

TECHNICAL COOPERATION PROGRAMME



ASSESSMENT OF THE FOOD AND NUTRITION SITUATION

IRAQ

Technical Report
prepared for
the Government of Iraq
by
the Food and Agriculture Organization of the United Nations

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2000

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Summary

An FAO/WFP/WHO Mission visited Iraq from 1 - 27 May 2000. The objective of the mission was to assess the current food supply and nutrition situation in the country, particularly after two consecutive years of drought, and to compare the results with the findings of the previous assessment missions of 1993, 1995 and 1997.

Two consecutive years of severe drought and inadequate availability of essential agricultural inputs have severely affected the Iraqi agriculture. Reflecting a substantial reduction in plantings and yields, cereal production in 2000 fell to 794,000 tons, some 47 percent below the 1999 poor harvest and 64 percent lower than the previous five years average. Drought conditions also drastically reduced the water resources in rivers, dams, lakes and canals, some of which have virtually dried up. As a result, prospects are unfavorable for the upcoming irrigated summer crops, vegetables and fruits.

Cereal imports since 1997/98 under the oil-for-food deal have led to significant improvements in the food supply situation. In 1995/96 per person cereal consumption was down 63 percent from the 1984/85-1988/89 average. This year (2000/01) it is projected to be 90 percent of that level. However this is 4 percent less than 1997/98. Furthermore, problems of delays in the flow of food imports continue to be reported since the 1997 Mission, leading to repeated cases of low levels of MOU commodity stocks.

The UN has implemented a series of important measures since the end of 1999 to remedy this situation. Contract approval procedures have already significantly improved following the implementation of Security Council Resolution 1284 (1999) which includes provisions for accelerated approvals of contracts for foodstuffs, as well as of basic or standard health, agricultural and educational supplies. These contracts no longer require to be submitted to the Security Council Sanctions Committee for approval, but rather are notified to the Secretary-General. Efforts have also been made, and should continue to be made, by the UN to make contract-processing procedures more efficient. Unless there is timely submission of applications by the Government of Iraq, efficient contract processing by the UN and opportune delivery of food imports under MOU contracts, shortfalls are likely to result in an increase in the frequency of not being able to meet food basket targets. Similarly, unless agricultural inputs, such as appropriate seeds, are delivered in time for the next season, a production recovery will not be achieved.

The effective nation-wide rationing system set up by the Government of Iraq in 1991 prevented famine but with the decline in the energy content of the GOI ration and the reduction in food available outside the rationing system, malnutrition and mortality of young children dramatically increased. The high levels of malnutrition documented by the 1995 mission were an important catalyst for the reaching of an agreement on the implementation of the Oil-for-Food Programme established through Security Council Resolution - SCR 986 in April 1995. Under the SCR 986 programme the distribution of humanitarian supplies to all the Iraqi population is undertaken by the Government of Iraq (GOI) in the centre/south and by the UN Inter-Agency Humanitarian Programme on behalf of the GOI, in the three northern Governorates. The subsequent increased humanitarian supplies provided under SCR 986 since 1997 and the high level of UN and NGO activity in the north arrested further nutrition decline.

Despite significant increases in the food ration since SCR 986, child malnutrition rates in the centre/south of the country do not appear to have improved significantly and nutritional problems remain serious and widespread. Wasting in under five-year-olds is unacceptably high at around 10%. The indication of high levels of malnutrition supports UN findings that infant and child mortality have more than doubled since the end of the 1980s. Classical recognisable signs of severe malnutrition such as marasmus and kwashiorkor continue to be observed in hospital paediatric wards. The nutritional status of school children aged 5-8 years based primarily on stunting and those aged 9-15 years based on low BMI is a cause for concern especially for those from rural areas and poor households. Micronutrient deficiencies are common and iron deficiency anaemia is high. In addition, the high rate of obesity in adults is a cause for concern with heart disease, hypertension and diabetes the major reported causes of death in adults.

The existing food rations do not provide a nutritionally adequate and varied diet. Although since their effective implementation in 1997 they have halted further deterioration in the nutritional situation, they have not by themselves been able to reverse this trend. In spite of the fact that the ration is reasonably adequate in energy and total protein, it is lacking in vegetables, fruit, and animal products and is therefore deficient in micronutrients. With only one quarter of the planned ration of pulses distributed due to gaps in the submission of applications for procurement, the protein quality of the diet has also been poor.

