Relief and Rehabilitation Network

Network Paper 8

Targeting the Poor in Northern Iraq:

The Role of Formal and Informal Research Methods in Relief Operations

Patrick Ward and
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April 1995

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ISSN: 1353-8691

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1. Introduction

Formal and informal research methods

The aim of this paper is to examine the usefulness of formal, quantitative data collection techniques for relief operations, using a survey from northern Iraq as a case study. By `formal' we mean household questionnaire surveys using statistically representative sampling techniques. In contrast, informal methods are those which use non-random sampling and less structured interviews (or no interviews at all) to gather information on the subject of interest. Rapid Rural Appraisal (RRA) methods epitomise these informal approaches. In recent years these methods have become increasingly popular and are now widely used by academics and development workers alike. In many circles, formal methodologies have become unfashionable and the subject of much criticism. Questionnaire surveys, it is often argued, are expensive, inflexible and take far too long to process. Moreover, some have argued that they produce misleading results: subsequent cross-checking may reveal major errors in findings[1]. It is argued in this paper that formal survey techniques do not necessarily have these shortcomings. Furthermore, when quantitative estimates of the parameters of distributions are required, there is no substitute for a formal sample survey.

Formal surveys are frequently used to collect data at the micro level, being particularly useful when household-level information is required. For example, living standards surveys are routinely used in developing countries to examine the prevalence, depth and severity of poverty, as well as the socio-economic characteristics of the poor. Questionnaire surveys enable comparisons to be made

[1] There is now a large literature on RRA/PRA. See Chambers (1983) for a discussion of the failings of formal research techniques. See Kumar (1993) for a description of the scope of RRA methodologies.

between households across region, time or social group. An obvious advantage of formal surveys is that if the sample is identified in an appropriate way, it is possible to make generalisations about the population as a whole. This is not the case if purposively selected or self-selecting samples are used.

Sample surveys are very useful in assisting with the targeting of transfer programmes in relief operations. Policymakers need estimates of the number of poor households in the population as a whole and in specific sub-populations, and formal methodologies are able to provide this. They are also useful for the identification of a programme's target group and for the monitoring of targeting accuracy. For example, in a relief operation it is necessary to have estimates of the number of people that have been affected by a particular event who may need assistance. During a programme, it is necessary to get reliable estimates of programme coverage so that operations can be evaluated.

Questionnaire surveys are not, however, without their problems. If poorly managed, they can turn out to be excessively expensive and take years to process and analyse. If this is the case, they are of little use for policymakers. Another argument is that the methodology itself is fundamentally flawed. Robert Chambers has been a trenchant critic of formal methodologies:

> Notably in rural development, outsider professionals have learnt in two modes: rural development tourism, the brief and biased rural visit, in which the visitor is presented with a rehearsed reality to give a good impression; and through large-scale questionnaire surveys which crudely collect and box the reality of respondents according to the categories and interests of the researcher. Both rural development tourism and large-scale questionnaire surveys frequently mislead. *The solution seen is the adoption of participatory modes of analysis and sharing knowledge, as with Participatory Rural Appraisal (PRA)* (Chambers 1994, emphasis added).

RRA/PRA methodologies, it is argued, establish a more revealing communication process than structured interviews based on questionnaires. For example, with

respect to poverty research, Chambers (1988) has argued that formal methodologies focusing on income flows or consumption capture only one dimension of poverty. Poverty-line studies use outsiders' assumptions and indicators. RRA/PRA gives an opportunity for poor people themselves to be consulted about their own perceptions of well-being. It shows that poor people's own perceptions of poverty reach beyond poverty-line thinking and suggest additional criteria. Moreover, formal surveys may tell us very little about the processes by which people become poor.

In this paper a case study from northern Iraq is used to show the role that a formal household survey may play in targeting a relief programme. The survey was narrowly focused, inexpensive and quickly processed. It was preceded by the use of informal, qualitative techniques which set the parameters of the questionnaire survey. In the rest of this section the background to the survey in Iraq is described. In the following section, data collection and sampling are discussed. Section 3 gives a summary of the results of the survey and section 4 the main policy implications. In section 5, formal and informal techniques are considered in the light of the case study. The conclusions are presented in section 6.

Targeting basic assistance in northern Iraq

The background to the assistance programme in northern Iraq has been well documented elsewhere (see for example Keen, 1993). The Government of Iraq (GOI) had undermined the rural economy of the region by forced resettlement of the Kurdish population into collective villages, creating a dependence on state aid. The Gulf War led to an uprising by the Kurds in 1991, followed by retaliation by the GOI and the flight of much of the population to the Turkish and Iranian borders. Most of these people returned after the Western allies offered protection in the form of air cover. In October 1991 the GOI withdrew its forces from the three northern governorates and the region from which they withdrew established a tenuous autonomy. The GOI also introduced an economic blockade against the region. This meant that the region endures both the UN embargo on Iraq as a whole and an internal embargo.

Food distribution in northern Iraq has a history stretching back beyond the uprising. At the beginning of the war with Iran a decade earlier, the GOI began the distribution of food over the entire country. This system provides monthly food rations at highly subsidised prices to households registered with the Food Department. The food is distributed through agents, with whom each family is registered. Drèze and Gazdar (1992), in a survey of hunger and poverty in Iraq following the Gulf War, concluded that the public distribution programme was exemplary in terms of coverage, equity, efficiency and contribution to the nutritional needs of the population.

For a short period after the uprising, the GOI continued supplying rations to the North at significant levels (Keen, 1993). Since the imposition of the blockade in 1992, however, it has progressively reduced the amount of food available to northern Iraq for distribution through food agents. The effect of the reduction in rations has been severe for two reasons. Firstly, the steady destruction of smallholder agriculture by the Iraqi Government had already reduced the production of food within the region. Secondly, the economic crisis precipitated by the international and internal trade sanctions and the disruption caused by the Gulf War and subsequent uprising, have resulted in spiralling inflation and a collapse in the ability of households to purchase food. Salaries of civil servants, who constitute some 45 per cent of the workforce in northern Iraq, are now below subsistence levels. Pension payments to those in the North have also been stopped.

In order to deal with the collapse in households' purchasing power, the UN agencies began to distribute food aid through the system of food agents set up by the GOI in the North. The programme was handed over to the World Food Programme (WFP) in 1992, which supplies some two thirds of the food aid which is distributed by the NGO, CARE. Further substantial amounts are provided by the Turkish Red Crescent (TRC) and a host of other NGOs, plus some residual amount from the Food Department of the GOI. The food aid has been distributed to a range of beneficiaries. In addition to some general distribution, residents in collective villages have been targeted by the WFP. Displaced families, who left the area controlled by the GOI to come to the autonomous region, are also targeted.

Some of the food aid is directed towards institutions such as hospitals, while some has been used as an incentive to work for teachers and other civil servants. In addition to food aid, kerosene, as a heating and cooking fuel, was part of the basic assistance programme. It was distributed to the population for the winters of 1992/3, 1993/4 and 1994/5.

The programme has not been without its critics. Keen (1993) has argued that it was underfunded, poorly targeted and neglected rehabilitation. Donors stand accused of preferring `high profile' emergency operations at the expense of development work, particularly agricultural rehabilitation. Food programmes have been undertaken by the UN with little indication of who the target population are or how they would be targeted. Keen concluded, `If the UN was really concerned to target the poorest, then it would be reasonable to expect more information on how this was to be done'. It was against this background that the survey used for the case study was commissioned by the British Overseas Development Administration.

2. Data Collection

Objectives

The household survey was undertaken in northern Iraq with the aim of providing information for the basic assistance programme. Specifically, the information collected was to be used to identify the location and characteristics of the poorest households. The identification of these groups was intended to improve the targeting of food aid and, if appropriate, the kerosene programme. The survey was also intended to provide policymakers with information on overall levels of poverty in the population. The means of gathering this information was a single-round household survey, collecting data on household expenditure as well as on a number of other socio-economic variables.

Data collected

A questionnaire was designed to collect information on a range of variables, many of which had been identified previously during the first phase of the project, when a team collected information on the food security situation (Silva-Barbeau *et al*., 1994). Informal methods played an important role in this initial stage of the research. Semi-structured and unstructured interviews were undertaken with a range of informants, including staff members of UN bodies, other international organisations and of local NGOs, representatives of the regional government, and members of academic institutions and of local groups. Key informants came from a range of communities, including collective villages, re-settled villages, refugee camps, squatter settlements and the poor quarters of cities. Semi-structured and unstructured interviews were also conducted with households from a variety of socio-economic levels, with mothers of children enrolled in therapeutic feeding programmes and with women waiting to receive food assistance. On the basis of this information, the team identified the processes by which many households were becoming increasingly poor and the strategies that they used to try to mitigate the effects. Possible indicators which could be used to distinguish the poorest and most vulnerable households were suggested and the types of household at the highest risk were identified. It was concluded that in order to quantify the number and the distribution of poor and vulnerable households, a household survey should be undertaken.

