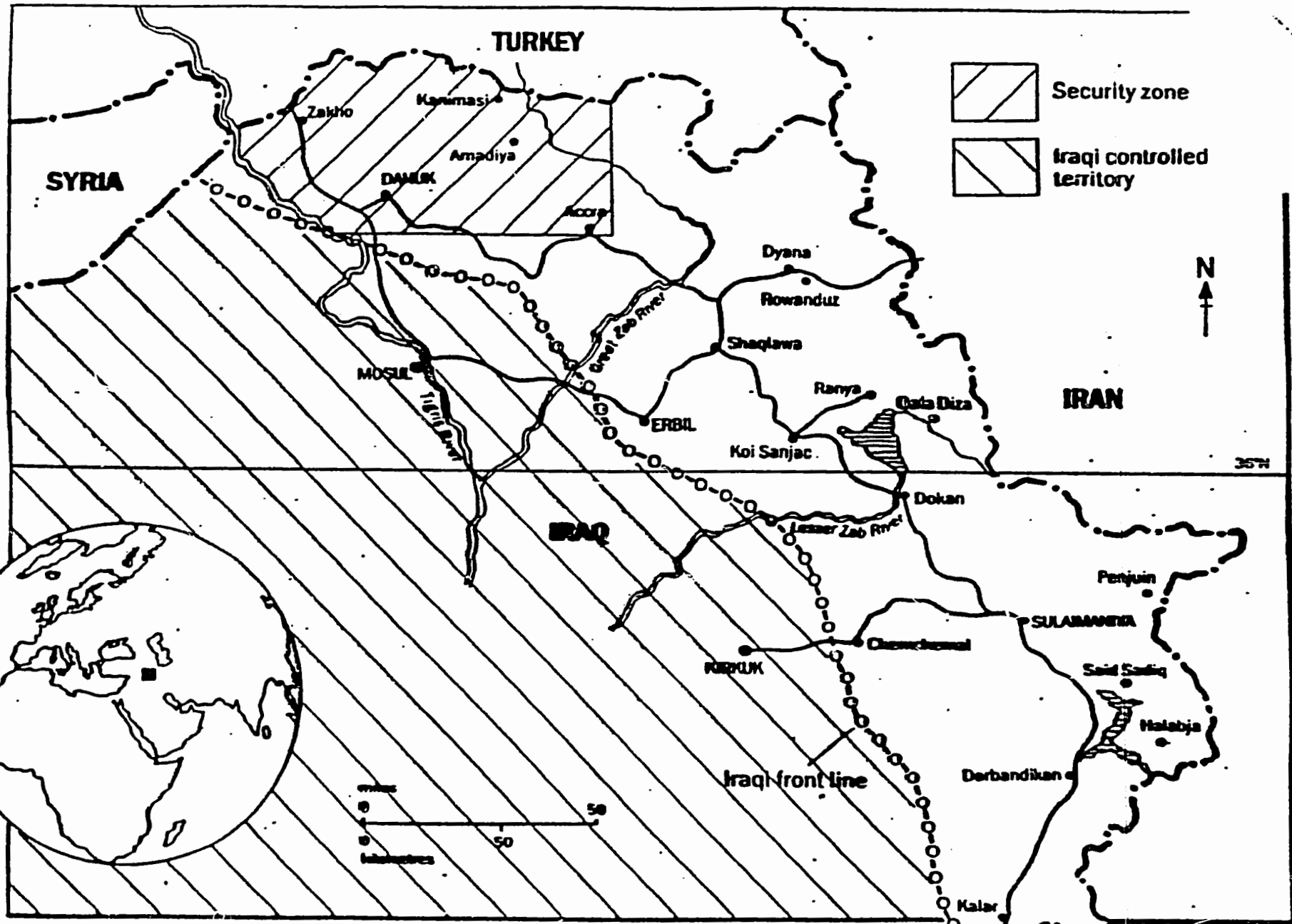
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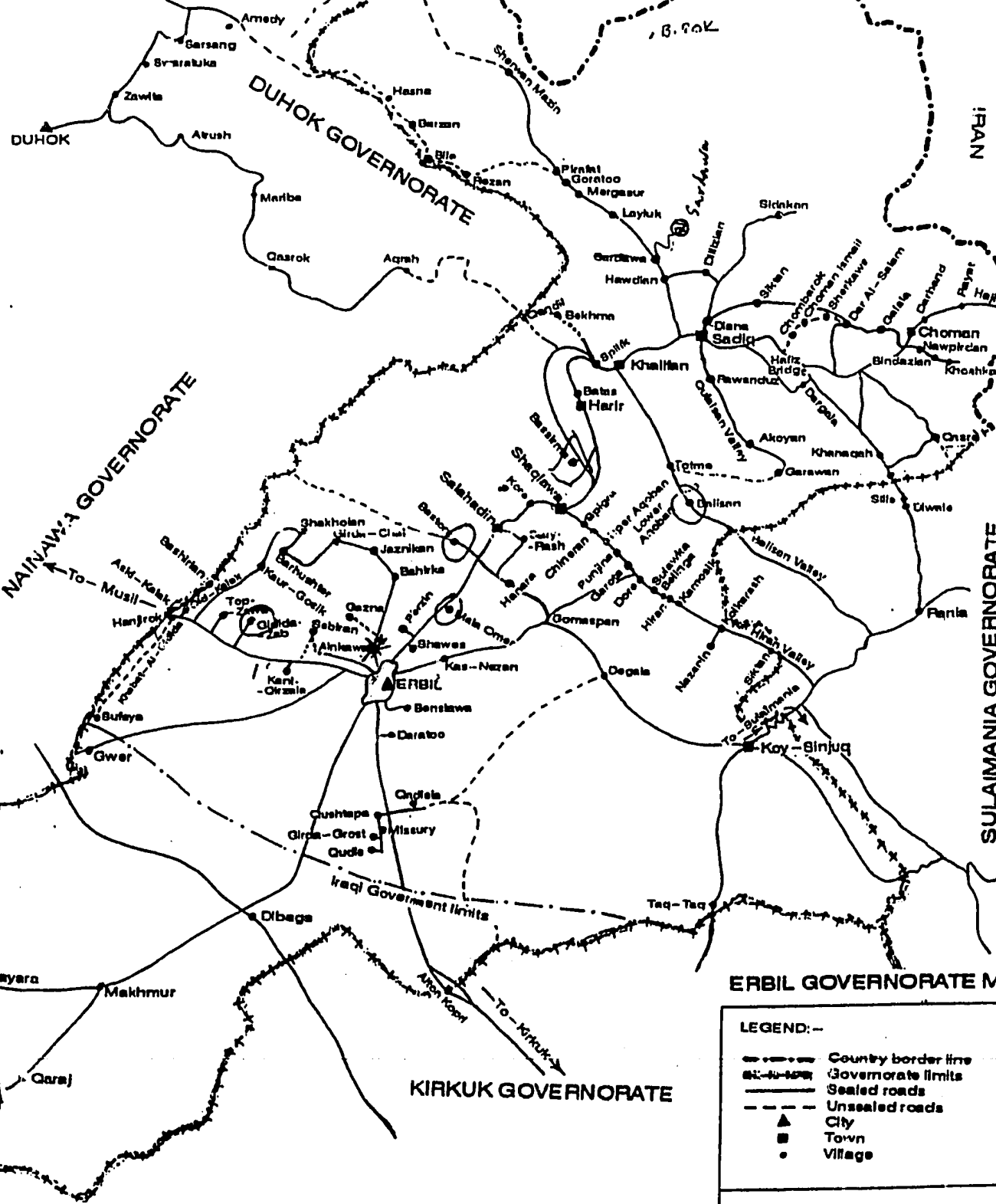
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TURKEY

IRAN



ERBIL GOVERNORATE M

LEGEND: -

- Country border line
- Governorate limits
- Sealed roads
- Unsealed roads
- City
- Town
- Village

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 Read Matt
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