The monthly food basket lasts up to three weeks depending on the type of ration. This deficit has to be made up by food purchases, further straining resources. Many households cannot afford to supplement their diet with an adequate variety of non-ration foods and intakes of micronutrients such as iron and vitamin A remain far below requirements. Adequate amounts of items such as meat, milk and vegetables are too costly for many families to purchase to supplement their diet given the parallel decline in the economy and the effects of the current drought on the availability of crops and horticultural products. Consequently a significant portion of the population requires special attention, particularly the most vulnerable population groups whose coping strategies are quickly being eroded.

However it would appear that despite shortfalls in the ration, some segments of the population can supplement their diet with market purchases, albeit at considerable cost. While it is important to note that more information is needed on how households use the ration and acquire other needed foods in order for estimates of food consumption to be more reliable (as ration items may be sold/exchanged to acquire other items including foods not available in the ration), mission findings indicate that the combination of the average daily per person energy availability provided by the SCR 986 food ration combined with that obtained through complementary food purchases, results in a total per person energy availability of around 2,500 kcal/person/day. This is confirmed by the high prevalence of overweight in adults as more than half the adult population of Iraq is considered to have some degree of overweight.

In contrast the implementation of SCR 986 in the north of the country, where the United Nations Inter-Agency Humanitarian Programme is responsible for implementation on behalf of the GOI, has been accompanied by significant improvements in the nutritional situation. In children under five, wasting has almost been eliminated and there have been significant declines in the prevalence of stunting and underweight. Infant and child mortality rates have also fallen. Amongst the reasons for the north-centre/south differences are that the northern region is more self-sufficient in food, far greater assistance per capita has been received than the remainder of the country, and the north has benefited from the greater

flexibility the use of cash gives agencies for the more effective operation and management of programmes. In addition, specific focus has been placed on enhancement of the food basket, targeted nutrition and food production, as well as growth promotion and the early detection of malnutrition among children under the age of five.

The mission recognises that malnutrition is often caused by factors other than those related to food. Poor water supply both in quality and quantity as well as inadequate sanitation are key causative factors of frequent and repeated infection resulting in infant and child malnutrition throughout the country. Infections in infants are often associated with the decline in breast-feeding, the too-early introduction of infant formula and an increase in bottle-feeding. Other important factors include the lack of general nutrition and health education, overcrowding and poverty. These factors have had more of a negative impact in the centre/south than in the north with the beneficial effects of increased family rations being offset by the combination of these adverse conditions.

Recommendations are provided by the mission for improving the food, health and nutrition situation in Iraq. These include accelerating the process of approval of SCR 986 contracts and ensuring the timely delivery of humanitarian imports including food, medicines and inputs for the rehabilitation of agriculture, particularly seeds and materials for water conservation, control and irrigation management. With poor water and sanitation a major cause of malnutrition and excessive morbidity and mortality, the mission considers the maintenance and rehabilitation of the water and sanitation system a priority for meeting basic needs.

Improving dietary intakes is another top priority. Recommendations include diversifying the food rations with protein and micronutrient rich foods such as pulses, vegetables, fruit, and animal products as well as providing additional complementary food for young children and fortifying wheat flour with iron and vegetable oil with vitamin A. Local production of foods for including in the ration as well as for use in special feeding programmes is proposed.

Given the harmful effects of the too early introduction of added fluids or milk to infants and the need to encourage breast-feeding, infant formula in the ration should be restricted to children 6 months and above. The resultant decline in infant food would be more than off-set by the proposed increases in complementary foods. Agencies and health professionals need to campaign vigorously to convince GOI and mothers to accept this. Advocacy with policy makers should be intensified, training and motivation of health workers as well as school teachers on best practices in health, food and nutrition should also be improved.

Supplementary and therapeutic feeding programmes which target the most vulnerable need strengthening and both GOI and donors are encouraged to provide increased support. The use of cash in centre/south Iraq to improve programme effectiveness is recommended similar to that currently enjoyed in the north. Support is also identified for the rehabilitation of the food industry and for improving food safety.

Other recommendations include support for nutrition and health services, in particular the rehabilitation of health services infrastructure, better information for monitoring the food, nutrition and health situation, and promoting appropriate diets, feeding practices and healthy lifestyles.