The variables identified by Silva-Barbeau et al, 1994, were further refined during the development and pre-testing of the questionnaire (Omer-Mukhier, 1994). Discussions with focused groups were conducted to assess which of the variables would be most useful. Three such discussions took place: one in a collective village, one in a poor quarter of a city and one in a rural village. Between them, they included a mixed, a women-only and a men-only group. They were used to identify the most appropriate grouping of items to be used in the questionnaire, including the categories into which items of expenditure were to be grouped. Items unlikely to be important were identified so that they could be excluded. This cut the number of categories to 27, thus reducing the burden on respondents and the time taken to conduct each interview. The grouping of income sources, particularly sources which appeared to be marginal or unsustainable, was established in the

same way. The discussions also identified the most appropriate respondents for the survey and the ideal length of recall period for each item. In this way, a questionnaire was developed in English (see Appendix 1), which was translated into Arabic, a language which all of the enumerators had in common. The translation was checked by further discussion with other individuals who spoke both languages. Due to conflict at the time, pre-testing of the questionnaire was limited to one community. Enumerators conducted the interviews in the appropriate dialect of Kurdish, or Assyrian if appropriate.

Information was collected on both individuals in the households and on each household as a unit. Data were obtained for all the members of a sampled household. Adult females, generally the wife of the head or the female head of the household, were the target respondents, since they had the most knowledge about household consumption and expenditure. It was found useful during pre-testing to have as many members of the household as possible present during the interview. Fieldworkers were encouraged to arrange this set up whenever possible, although a married female member of the household was the only respondent necessary for an interview to take place.

Age, sex and activity status were collected for all individuals in the household. Activity status distinguished a number of categories of activity in the month prior to the interview, including working outside the household, farming, housework and studying as well as unemployment and retirement. The weight and the height of non-pregnant adult women were measured. Women were selected because the majority were expected to be at home during the day, while men were more likely to be away from the house and therefore the measures would be more prone to selection bias. It was also considered possible that the food consumption of women would suffer disproportionately from any reduction in household food availability, as there is evidence of this occurring in some other populations (Drèze and Sen, 1989). Weight was measured to an accuracy of 0.5 kg and height to 0.1 cm. Women were weighed in their usual Kurdish summer dress, being asked to remove additional clothes and shoes. An average weight for this type of dress was subtracted during the data analysis to estimate true weight. Anthropometric

measures of children were not taken, partly for logistical reasons and partly because child anthropometric measures reflect infectious diseases as well as household food availability.

Basic information collected on the household included the ownership of the dwelling and the source of drinking water. Households were categorised according to migration status, in order to distinguish a number of possible high risk groups. The categories included displaced households - i.e. those which had migrated from south of the line agreed with the GOI, distinguishing before and after October 1991; returnees from abroad; households which had resettled to previously destroyed villages; and others. Information was collected on the consumption expenditure of the household as a whole, in old Iraqi Dinars. Information on expenditure on larger items was requested for the previous three months, on food and smaller items for the previous two weeks and on some intermediate items for the previous month. The questionnaire was intended to cover all major items of expenditure for the household. Expenditure data do not distinguish expenditure derived from sustainable and unsustainable sources. An additional question concerning sources of income of the household, ranked in importance, was used in order to clarify this issue. The categories distinguished included paid employment, non-farming self-employment, farming, and a set of sources of income which were believed to be unsustainable or relatively vulnerable. These included dependence on transfers from relatives and non-relatives (separately), borrowing from non-relatives, use of savings and the sale of household goods and assets.

Information was also collected on the consumption of basic grains - wheat, barley and rice - and on the consumption of animal products. This allowed the value of these products, when home-produced, to be added to the consumption expenditure measured above. The consumption data also provided information for the construction of alternative measures of poverty that were largely independent of the expenditure data. The consumption of barley had been identified as an indicator of poverty, and the consumption of substantial amounts of rice as an indicator of relative wealth. Information on the grain stores held by families and on changes in the household's diet over the previous year was also collected, as a possible

indicator of vulnerability. Households also reported food aid received over the previous three months for all the major items given as food aid.

Sampling

Stratified two-stage cluster sampling was used to sample households. The population of northern Iraq was divided into the three Governorates. Each governorate was divided into four strata: cities - the urban centres of the governorate; towns - settlements locally classified as towns and having populations of over 5,000; collective villages; other villages. In Suleymaniyah Governorate, the displaced were also sampled as a separate, fifth stratum.

The primary sampling units for all strata except rural villages were food agents, i.e. agents who serve a number of families in their area, usually around 150. The agents hold lists of the households which they serve; the coverage of the food agent system is exhaustive - essentially all families have an agent. Lists of the agents, with the number of families which they served, were compiled for each sub-population. Agents were then sampled with probability proportionate to size, the measure of size being the number of families served. For selected agents, six households were sampled from their list of families. Households outside each defined area - e.g. outside the town, where the agent was sampled from the town stratum - were not visited, since they properly belonged to a different stratum; a replacement was sampled. These households are generally in rural villages, which were sampled using an alternative sampling strategy, because families may be far from the food agents with which they are registered.

In this stratum, villages were sampled with probability proportionate to size and

then six households were randomly selected using a variant of EPI-sampling (WHO, 1988)[2]. This variant selects a random starting household in the same manner as standard EPI-sampling. However, subsequent households are selected by choosing the third nearest house rather than the adjacent house. This method is designed to reduce intra-cluster homogeneity in the collection of socio-economic data using EPI-sampling (Bennett et al., 1991). Registered displaced households were sampled using `Displaced Agents' as primary sampling units and sampling six households from the lists held by the agents.

A total of 2,880 households were interviewed in the survey as a whole, approximately 960 in each governorate. In Dohuk and Erbil, the sample was divided equally among the four strata. In Suleymaniyah, 72 households were sampled from the displaced list (in proportion to their share of the population) and the remaining households were divided equally among the strata. The use of a constant sample size for all strata meant that estimates could be made with equal accuracy for all strata. The exception to this is the displaced, which were generally incorporated into the appropriate stratum during analysis.

If the target respondent was not available during the first visit, fieldworkers revisited the household at a later time. If there was no suitable respondent available on the second visit, the household was replaced with another sampled from the same list. Fieldworkers returned to a household a second time if, having conducted the interview, any women eligible to be measured were not available at that time.

Fieldwork

[2] EPI-sampling uses a standard procedure to sample households in small settlements without the use of a sample frame. The first household is chosen by selecting a random direction from the centre of the settlement, for example by spinning a bottle. The households along the chosen direction are counted. A random number less than the total number of households is chosen - this selects the first household of the sample. Subsequent households are selected by choosing the nearest house to the selected house; this is repeated up to the total number required.

The fieldwork was carried out by 7 field teams and 3 supervisors per governorate. The teams consisted of at least one man and one woman per team. Staff were trained over a period of five days both in interviewing techniques and in the particular details of the questionnaire. UNICEF health staff provided training on the measurement of weight and height. The fieldwork took approximately one month, June 1994, to complete. Total expenditure on the survey was approximately US $58,500, including the cost of an expatriate survey manager and two other specialist consultants. Security problems did not appreciably delay the fieldwork, but did make some areas inaccessible and cause a number of sampled primary units, and therefore households, to be replaced.

Field staff were highly educated and most had already conducted work of a similar nature on behalf of CARE, Australia. All fieldworkers spoke both Arabic and Kurdish. A number of supervised interviews were conducted; fieldworkers appeared to be conducting high quality interviews, probing when necessary. Questionnaires were checked by supervisors on receipt at the area office. In retrospect, re-interviews of households by supervisors should also have been used as an additional check on data quality. However, at the time, it was unclear whether the petrol allocation would be sufficient to allow this, given that there was a threat of a petrol embargo from the GOI. It was considered that the selection of interviewers from a pool of established fieldworkers and the checking of the questionnaire by supervisors ensured that data quality was maintained.