MAP



ACRONYMS AND ABBREVIATIONS

BMI	Body Mass Index
CARE	an NGO operation in Iraq
CCCU	Community Child Care Unit
CED	chronic energy deficiency
DP	Distribution Plan
EMOP	Emergency Operations Programme (World Food Programme)
FAO	Food and Agriculture Organization of the United Nations
GOI	Government of Iraq
ICMMS	Child and Maternal Mortality Survey
ID	Iraqi dinar
IMR	infant mortality rate
IRC	Iraqi Red Crescent
MOH	Ministry of Health
MOU	memorandum of understanding
NGO	non-governmental organization
NRC	Nutrition Rehabilitation Centre
PRRO	Protracted Relief and Recovery Operation
SCR	Security Council Resolution
SD	standard deviation
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WHO	World Health Organization

I. Introduction

An FAO/WFP/WHO Mission visited Iraq from 1 to 27 May 2000. The objective of the mission was to assess the current food supply and nutrition situation in the country, particularly after two consecutive years of drought, and to compare the results with the findings of the previous assessment missions of 1993, 1995 and 1997.

The Mission received full co-operation from the staff of the UN agencies (FAO, UNDP, UNICEF, WFP, WHO) based both in Baghdad and in the Northern Governorates as well as from the Government of Iraq which gave its support to the Mission. However obtaining reliable statistics from various ministries was difficult and information requested from Government was often lacking. Extensive travel was undertaken by the Mission in all areas of the country including the Northern Governorates, with visits to farms, warehouses, mills, schools, health facilities and urban and rural households. The mission reviewed available data on weather, crops, food supply, nutrition and health status from Governmental and United Nations sources including the extensive survey data from UNICEF on both nutrition and child mortality, and the routine observation of food deliveries by WFP.

In collaboration with the Nutrition Research Institute of the Ministry of Health, a household nutrition survey was conducted in urban and rural centres (Baghdad, Kerbala and DIALA) to collect information on the nutritional status of children and adults, including qualitative data on food consumption. The survey collected data on 838 children under five years of age, 2,534 aged 5 to 19 years and 3,157 adults. A nutritional assessment was also conducted on more than 2,000 primary and intermediate schools students, with a sub-sample examined for clinical signs of malnutrition. Questions on foods purchased by households outside the 986 ration were added to the routine WFP observation of households receiving the food ration.

The multi-disciplinary nature of the inter-agency collaborative mission broadened the scope of the mission beyond that of 1997 and allowed for information to be collected on a larger sample than hitherto had been possible. Aspects which were considered include the food and agriculture sector along with an assessment of crop production in the light of the ongoing drought, the procurement and delivery of food, medical and other humanitarian supplies under SCR 986, and issues related to access to food, water and sanitation, health and nutritional status.

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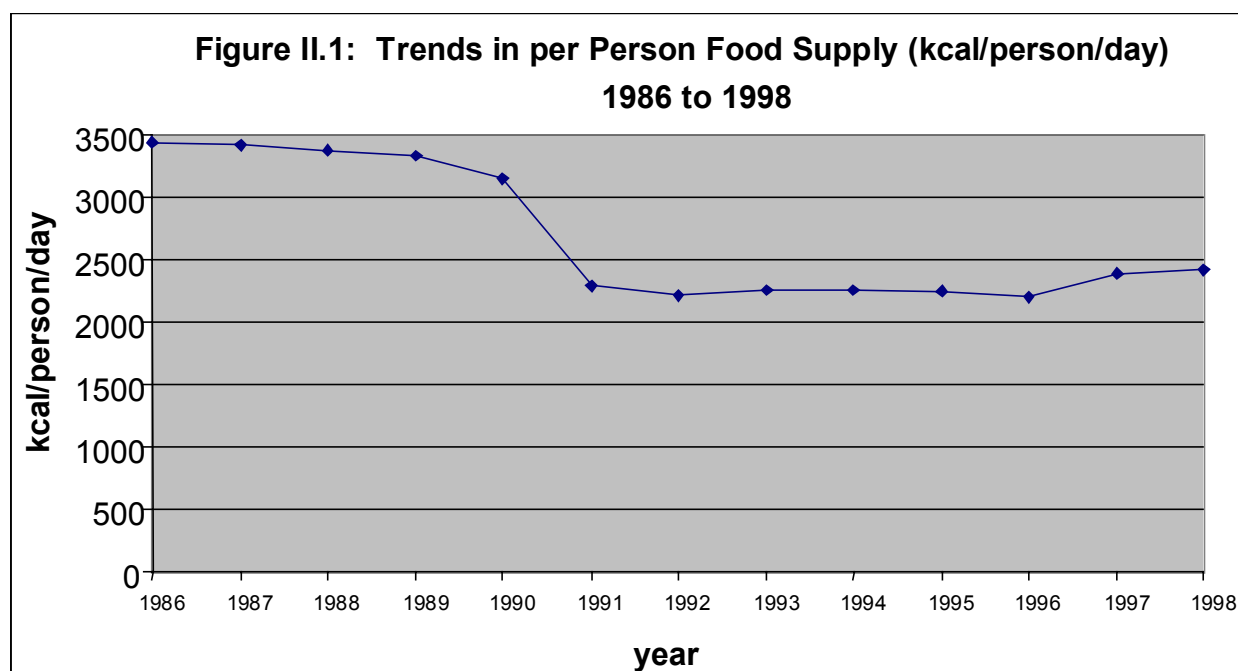
Abdur Rashid, Chief, Global Information and Early Warning Service, FAO Rome