Data quality and limitations

Expenditure data were expected to be the best measure of poverty and therefore the key variable used to discriminate among households. Data were also collected on other variables both as a supplement to the expenditure measure - recognising other dimensions of poverty - and as a possible replacement for the expenditure data if they were considered to be inaccurate. The quality of data collected was assessed in a variety of ways. Fieldworkers were accompanied on a number of interviews. They also answered a questionnaire on their perception of the data quality at the end of their fieldwork, and expressed their views in a group meeting. The quality of both the data overall and of each particular variable were discussed. In addition,

fieldworkers were asked to rank a selection of households (on a scale from rich to very poor) and a number of measures were compared with the rankings. Assessing the quality of the expenditure data was of particular interest.

Clearly, in a simplified expenditure survey such as this, data obtained on household expenditure on particular categories would be bound to be fairly approximate. However, highly accurate data on expenditure on each item were not necessary; only an aggregate level of household expenditure which located the household within the population distribution was required. For a number of reasons, it was decided that the expenditure data that were collected were of reasonably good quality and were more useful to differentiate households than other variables. Firstly, understatement of expenditure, either deliberately or through accidental omission, was expected to be the main threat. It was clear, however, that, in general, expenditure did not appear to be understated; if anything, surprise was expressed at how high some reported expenditure was. In both their questionnaires and in the group discussions, fieldworkers generally ranked expenditure questions as well answered, better than most of the alternative poverty proxies which had also been included in the questionnaire. Expenditure (standardised for household size) was the variable most highly correlated with rankings of household status for the sub-set of households ranked by the fieldworkers. Of course, none of these assessments can be considered as conclusive, but together they suggested that use of the expenditure data was justified.

The other socio-economic measures were of more variable quality. The questions on grain stores were not believed to have been answered particularly accurately, so no use was made of these data. The information on changes in the quality of the diet was not useful to differentiate households because almost all the households gave the same answer, i.e. that their diet had deteriorated in comparison with the same period of the previous year. Information on sources of income was used, but again the quality of the responses was believed to be lower than for the expenditure data. The information on body mass index was judged unlikely to suffer major bias and the BMI was used extensively in the analyses. However, the BMI may reflect factors other than household food availability, and for this reason it was not used

as a `gold standard' in the measurement of household food availability.

Levels of non-response at a household level were low. However, a number of primary sampling units were dropped for a variety of reasons. In some cases, there was difficulty in locating some of the food agents that had been sampled. This had been anticipated as a possible problem and some additional agents had been sampled to replace those that could not be found. Although this was not ideal from a statistical viewpoint, the alternative - EPI-type sampling in large settlements - was thought to be worse, because it would have been much harder to ensure that field teams revisit households where the respondent was not initially at home and because this method of selecting households is more complicated for large settlements. A number of clusters had to be dropped for other reasons; in Suleymaniyah, the security situation meant that certain areas could not be reached. One camp of displaced persons (containing three sampled clusters) had recently ceased to exist as the whole population had migrated away from the fighting. One or two villages listed on the sample frame were not found, or were found not to exist. Altogether, about 20 per cent of sampled clusters had to be replaced. While this was not ideal, it is not considered to have threatened the broad validity of the results. Each food agent served a fairly heterogenous population and a range of different clusters with different characteristics were replaced for a variety of reasons.

3. Analysis and Results

The condition of the population as a whole

The survey data gave a number of useful measures[3] of the status of the population as a whole. An estimated mean level of consumption expenditure *per capita* was calculated and the distribution of expenditure across households was examined. The extent of adult malnutrition and adult male unemployment were also used as indicators of the welfare of the population as a whole. Given an estimated size for the population, it was also possible to estimate the total numbers of individuals or households with a particular characteristic. Table 1 gives a set of summary measures of the welfare of the population in northern Iraq. The measures used are explained in the text.

Table 1
Summary Measures of Welfare for the Population

Measure	**Value**
Mean *per capita* monthly expenditure (US$)	12.1
Proportion falling below absolute poverty line (544 ID/CU/month) (%)	13.3
Proportion of adult women below BMI of 18.5 (%)	11.6
Adult male unemployment (%)	14.8
Proportion of total expenditure accounted for by poorest 10% of households (%)	3.0

Household expenditure and sources of income

The data collected on household expenditure were converted to total monthly expenditure. This was standardised for household composition by expressing expenditure per consumption unit (CU). The consumption units were based on

[3] The analysis was carried out using weights to adjust for the design effect of the sampling scheme and for the sampling fraction used in each stratum (Ward and Rimmer, 1994).

standard energy requirement consumption units, which take an adult male as the reference value of one (see Appendix 2). The value of home-produced grains, pulses and animal products was also standardised and added to the expenditure per consumption unit. The resulting figure - referred to here as household expenditure - provided a measure of living standards and a proxy for income. The value of transfers was not included in this measure since this would distort the picture of the distribution of poverty prior to any transfers. The value of transfers was analysed separately.

Although the expenditure data were standardised using consumption units for the purpose of comparison, the mean *per capita* monthly expenditure is given in Table 1. For the population as a whole it was 910 ID, equivalent to US$12.1 (using the rate at the time of 75 ID/$). This corresponds to an annual *per capita* expenditure of $ 145, ranking amongst the lowest in the world. This figure must be treated with caution since the prices of many goods were low and the Dinar was extremely weak against the dollar. The comparison can therefore be somewhat misleading. Nevertheless, given that Iraq was previously classed as a middle-income country, the figure gives an indication of the decline in the economy following the Gulf War and the imposition of international and internal sanctions.

Despite the low real income which the figure represents, mean expenditure *per capita* was higher than expected. It is well above, for example, the wages of many public sector employees, which can be as low as 200 to 300 ID ($2.7 to $4) per month. This reflects the coping strategies employed by households in order to deal with rising prices, with income often derived from sources other than their formal employment. Such strategies are essential, since these wages are below a minimum subsistence requirement.

By international standards, the distribution of household expenditure per consumption unit was found to be relatively equal in northern Iraq, indicated by a Gini coefficient[4] of 0.33. This was low by comparison with many other low-

[4] The Gini coefficient is a measure of the equality of income or expenditure distributions, with a theoretical range between zero and one.

income populations, and may well have reflected the collapse of middle-class public sector incomes, while petty trade and other private sector incomes retained somewhat more of their real value. Manual day-labourers could earn 50 to 90 ID per day ($0.7 to $1.2), which contrasts with the salaries paid to civil servants quoted above. Despite the relatively low Gini coefficient and the low mean household expenditure, there remained very substantial inequality in the expenditure of households; the top 20 per cent of households accounted for over 40 per cent of household expenditure, while the bottom 10 per cent accounted for only 3 per cent. This level of income inequality was clearly sufficient to recommend targeting the assistance at the poorest section of the community.

Three poverty lines were defined. The first was an absolute poverty line, based on pricing a basket of basic goods for a single consumption unit and comparing household expenditure per CU with this minimum. This basket of goods was derived by adjusting the basket used in Silva-Barbeau et al. (1994) and is given in Appendix 2. It was based on a diet containing no animal products and with large proportions of wheat substituted by barley, and on the purchase of only second-hand clothes. It allowed for a minimal level of medical care and educational expenses, without provision for any large cost. It amounted to 544 ID ($7.3) per CU per month, thus representing an extremely low standard of living. For the population as a whole, over 13 per cent of households were found to fall below this poverty line. The two other poverty lines used were relative poverty lines, set at two-thirds and one-third of mean household expenditure per CU for the population as a whole. These amounted to 809 ID ($10.8) CU/month and 405 ID ($5.4) CU/month respectively. Some 34 per cent of the households fell below two-thirds of mean expenditure and 5 per cent fell below one-third.

As well as using current expenditure as a measure of poverty, an attempt was made to assess vulnerability in terms of dependence on an unsustainable income source. There was some question concerning exactly what constituted an unsustainable income source in this context. Two groups can be mentioned. Firstly, there was a group of households whose primary income source for consumption expenditure in the previous three months was given as either borrowing or assistance from non-

relatives, or sale of household goods. Around 9 per cent of households gave one of these as their main income source. Mean expenditure for the first two of these sources was low, confirming the vulnerability of these households. Surprisingly, it was not especially low for households selling household goods. This may have been due to the households that had substantial goods to sell having a better asset base on which to draw; poorer households may have had fewer remaining assets to sell. If this were the case, it suggested that the levels of expenditure maintained by some of the households at the time of the survey might not have been sustainable in the longer term, even though they might have been above the poverty lines at the time of the survey.

Secondly, over 20 per cent of households gave one of the following as their primary income source: assistance or borrowing from non-relatives; sale of household goods; drawing on savings; assistance from relatives. This constitutes a very substantial proportion drawing on apparently unreliable or unsustainable resources. However, support from relatives is strongly grounded in the social fabric and may be no less sustainable than market-based incomes. Households reporting savings as their main income source had a relatively high mean expenditure, presumably reflecting a confidence in this source remaining viable into the future. The 9 per cent of households depending on the more limited set of income sources given above was probably a better indication of the proportion depending on an unsustainable primary income source. Fieldworkers considered that income source was one of the questions which was answered less accurately. For this reason it was not made a major focus of further analysis.

The unemployment rate was calculated for adult males between the ages of 15 and 60. The rate was calculated in this way because of uncertainty over the activity status that adult females would report they were if engaged in domestic activities but were seeking to work in an economic capacity as well. This gave a male unemployment rate of 15 per cent. Individuals reporting themselves either unemployed or underemployed constituted 18 per cent of the adult male population.

Nutritional status

The weight and height of non-pregnant adult women were collected for all eligible women within sampled households, as detailed in section 2. These data were used to calculate the body mass index (BMI), calculated as weight divided by height squared. This index is used as an indicator of chronic energy deficiency (CED) in adults. The literature defines three levels of CED, indicated by the BMI falling below three cut-off points (Shetty and James, 1994; Ferro-Luzzi et al., 1992). A BMI above 17 but below 18.5 indicates Grade I CED; a BMI above 16 but below 17 is classed as Grade II CED; a BMI below 16 is classed as CED Grade III. A BMI below 18.5 is associated with impaired function and lower productivity and a BMI of less than 17 is associated with increased morbidity (Shetty and James, 1994).

The proportion of women with a BMI below 18.5 in the population as a whole was found to be 11.6 per cent. This compares with around 3 to 5 per cent in a range of developed countries, 5 to 15 per cent in many less developed countries, and up to 70 per cent in a deprived rural Indian community (ibid.). Some 2.8 per cent of women in the population had a BMI below 17, associated with serious health consequences; 0.8 per cent had a BMI of less than 16. The data were compatible with the expenditure data, in that although there had been a general decline in the income of the population, not all groups had been affected equally and only a minority (although a substantial one) had been sufficiently affected to result in adult malnutrition.

It seems likely that the level of malnutrition represented an increase relative to pre-war levels. We were not able to locate any data on the nutritional status of adult women prior to the Gulf War and the subsequent troubles. However, the proportions of women with a BMI of less than 18.5 in the North African states of Tunisia and Morocco are 5 and 7 per cent respectively (ibid.) given Iraq's extensive welfare state prior to the war, it was felt that the proportions were unlikely to have been any higher in Iraq.

Households were asked whether their diet had changed, compared with the same month in the previous year. Some 90 per cent of the sampled households said that the diet had got worse, with less meat, less vegetables, or less volume of food or

more than one of these changes. Some 5 per cent reported that it had improved. Although the very large proportion reporting a deterioration was initially treated with scepticism by the authors, the fieldworkers argued that the substantial decline in the value of the Dinar over the previous year made the results plausible. Nevertheless, the variable was of no use in distinguishing rich and poor households.

The distribution of poor households

Using the poverty lines described in the previous section, together with the BMI and other measures, the data were used to examine the extent of poverty by geographical divisions. Both strata and governorates were compared. For each of the four strata, Table 2 shows the proportion of households falling below the three poverty lines. It can be seen that a larger proportion of the households in the collective villages fell below any given poverty line than in any of the other strata. However, within this stratum, the majority of households did not fall below any of the poverty lines. Although there was a greater proportion of poor, the majority were not poor using any of these poverty lines. Income distribution, as measured by the Gini coefficient, was not much more equal in the collectives than in other strata. The level of unemployment was higher but, again, many individuals were employed. The body mass index was also consistent with collectives being somewhat poorer, since, despite the larger amounts of food aid distributed to the collectives, about the same proportion of women in the collectives as elsewhere fell below the cut-off of 18.5. In addition, there were substantial proportions of poor households in all the other strata. Given that policy had been to target the collectives and largely exclude the other strata, these findings had important policy implications.

Table 2
Proportion of households below poverty lines and other indicators by stratum

Stratum	Measure					
	% HHs Below 1/3 of Mean	% HHs Below Absolute Line	% HHs Below 2/3 of Mean	Gini coef.	% Male Unemp-loyment	% women with BMI < 18.5
City	4.0	13	31	0.34	30	11.9
Town	4.7	11	30	0.33	25	10.6
Collectives	8.6	18	41	0.32	32	11.2
Rural	3.8	12	37	0.29	13	12.0
All	**5.0**	**13**	**34**	**0.33**	**15**	**11.6**

The poverty measures disaggregated by governorate are given in Table 3. All the socio-economic indicators suggested that Dohuk was the least poor governorate and Suleymaniyah the poorest. This was also consistent with the common perception of the situation. In particular, Dohuk was believed to benefit from trade across the Turkish border and to have lost less of its rural infrastructure during collectivisation.

The only measure which did not agree with this interpretation was the BMI. This was of sufficient concern to prompt the construction of a poverty indicator based largely on consumption rather than expenditure data, as a check on the expenditure-based indicators. This indicator identified a household as poor if all of the following three conditions were fulfilled: more than 20 per cent of grain consumed was barley; less than 10 per cent of grain consumed was rice; less than 40 ID worth of animal products per CU per month were consumed. These criteria were derived from discussions with householders and fieldworkers and by cross-checking them against fieldworkers' rankings of households for a subset of the data. Within the data set as a whole it was shown to correlate with household expenditure. This proxy measure confirms that Dohuk is less poor than the other governorates,

although it reversed the ranking of the other two. Nevertheless, it suggested that the BMI was reflecting factors other than household expenditure. Possible factors were differences in intra-household allocation of resources, different levels of morbidity and lower levels of food aid. The fact that the level of chronic energy deficiency in Dohuk was relatively high suggested that, despite its better economic position, food aid should not be directed away from the governorate.

Table 3
Proportion of households below poverty lines and other indicators by governorate

Governorate	Measure					
	% HHs Below 1/3 of Mean	% HHs Below Absolute Line	% HHs Below 2/3 of Mean	Gini coef.	% Male unemp-loyment	% Women with BMI < 18.5
Dohuk	1.3	5	19	0.30	11	12.1
Erbil	5.2	14	36	0.33	16	9.2
Suleymaniyah	6.3	19	39	0.32	16	13.1
All	**5.0**	**13**	**34**	**0.33**	**15**	**11.6**

The number of poor households in a particular sub-population depends not only on its proportion of poor households, but also on the total number of households in the sub-population. Table 4 illustrates this, giving the approximate population for each of the four strata and for the North as a whole. These population estimates were derived from figures given by the Food Departments of the governorates and from the distribution lists of the kerosene programme. Although there were bound to be errors in the figures from both these sources, they had all been updated fairly

recently. Any errors in them would be unlikely substantially to alter the implications of Table 4.

Columns three and four of Table 4 give, respectively, the percentage of households below the absolute poverty line and below the poverty line defined by 2/3 of the mean. It is possible to estimate the number of poor persons in each of the strata by multiplying the population of the stratum by the proportion of households below each of the poverty lines. Strictly, the number of households in each stratum should be used; since the data showed little variation in average household size per stratum, this is an adequate approximation. The number of persons living in households below the poverty lines is given in columns five and six. In the population as a whole, 400,000 persons fall below the absolute line and 1,037,000 fall below 2/3 of the mean. The final two columns give the distribution of the poor between the strata. For the absolute poverty line, for example, the 150,000 persons in the cities constitute 38 per cent of all persons below that line. This distribution is a function of both the proportion below the poverty line in each stratum and the population of that stratum.

Despite the use of two quite different poverty lines, the distribution of the poor showed a clear pattern. The largest proportion of persons below either poverty line was found in the cities, a result of their large populations combined with substantial proportions below each poverty line. The collective villages accounted for about 25 per cent of the poor; around 75 per cent were outside the collectives. Targeting the collectives as a means of serving the poor was thus not an adequate strategy.

Table 4
The distribution of households below the poverty lines

Stratum	Pop in '000s	% of total pop	% HHs below Abs. line	% HHs below 2/3 of mean	No. of people below Abs. line '000s	No. of people below 2/3 of mean '000s	% of poor for Abs. line	% of poor for 2/3 mean line

Cities	1,155	38	13	31	150	363	38	35
Towns	600	20	11	30	65	179	16	17
Collectives	566	19	18	41	101	234	25	23
Rural	713	23	12	37	83	261	21	25
All	**3,052**	**100**	**13**	**34**	**400**	**1,037**	**100**	**100**

Note: Figures may not add due to rounding.