II. Crop Production and Food Availability

Food availability data for Iraq as reported by FAO Food Balance Sheets show a steep rise following the arrival of SCR 986 food supplies. Between 1991 and 1996 total dietary energy supplies had been about 2,250 kcal/person/day but rose to 2,396 kcal in 1997 and 2,419 kcal/person/day in 1998. This rise in dietary energy supplies was mirrored by that for protein availability, which rose from a low of 46 g/person/day in 1996 to 53 g/person/day in 1998. Substantial as this jump is, the foods available for consumption are still considerably below what they were prior to 1991.

Table II.1: Energy, Protein and Fat Supply 1986-1998

Element	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Energy/person/day (kcal)	3444	3423	3376	3341	3156	2293	2217	2266	2257	2247	2206	2396	2419
Prot/person/day (g)	87.6	86.6	86.7	84.1	81.6	59.5	54.2	52.2	49.2	47.1	46.4	50.8	53.3
Fat/person/day (g)	78.5	78.8	77.8	78.1	70.7	33.4	41.9	54.6	64.3	74.3	74.9	73.6	68.0
%prot.energy	10.2	10.1	10.3	10.1	10.3	10.4	9.8	9.2	8.7	8.4	8.4	8.5	8.8
%fat energy	20.5	20.7	20.7	21.0	20.2	13.1	17.0	21.7	25.6	29.8	30.6	27.7	25.3



Two consecutive years of severe drought and inadequate supply of essential agricultural equipment and inputs, including spare parts, fertilizers, pesticides and herbicides, have gravely affected the Iraqi agriculture sector. Reflecting a substantial reduction in plantings and yields, cereal production in 2000 is estimated by the Mission at a record low volume of 794,000 tons, some 47 percent down over last year's poor harvest and 64 percent below the previous five years average.

Table II.2: Iraq: Area, Production and Yield of Cereal Crops, 1998-2000**a) Iraq**

Crop	Area '000 hectares			Yield kg/hectare			Production '000 tons		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
Wheat	1,732	1,771	863	665	450	598	1,152	798	516
Barley	1,311	1,116	504	668	245	470	876	274	237
Paddy (rice)	105	90	11*	2,514	2,000	1818*	264	180	20*
Maize	60	125	12*	2,233	2,000	1,750*	134	250	21*
Total	3,208	3,102	1,390*	756	484	570	2,426	1,502	794*
Changes compared to 1995 (%)	+1	+1	-56	-14	-40	-29	-4	-41	-69
Changes compared to 1997 (%)	+16	+12	-50	-14	-40	-29	+10	-32	-65