Characteristics of the poor

Data from the survey provided an opportunity to examine characteristics of poor households. It was possible to see whether any single characteristic was sufficiently strongly associated with poverty to be used as a basis for the targeting of aid, using a poverty line defined by 2/3 of the mean. The characteristic that was most strongly associated with poverty was being 'registered displaced'. These were the households which were sampled separately in Suleymaniyah drawn from the lists of displaced families. Over 60 per cent of these households fell below the poverty line compared with around one-third of households in the population as a whole. The registered displaced appeared to be the group with the highest concentration of poor households; this association was highly significant ($?^2$ test, $p<0.01$).

No other variable was so strongly associated with poverty. While there may have been larger proportions of poor households in certain categories, in all cases the majority of households lay above the poverty line. This applied to a number of characteristics which had been suggested as indicators of poverty. Resettled households and households with at least one unemployed member both show significantly higher proportions below the poverty line than the general population ($p<0.01$), but the majority were above the poverty line. The larger proportion below the poverty line for female - as against male-headed households was not significantly greater. This was surprising, although it may be explained by the

strong traditions of support for widowed women by the husband's remaining relatives and other members of the community. Households in paid employment - most of which would have been in the public sector - had a higher proportion below the poverty line but again the majority were above it. This suggested that targeting civil servants, although it may have been justified on the grounds of supporting basic services, was not an effective strategy for targeting the poorest households.

Most simple characteristics were, therefore, not sufficiently accurate in the discrimination of poor households to act as a basis for targeting. Although a number were significantly associated with poverty, a large proportion of the households featuring the characteristic were nevertheless above the poverty line. A number of other characteristics were not even significantly associated with poverty. With the exception of the displaced, which were clearly a vulnerable group, more sophisticated systems for selecting poor households from within the wider population were required.

Targeting outcome

As part of the household survey, respondents were asked to report the quantity and type of food assistance received during the previous three months. Food aid receipts were then valued using average prices over the three months across the three governorates. The target group was defined as those beneath the higher relative poverty line, i.e. those reporting expenditure less than two-thirds of the mean. Although it was recognised that the poor might not have been specifically targeted by some agencies, this approach was useful for the purpose of assessing the extent to which aid was reaching the poorest households.

The mean values of transfers per CU for poor and non-poor households were calculated. For the poor households the mean value was 62.4 ID per CU per month, against 55.9 for the non-poor. Although the total value of transfers was very slightly higher for the poor, the difference is not statistically significant (t-test, $p>0.05$). It did not appear that the poor were in receipt of a higher level of transfers. If the population was broken down by strata there remained no

significant difference between the means for poor and non-poor households.

The data were also used to estimate coverage, under-coverage and leakage. Coverage is the proportion of those intended to be served by the programme, who are served. Under-coverage is the proportion of those intended to be served and are not. Leakage is the proportion of those not intended be served by a targeted programme (i.e. the non-poor), but who nevertheless receive assistance. The target group was again assumed to be the poor, defined as those reporting expenditure less than two-thirds of the mean. Table 5 shows the estimates of these measures. In the first column, the percentage of households receiving any form of assistance is given. The high proportion of collective village households that had received food reflected targeting by the WFP of these settlements. Likewise, coverage for the collective villages was also high, i.e. some 88 per cent of poor households in the collective villages had received food assistance. Coverage in rural areas was low, reflecting the fact that this sector was not targeted specifically by any of the major donors. Nearly two-thirds of poor households in the urban areas (towns and cities) had received some form of assistance in the previous three months.

Leakage in the collective villages was lower than for other strata. Nevertheless, a substantial proportion of better-off households in the collective villages, some 56 per cent, were receiving food. Leakage in the urban areas was higher, over two-thirds. This was a result of the universal distribution by a number of donors and, perhaps, because non-poor groups have been targeted by some agencies. The measures of under-coverage and leakage accorded with the earlier findings, showing that distribution of food aid to populations defined only by stratum was likely to result both in non-poor households receiving aid and in poor households in other strata being missed.

Table 5
Programme Outcome - Coverage, Under-coverage and Leakage

Stratum	% households receiving any form of assistance in the last three months	**Coverage** % of the poor who have been served by the programme	**Under-coverage** % of the poor who have been left out of the programme	**Leakage** % of the non-poor who have been included in the programme
City	63	64	36	68
Town	67	61	39	73
Collectives	82	88	12	56
Rural	46	47	53	63
All	**65**	**65**	**35**	**66**

4. Policy Implications

Objectives of the assistance programme

In the longer term, the solution to the crisis in northern Iraq was clearly the lifting of the economic sanctions and the rehabilitation of the rural economy. This would be contingent upon a political settlement between the regional government of the North and the GOI. In the meantime, the basic assistance provided to the region was necessary in order to mitigate the worst effects of the situation. Given the finite

amount of donor food available, decisions regarding the priority of target groups needed to be made against a clear statement of objectives by the major donors. The objectives of some of the agencies were, at the time of the survey, extremely vague. Moreover, the situation which necessitated the emergency programme in 1991/92 had changed. Although the economy was still severely depressed as a result of sanctions, the political situation was more stable and many households had been able to return home. It was suggested that two objectives of food assistance should be defined: to provide a safety-net for the poorest and to reduce food insecurity in the longer term by supporting rehabilitation.

Supporting the poorest

The survey showed that not all households in northern Iraq were equally poor. However, a significant proportion of the population were struggling to survive. Although some 13 per cent of the population fell below the absolute poverty line, the basket of goods used to define this cut-off point contained only the bare necessities to survive. For policy purposes, it was suggested that households falling below the higher of the two relative poverty lines should be targeted. This was the bottom 34 per cent of the population, around 1 million people. The objective would be to ensure that this group received regular deliveries of food aid. The survey revealed that over a third of poor households had received no assistance at all in the previous three months and some two-thirds of non-poor households had received assistance. Over the 1994/5 winter period, the combined resources of all the agencies were expected to exceed 1 million rations per month. Since this was approximately the number of persons below the higher relative poverty line, it was clear that the resources were already available to make a significant impact on the welfare of the poorest. This required that the assistance be redirected from the non-poor to the poor.

Reducing vulnerability in the longer term

Food aid should also be used to reduce food insecurity in the longer term through supporting rehabilitation. This could be achieved in two ways. Firstly, it should be used to support and hasten the return of villagers to their original homes from

the collective villages. Food insecurity would be reduced once farmers were again able to earn a livelihood from agriculture. Secondly, food assistance should be used as a resource to help re-build the rural infrastructure destroyed by the Iraqi army. It was recognised that this rehabilitation required a clear commitment on the part of the international community to the security of the resettled households, however political circumstances developed in the region.

Recommendations for improving targeting

At the time of the survey, resources were being targeted by local and international organisations at a number of levels: the community, institutions, employment/income groups, special groups (e.g. orphans, the handicapped), households and individuals. The UN programme, managed by the WFP, was primarily targeted at the collective villages and the displaced. In addition, rural areas sometimes received rations on a rotational basis, either covering the entire governorate or directed at particular areas. Urban areas (both towns and cities) had received little, although there was an attempt to identify the poorest households in one major city. Between July and October 1994, some 350,000 beneficiaries per month were assisted in northern Iraq under the UN food aid programme. During the winter of 1994/5, the number was to be increased to 750,000 per month. The rations consist of wheat flour, vegetable oil, lentils and sugar. UNICEF's kerosene programme in 1993/4 began with a universal distribution. Subsequent distributions were targeted at health workers, teachers, selected urban areas and collectives, civil servants and pensioners. A similar programme was planned for the winter of 1994/5.

Other food donors included the Food Department, the Turkish Red Crescent (TRC) and a host of NGOs. The sporadic allocations of food from the GOI to the Food Department were generally directed to the towns and cities. The TRC aimed to give one allocation of food to every urban household in northern Iraq over a twelve-month period. However, in addition, it donated supplementary rations to a number of institutions including orphanages, hospitals and health centres. Several NGOs had been successful in targeting poor households in small numbers through both individual assessment and the use of local committees (Silva-Barbeau et al., 1994).

Despite there being some attempt on the part of some donors to target the poorer households and particular vulnerable groups, the survey showed that the difference in aid receipts between poor and non-poor households was insignificant. Recommendations on improving the targeting of food aid were made for each of the various types of residential area. These took into account the findings from the survey, the objectives of the basic assistance programme and the political difficulties in targeting food at a household level[5].

Collective villages

The survey showed that, whilst collective villages had the highest proportion of poor households, the majority of households were above all of the poverty lines used. The blanket distribution of rations to all households in the collectives therefore resulted in a substantial amount of leakage. A complete halt to general distribution in the collectives was felt to be politically impossible and dangerous for the distributing agency. However, reducing the frequency of general distributions and using the food saved for an additional targeted programme was thought to be a realistic way of re-directing food to the poorest households. Collective village committees could be used to target the additional food at these households. Committees would be asked to identify a certain number of poor households, based on the size of the village, for the targeted list.

It was suggested that food-for-work schemes should initially be aimed at resettled villages and not collective villages. In the longer term, in collective villages which households did not want to leave, food-for-work could be useful for enhancing the infrastructure.

Cities and towns

The survey showed that the poor in the urban areas of northern Iraq had been ill-

[5] For a more detailed discussion of policy implications see Ward and Rimmer (1994).

served by the food distribution programme. Although some 52 per cent of the poor lived in towns and cities, one third of them had not received assistance. Leakage to the non-poor, arising from universal distribution in urban centres by many donors, was high. Three options were considered for re-directing food from the non-poor to the poor: geographic targeting of poor neighbourhoods in the cities and towns; reducing or stopping universal food distribution in the urban centres and re-targeting the food to the poor through local committees; or using food-for-work to allocate food.

Two attempts to target WFP food to the poorest in the urban centres through local committees had already started at the time of the survey. If successful, it was suggested that targeting through local committees should be extended to all urban areas. Once these arrangements were set up, the WFP could increase its allocation to the towns and cities. In addition, other donors should be encouraged to make use of the system. The aim would be to provide food regularly, at least every two months, to all the poor. In the long-run, it would be hoped that universal food distribution in urban centres could be stopped altogether. Food-for-work was not thought to be a suitable option for urban centres. This was because of the difficulties of running food-for-work projects on the scale necessary to cover the large numbers of urban poor. Both resources and administrative capacity were lacking. Geographic targeting was suggested as an alternative if targeting through committees proved unsuccessful.

Rural villages

Under-coverage, at 53 per cent, was highest for rural villages. The potential of food aid as an important resource to support resettlement and rehabilitation was also emphasised. In co-ordination with all the agencies involved in re-settlement work, it was recommended that the WFP should provide a 6-12 monthly ration for all those returning to their villages. This would support the resettling households while they began to re-establish their livelihoods. Moreover, the provision of a substantial food credit to those resettling in villages, together with a reduction in distribution to collective villages, would provide a strong incentive for households

to return home.

In addition to supporting those resettling in their first year, there was a case for setting up a pilot food-for-work programme, focused on villages lacking social and economic infrastructure. The programme would run for an agreed time period and would reward poor households with food for labour given to restoring roads, schools, clinics, water and sanitation facilities, re-afforestation, etc[6]. Representatives of target villages would be involved in the identification of projects. The WFP would take overall responsibility for the programme, both monitoring its activities and organising the necessary complementary inputs. Implementation could be contracted out to some of the numerous organisations, including departments of the regional authorities and national and international NGOs, which were already involved in reconstruction and which were keen to see an increase in donor support. The unconditional distribution of food to households without an employable member could also form a part of the programme, so that these vulnerable households were not excluded. This would require selection by the local community.

The displaced

The survey suggested that the majority of households registered as displaced in the governorate of Suleymaniyah were indeed below the poverty line. It would have been difficult to remove the 40 per cent of households that were above the poverty line from the distribution. The policy of providing the displaced with regular food aid therefore appeared to be a reasonable strategy for targeting a part of the basic assistance programme.

Targeting the kerosene programme

[6] The idea of using food-for-work in northern Iraq was not new. The UNHCR (1992) report on northern Iraq recognised the dangers of continuing food distribution to a large proportion of the population. The report argues that food aid could be managed through food-for-work, centred around rehabilitation-orientated activities. In addition, the WFP already supported a small number of food-for-work activities (re-afforestation).

In the past, in addition to a universal distribution of kerosene, a proportion of the programme had been targeted at civil servants and pensioners. In the case of pensioners, the rationale was that they should be assisted in the harsh winter conditions. In the case of civil servants, the basis for the distribution was twofold. It was considered to be both a poverty reduction strategy, based on the low wage-rates of public sector employees, and a means of providing support to the administration of the region. The survey indicated that nearly two-thirds of those in paid employment, the majority of whom were civil servants, were non-poor. Distribution to civil servants was thus not an efficient way of targeting poor households, although its use to support the administration could still be justified. In so far as the objective was to target poor households, it was suggested that the kerosene would be better targeted in urban areas by using the local committees proposed for food distribution. It was considered impossible to target kerosene at a household level outside the urban areas; it would probably be unacceptable to the population and therefore dangerous for the distributing agency.

5. Formal and Informal Research Methods

The survey described in this case study was undertaken with the aim of providing information for the basic assistance programme in northern Iraq. Specifically, the information collected was to be used to identify the location and characteristics of the poorest households, and to improve the targeting of basic assistance at these households. The survey was also to provide policymakers with information on overall levels of poverty in the population. A sample survey was felt to be the only feasible way of gathering this information. By collecting data from a random sample of households using a number of standardised measures, the survey could make estimates of the prevalence of poverty for the population as a whole and for important sub-groups. Estimates of the total number of households below a given cut-off point could be derived. Characteristics which were expected to identify poor households could be checked. Estimates of under-coverage and leakage could be calculated. These various measures were useful both in the assessment of current programmes and in the formulation of policy. They were obtained at

reasonable cost and were sufficiently timely to be relevant. They would not have been available if more informal techniques had been applied.

Such informal techniques were useful in formulating an understanding of the process of impoverishment in the population, and in designing a questionnaire with context-specific measures of poverty. This understanding also provided a basis for assessing the plausibility of findings. Nevertheless, they could not have substituted for the sample survey. Given the information required, a household expenditure survey using a random sample was indispensable. The current trend in some of the literature to dismiss such surveys in favour of more informal techniques seems to us to be mistaken. Both forms of inquiry have a useful role to play in gathering information to assess and guide the policies of food aid and other income-transfer programmes.

Benefits of using a sample survey

The survey followed conventional methodology. A standardised questionnaire was developed and enumerators were trained in its application. Households were sampled at random, using a stratified, two-stage design. The main benefit of this was that quantitative estimates of known precision could be calculated. Since sampling had been random, estimates of measures which applied to the entire population could be calculated. The proportion of the population below the absolute poverty line and the proportion of women with chronic energy deficiency, for example, were useful measures with which to assess the overall welfare of the population. Combined with an approximate population, the numbers of households (or individuals) which fell into a given category could also be estimated. Provided the size of the sample in population sub-groups was sufficiently large, estimates for those sub-groups could also be calculated with acceptable and known precision. Estimates of the proportion of households below a given poverty line, for example, were useful for comparing the extent of poverty between strata and thereby to assess how successful the policy of targeting food aid at the collective villages had been as a means of reaching the poorest households in the population. Statistical tests to compare sub-groups could also be carried out.

These benefits of sample surveys are well-known; we reiterate them only to emphasise that these characteristics of the data made the findings very useful in policy assessment and formulation in northern Iraq.

Although measures were standardised between households, this did not mean that these measures necessarily `box the reality of respondents according to the categories and interests of the researcher' (Chambers, 1994). Certainly the questionnaire reflected the interests of the researchers, in that it was required to identify the poorest households in order to better target the aid programme. However, many of the questions used were developed specifically with reference to the relevant population, to reflect its particular characteristics and to measure variables which were associated with poverty within it. In the highly monetized economy of northern Iraq, a simplified expenditure survey was an appropriate means of assessing poverty (with the addition of a limited range of home-produced items). Had this not been the case, other indicators of poverty could have been measured in a standardised way to allow estimates to be derived for the whole population and to allow sub-groups to be compared. Indeed, a number of such possible indicators were included in the questionnaire in order to allow expenditure to be cross-checked or even replaced if that had proved necessary. Once again, it is normal practice to develop and pre-test questionnaires to ensure that they are appropriate to the population. Sample surveys do not necessarily neglect items regarded as salient by the relevant population; this would be a mistake, since they are likely to be of interest.