b) Central / Southern Regions

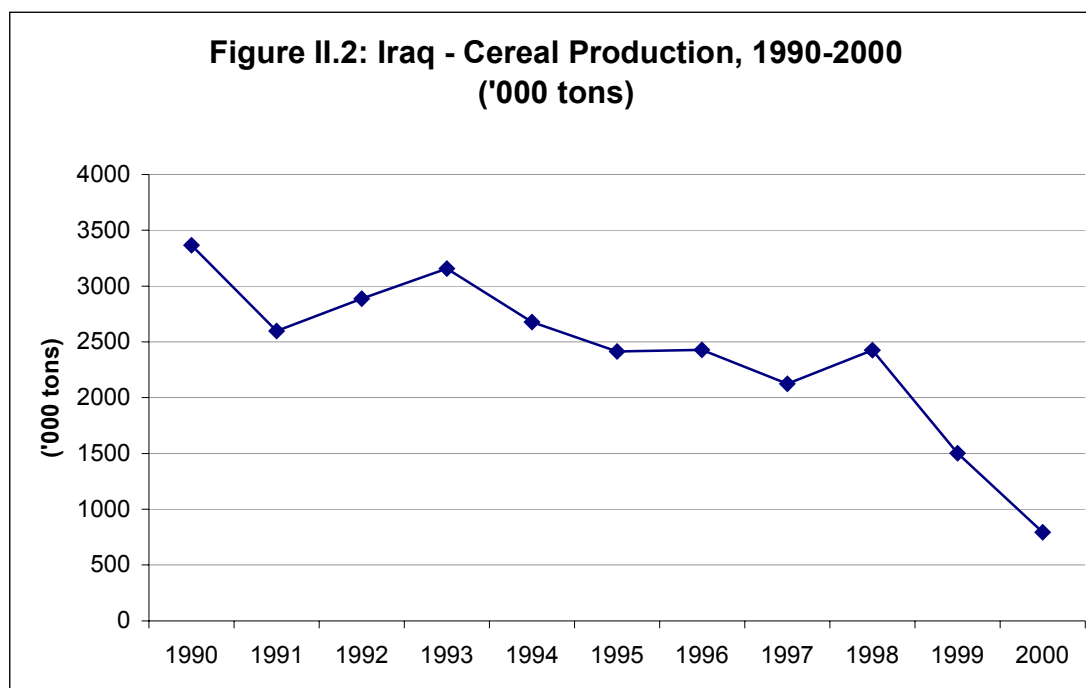
Crop	Area '000 hectares			Yield kg/hectare			Production '000 tons		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
Wheat	1,405	1,495	600	566	458	650	796	685	390
Barley	1,173	999	400	640	227	500	751	227	200
Paddy (rice)	100	87	9*	2,500	2,011	2,000*	250	175	18*
Maize	60	125	12*	2,216	2,000	1,750*	133	250	21*
Total	2,739	2,706	1,021*	704	494	616*	1,930	1,337	629*
Changes compared to 1995 (%)	+10	+8	-59	-12	-38	-23	-3	-33	-69
Changes compared to 1997 (%)	+27	+26	-53	-11	-38	-23	+13	-22	-63

c) Northern Governorates

Crop	Area '000 hectares			Yield kg/hectare			Production '000 tons		
	1998	1999	2000	1998	1999	2000	1998	1999	2000
Wheat	327	276	263	1,088	479	409	356	113	126
Barley	138	117	104	904	402	356	125	47	37
Paddy (rice)	5	3	2*	2800	1,000*	1,666	14	5	2*
Maize	-	-	-*	-	-*	-	1	-	-*
Total	470	396	369	1055	444	417	496	165	165
Changes compared to 1995 (%)	-30	-41	-46	+32	-46	-48	-8	-69	-70
Changes compared to 1997 (%)	-23	-35	-40	+30	-45	-49	0	-67	-67

Sources: FAO field estimates 1999/2000, GOI, local authorities in northern Governorates, mission estimates.

* Mission estimates for current year based on the field observations



Drought conditions started in the 1998-99 crop season, with total rainfall ranging from one half to a third of normal levels (between 28-126 mm) in central/southern parts of the country. As this was largely insufficient for crops to reach maturity, an estimated 70 percent (about 1.0 million ha) of wheat and barley crops in the rainfed zones failed to germinate. Similarly in the irrigated areas, more than 100,000 ha suffered crop losses due to irrigation water rationing and continuing power cutoffs. In the most affected centre/south areas, not only were the plantings reduced, but also some 75 percent of the cropped area under wheat and barley was heavily damaged and mostly used as grazing area for livestock. Conditions were also inadequate in the northern Governorates with insufficient and erratic rainfall during much of the season. Dry conditions continued during much of the 1999/2000 crop season, with only one-third of the normal rainfall received in most of the center/south and in parts of the three northern Governorates.

Drought conditions also drastically reduced the water resources in rivers, dams, lakes and canals, some of which have virtually dried up. The Tigris River is reported to be flowing at 40% of its normal flow and the Euphrates also has very low water levels. Under the prevailing drought conditions and the limited availability of irrigation water, the area to be planted under rice and maize in the upcoming summer season (May-September), is expected to be seriously reduced. Farmers have been advised to use the scarce water supplies primarily for human consumption and livestock, and for the preservation of existing orchards.