The use of multiple measures in the survey had a number of benefits. Firstly, although the pre-testing of the questionnaire had suggested that questions on expenditure would be answered reasonably well, it was felt that having alternative measures of poverty might be a useful fall-back if the data from the full survey appeared doubtful. A number of different approaches were taken to try to judge its validity. This assessment of data quality, after the survey but prior to any data analysis, was felt to be a useful check on each variable. None of these assessments can be considered as conclusive, but together they suggested that the use of the expenditure data was justified. Had they suggested otherwise, some of the socio-

economic proxies could have been used in place of expenditure data. Some were also used as a complement to the expenditure data, recognising some of the non-income aspects of poverty. The question on sources of income was particularly useful in this respect.

The second benefit of using multiple measures was that the consistency of the different measures could also be assessed. The consistency between the expenditure data and the BMI was of particular interest. There are two ways in which this can be considered. In a stronger sense, if different variables are believed to be measuring the same thing, then the degree of agreement between them at a household level can be assessed. In this sense, the agreement between the indicators of poverty and the extent of adult energy deficiency was not high. An ordinary least squares regression of BMI onto expenditure per CU, in this instance with per CU aid receipts added, was highly significant ($b = 0.00072$; $p<0.01$). However, since the interest was in identifying the most vulnerable groups, a cross-tabulation of household poverty indicators against proportions of women with CED is more relevant. This is given in Table 6; a test for trend is not significant. The two measures are clearly not measuring the same thing. Although it would have been preferable to have found a stronger correlation, this was not regarded as surprising. Although studies have found a correlation between household income and food intake, on the one hand and low BMI on the other, the degree of agreement between the BMI and the other categories is far from complete (Shetty and James, 1994).

Table 6
Proportions of adult women with CED by economic status of household

Status of Household	Number of women in category	% with BMI below 18.5
Not Poor	1198	10.6
Poor - < 2/3 of mean	495	13.6
Poor - < 1/3 of mean	61	14.3

Total	**1754**	**11.6**

Notes: 1. $?^2$ test for trend = 2.74. p >0.05.
2. The number of women given is the weighted number, adjusting for the design effect.
3. Economic status of household in this case defined using expenditure plus aid receipts per CU.

The second, weaker sense in which consistency can be checked is at the aggregate (ecological) level. This acknowledges that the two variables are measuring somewhat different things. However, if both are considered important, then the extent to which they agree or not at an aggregate level is relevant. For example, the finding that Dohuk Governorate had a considerably lower prevalence of poverty would alone have suggested that aid be redirected away from the governorate. This recommendation was not made because Dohuk was found to have levels of CED no lower than the other governorates; indeed, it had higher levels than Erbil. Although greater consistency between these measures would have made for a less ambiguous interpretation of the findings, it was nevertheless useful to know about the inconsistency. This meant that the recommendations could be qualified, which would not have been the case if only one measure had been available and the complexity had been missed.

Another criticism levelled at formal household surveys is that they are slow and expensive. As others have argued, this need not necessarily be the case (see, for example, Casley's introduction in Kumar, 1993). The survey in northern Iraq took five months from conception to a draft report. The total cost of the survey was under US $60,000, a small proportion of the aid budget to the region for the year. The results had clear, obvious implications for the aid programme and were sufficiently timely to be relevant.

Five specific factors that benefitted the survey must be recognised, however. Firstly, the very weak value of the Dinar to the US dollar and extremely cheap petrol made costs substantially lower than they might otherwise have been. A second factor was the availability of a pool of well-educated and experienced enumerators and field-managers. This made the recruitment of high quality staff relatively easy. There were also a number of data-entry clerks (and computers)

readily available in the country, making data-entry rapid and cheap. Thirdly, although there was still some conflict and distress migration, most of the population were largely settled in their usual place of residence and those who were not could normally be identified within an administrative framework. Fourthly, the system of food agents and displaced agents offered a convenient sample frame in larger settlements. Fifthly, the highly monetised economy meant that expenditure was a reasonably clear and unambiguous measure of poverty for research purposes.

This is not to say that there were no problems with the survey. A number of problems are discussed in the section on data quality. They include not being able to visit some of the sampled clusters, and finding that some of the questions had not been answered accurately. All of the estimates made were approximate and could have been affected to some extent by both measurement error and selection bias. Nevertheless, even approximate estimates were very useful and simply could not have been derived by informal techniques alone.

The uses of informal techniques

It is argued that formal, quantitative methods based on sampling theory have a number of overriding benefits in assessing income-transfer programmes. However, techniques which are more informal and which use purposive or convenience sampling are clearly useful in particular circumstances. In addressing the questions that were considered by this study, informal techniques were an important precursor to, and complement of, the formal survey. They were useful for formulating an idea of the processes by which households were becoming increasingly poor and the strategies adopted to try to mitigate the effects. They suggested possible indicators which could be used to distinguish the poorest and most vulnerable households and identified particular types of household which could be at high risk. Informal techniques were also used to further refine these measures in developing the questionnaire. Focus group discussions were conducted to assess which of the variables would be most useful and to identify the most appropriate categories and questions with which to measure them. These sessions also identified the most appropriate respondents for the survey, as well as the ideal length of the recall period for each variable.

Some of the findings of the informal techniques did not appear to be substantiated by the survey results. In particular, a number of groups which were expected to have very high levels of poverty did not seem to do so. These included, for example, collective villages and female-headed households. In the case of collective villages, a politically sophisticated set of communities had a strong vested interest in presenting themselves as particularly poor, in order to maintain aid flows. Although there was also some scepticism, the collectives were considered by many actors to be a lot poorer than other settlements. This was reflected both in food aid policy and in their identification as a vulnerable group by Silva-Barbeau et al (1994). It was the standardised, formal survey, with interviews conducted by local enumerators, which provided the evidence that many households in the collectives had a standard of living comparable with those elsewhere. This was despite the fact that many households were in receipt of a monthly food ration, which would be expected, if anything, to reduce the estimates of household expenditure before transfers.

6. Conclusion

In this paper it has been argued that formal methodologies need not necessarily have the deficiencies that some commentators have highlighted - high cost, inflexibility and unacceptably lengthy processing times. Using the case study from northern Iraq, an attempt has been made to show that a carefully managed survey can be relatively cheap, flexible and quick. Furthermore, the possibility that the questionnaire survey would produce misleading results was minimised. By using informal techniques to understand the processes of impoverishment, context-specific measures of poverty were included in the survey. This meant that the study did not have to rely solely on an expenditure-based measure of poverty.

The survey enabled quantitative estimates to be made of both the extent and the distribution of poverty, together with measures of the targeting accuracy of the relief programme. It demonstrates that formal research techniques can be an

important tool in the design, monitoring and evaluation of relief programmes. Informal techniques cannot be expected to produce the kind of quantified estimates for the population and sub-populations which were required to address the key policy questions. Given the information required, a household expenditure survey using a random sample was indispensable. The current trend in some of the literature to dismiss such surveys in favour of more informal techniques seems to be misplaced. Both forms of inquiry have a useful role to play in gathering information to assess and guide the policies of food aid and other income-transfer programmes. Sample surveys should not be dismissed as inappropriate without a careful assessment of what information is required and which are the appropriate means to obtain it.

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Annex 1

Questionnaire:
Household Standards of Living Survey
Cluster Form

Governorate: --- (Dohuk=1) (Erbil=2) (Sulmy=3)

Stratum: --- (city=1) (town=2) (coll=3) (vill-fa=4) (vill-ep=5)

Cluster No: ---

Agent's Name: ---------

Name of Place: -------

Team Number: ---

Date of Visit: --\--\--

Total No of HH Interviewed: -----

Distance to City in km: -----

For Clusters Where Agents are Used:

Total No. Households Served by Agent: -----
Agent's **Estimate** of Total No. of HH Outside Area: -----
Total No. of Households Sampled: -----
Total No. of **Sampled** HHs Not Found in Area: -----

Table of Visits

Line No of HH	Name of Head	Result of Visit	
		First Visit	Second Visit

Codes for Households on list:

First Visit	**Second Visits**
1=interviewed	1=interviewed
2=not home (revisit)	2=not home(replace)
3=outside area	
4=in area but not required	
5=refused (replace)	
6=house not found	

Total of Questionnaires Attached: ----- Checked by: ---

Household Standards of Living Survey
Household Form

Governorate: --- Stratum: --- (see Cluster Sheet for Codes)

Cluster No: --- Name of Agent: ---------

Name of Place: ------- Team Number: ---

Date of Visit: --\--\--

Name of Household Head: ----- Sex: --- (M=1, F=2)

How many ration cards are there in this household as a whole? ☐

Please give answers to the questions for the whole household.

Section 1 Household members

For All Persons				For All Women over 18		
Q1. Name	Q2. Sex M=1 F=2	Q3. Age in Years	Q4. Work in Last Month	Q5. Pregnant? Y=1 N=2	Not Pregnant	
					Q6. Wt in Kg	Q7. Ht in Kg
					.	.
					.	.
					.	.

Codes for Q4:

1=self-employed/working (not 3)
2=farmer
3=some work but seeking more
4=unemployed
5=unable to work as ill or disabled
6=housework
7=studying
8=unpaid work
9=retired
10=other
99=not stated

Section 2 About the household

Question	Code	Answer
Type of Household	Displaced before '91 =1 Displaced in/after '91 =2 Resettled =3 Recent Returnee =4 Other =5 Not Stated =9	----
Ownership of House	Own House =1 Rented =2 Squat =3 Government =4 Rent Free =5 Other =6 Not Stated =9	----
Source of Drinking water	Piped to House =1 Stand pipe =2 Well =3 Surface =4 Other =5 Not Stated =9	----

Section 3 Household consumption

****TWO WEEKS****

a) Basic food consumption in the last two weeks

Please give the food consumed, during the last two weeks, by all members of the Household from the following items. Include food bought, given, harvested, taken from stocks.

	Amount consumed in the last two weeks		
Food item	Source		
	Bought Amnt/KG	Havstd/stock Amnt/KG	Given Amnt/KG
Wheat Flour			
Wheat Grain			
Barley Flour			
Barley Grain			
Rice			
Chickpea/lentils			

*****TWO WEEKS*****

b) what is the approximate value of total animal products consumed by the family in the last two weeks (in dinars)?

Total

eggs -------
yog/milk -------
meat -------

c) Please give all food aid received by the family during last three months for the following items (include aid from all sources - not only food dept.):

****THREE MONTHS****

Food aid received in the last three months					
Wheat grain in kg	Wheat Flour in kg	Lentils in kg	Sugar in kg	Oil in KG	Rice in KG

Section 4 Household expenditure

****THREE MONTHS****

a) household expenditure in the last three months:

In the last three months	
Category	Expenditure (DN)
Clothes and Shoes (excluding school uniform)	
Education	
Furniture & Household Items	
Maintenance of Home Building	
Celebrations, Festivals & Funerals	
Jewellery, watches...etc	
Saving	
Helping other Families	

****ONE MONTH****

b) Household expenditure in the last month

Expenditure in last month			
Item		Expenditure (DN)	
Rent Water Medical Costs			
Transport	Public Private		**Total (transp)** ----
Fuel	Gas Electricity Kerosene Wood&Charcoal Other		**Total (fuel)** ----

****TWO WEEKS****

c) Household expenditure in the last two weeks

In the last two weeks			
Category		Expenditure (DN)	
Food and Drinks (include items in Section 3A)	Carbohydrates, pulses etc Animal Products Vegetables and Fruit Confectionery Others: tea, sugar, oil, juice and other items	--- --- --- --- ---	Total Food Expenditure -----
Miscellaneous (all expenditure not covered in the rest of Section 4)	Cleaning Materials & Soap Recreation,Tobacco..etc Telephone, post Any Expenditure not given above	--- --- - -- ---	Total Miscellaneous Expenditure ------

Section 5 What are the most important sources of money to pay for the things your hh has consumed in the last three months?

Sources of Money	**Code**
A) Most Important	
B) Second Most Important	
C) Third Most Important	
D) Fourth Most Important	

Coding

1=Paid Employment
2=Self Employed Income
3=Farming
4=Rent & Interest Payment
5=Pension
6=Assistance from Relatives Here
7=Assistance from Relatives Abroad
8=Assistance from Others
9=Borrowing Except from Relatives
10=Using Savings
11=Sale of HH goods & Assets
12=Other
99=Not Stated

Enumerator: If any code =10, Go to section 6, if not skip to section 7.

Section 6 Which household goods and assets were sold? ☐

Coding

1=Any of: house, clothes, basic furniture or bedding
2=Electrical and other items (except 1)
3=both (1) and (2)
9=Not stated

Section 7

a) Do you keep wheat or barley zakhira? ☐

Y=1, N=2

Enumerator: If 7a = 1, go to 7b, if not skip to section 8.

b) how long does it last (in weeks)?

Weeks ☐

Section 8

a) Has the family's diet changed compared with the same time last year?

Y=1, N=2 ☐

Enumerator: If 8a) = yes, then ask 8b); if not read the final instructions.

b) How has the family's diet changed? ☐

Coding

1=Better
2=Less meat
3=Less vegetables
4=Less food/fewer meals
5=More than 1 of (3,4,5)
6=Other
9=Not stated

Enumerator: Ensure that **all** women over 18 years old who are not pregnant have been measured and enter the result into section 1. If necessary, arrange a time to return to measure any women who are not currently at home.

Annex 2

Consumption Units and the Absolute Poverty Line

Basket of goods defining the absolute poverty line

Foodstuff	Grm/person/day	ID/person/month
wheat flour	146	65.7
barley	286	40.7
lentils	55	44.5
vegetable oil	23	44.2
sugar	42	45.3
vegetables	300	45
tea	12	64.8
Other basic necessities		
medical		8
clothes		82.5
rent		50
electricity		3
kerosene		30
education		20
Total		543.8 ID

Source Based on Table 3 in Silva-Barbeau et al (1994).

Notes:
1. This basket of foodstuffs was compiled from interviews with poor households in Erbil city centre. Quantities shown are the minimum amounts required to achieve an intake of 2,200 kcals per day (WHO reference standard for 25-year-old).
2. The figure for rent was the minimum quoted for a one-room apartment in the most run-down area of Erbil city centre.
3. Kerosene consumption is estimated at 2 litres per person per day for four

months of the year (CARE) and zero for the rest of the year.

4. Quantity of tea consumed was estimated from interviews.
5. Barley consumption is a new phenomenon and the precise proportions of the wheat barley mix varied from 50:50 to 1:5. The quantity given is based on the mid-way mix of 1 part wheat flour to 2 parts barley.
6. The figure for clothes is the price of second-hand clothes and shoes for an adult male for a year.
7. The cost of medical expenses is based on two visits to the doctor per year.
8. The figure for education is a nominal sum for uniform and travelling.
9. The figure for electricity is the quoted price for a one-room house in Erbil centre.

Consumption Units

Consumption units were used to standardise expenditure so that the expenditure of households of different demographic make-ups could be compared. The consumption units were derived from standard nutritional consumption units (FAO/WHO/UNU, 1985). The units were simplified and for adults they were adjusted to allow for the fact that a component of expenditure is non-food expenditure. It was assumed that 65 per cent of expenditure was on food and in proportion to the ratios of consumption units. The remaining expenditure for adults was assumed to be at a constant level irrespective of age or sex. The resulting consumption units are given below.

Consumption units

Age	Male	Female
	Value of consumption unit	
0 - 5	0.35	0.35
5 - 10	0.5	0.5
10 - 14	0.65	0.65
14 - 60	1	0.9
60 +	0.67	0.67

Acronyms

BMI	Body Mass Index
CU	Consumption Unit
GOI	Government of Iraq
ID	Iraqi Dinar
KCS	Kurdish Charitable Society
KSC	Kurdish Save the Children
TRC	Turkish Red Crescent
UNICEF	United Nations Children's Fund
UNHCR	United Nations High Commissioner for Refugees
WFP	World Food Programme

Relief and Rehabilitation Network

The objective of the Relief and Rehabilitation Network (RRN) is to facilitate the exchange of professional information and experience between the personnel of NGOs and other agencies involved in the provision of relief and rehabilitation assistance. Members of the Network are either nominated by their agency or may apply on an individual basis. Each year, RRN members receive four mailings in either English or French. A Newsletter and Network Papers are mailed to members every March and September and `State of the Art' Reviews on topics in the relief and rehabilitation field every June and December. In addition, RRN members are able to obtain advice on technical and operational problems they are facing from the RRN staff in London. A modest charge is made for membership with rates varying in the case of agency-nominated members depending on the type of agency.

The RRN is operated by the Overseas Development Institute (ODI) in conjunction with the European Association of Non-Governmental Organisations for Food Aid and Emergency Relief (EuronAid). ODI is an independent centre for development research and a forum for policy discussion on issues affecting economic relations between the North and South and social and economic policies within developing countries. EuronAid provides logistics and financing services to NGOs using EC food aid in their relief and development programmes. It has 25 member agencies and four with observer status. Its offices are located in the Hague.

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