The production of other foodcrops has also been adversely affected by the drought. In view of the limited availability of irrigation water, the area planted to vegetables in 2000 is expected to be reduced to 400,000 ha in the center/south, compared to 500,000 ha in 1997. The decrease also reflects limited supply of agricultural machinery, seeds, fertilizers, and pesticides. Total production of vegetables is estimated at 1 million tons, 33 percent below the 1997 level. In the northern Governorates where conditions have been relatively better, area planted to vegetables is expected to increase to about 48,000 ha in 2000 as against 42,000 ha in 1998 but production may decrease to 240,000 tons as against 300,000 tons on account of water rationing.

This year's fruit production in the country is estimated at 1.3 million tons (1.0 million tons from the center/south and 0.3 million tons from the northern Governorates). This is 13 percent below the 1997 level, a result of the combined effect of drought and difficulties to maintain productivity. In recent years, replacement of missing trees and establishment of new orchards have become virtually impossible and old parent stocks are being lost. The production of dates is estimated at about 600,000 tons, slightly below the 1997 level. The sector benefited from aerial sprayings provided under FAO supervision in the No-Fly zones of Iraq to combat crop pest on rainfed wheat and barley, date palms and sugar cane despite constraints related to the timely availability of spraying materials.

Although there are no reliable estimates of livestock numbers, the recent countrywide campaign against foot-and-mouth-disease estimated the animal population in 2000 at 14 million head. This is some 50 percent over the 1997 level but remains below the 1986-90 average size of 15.8 million head. Differences with earlier estimates may be explained by differences in evaluation methods. Some 9.5 million head are now accounted for in the centre/south against 4.5 million head in the northern Governorates. Shortage of imported feedstuffs, overgrazing and inadequate veterinary services have been major constraints to the normal development of the livestock sector.

Notable progress has been made since 1998 in the rehabilitation of the poultry sector which has benefited from substantial Government interventions with funds generated from the oil-for-food deal. Poultry industries are currently operating in most Governorates and production is rapidly increasing for both poultry meat and eggs, as illustrated by a 40 percent drop in market prices between 1998 and 2000. The sector is also rapidly expanding in the northern Governorates with about 430 farms currently in operation compared to 25 farms prior to the embargo. There are also 13 hatcheries and 5 slaughterhouses now functioning compared to only one and 5 respectively, a few years ago.

A 1998 fishery survey conducted by the Government with FAO assistance indicated that out of 1,016 fish farms listed across the country, only 22 percent were still fully operational, 17 percent were partially operational and 61 percent were no longer operational. In addition, under the current general condition of sanctions and economic difficulties faced by the country, only one hatchery is now partially operating from 18 hatcheries operating before the embargo. Marine fishery has also been facing a general lack of suitable diesel engines, spare parts, boats and fishing nets.

Due to restrictions in the country's capacity to acquire foreign exchange and import food commercially, there have been attempts to boost domestic food production to meet the country's food needs. These have been compromised by inadequate supply of agricultural equipment and inputs, including spare parts, fertilizers, pesticides and herbicides. The situation has been exacerbated by two consecutive years of drought, which has further constrained food production.

The sharp decline in cereal production this year strongly underlines the importance of timely food imports under SCR 986. While the size of Government stocks was not provided by the GOI, two consecutive years of drought-induced shortfalls in domestic cereal production suggest a reduced stock level in Government warehouses. Furthermore, considering the need for distributing, under the MOU, an average monthly amount of 250,000 tons of wheat and 60 000 tons of rice across the country, an examination of stock levels for these and other products points to frequent low MOU stock levels in recent months. By most accounts, the procedures for contracting and approval of MOU commodities is rather slow and cumbersome, partly because of the absence of standard commercial penalty clauses in the contracts. This has at times affected the quality of both the products and the services delivered. Although no serious supply shortages have so far surfaced, partly due to borrowing arrangements with the Government, the situation is unlikely to be sustained due to low stocks and serious shortfall in cereal production. Therefore, there is need to ensure urgent and timely delivery of imports under MOU contracts.

Under the current conditions of drought-reduced production and assuming no changes in overall stock levels, the projected level of imports for 2000/01 could allow a per person cereal food use of 172 kg/year. This is 42 percent higher than the 1995/96 level, prior to the oil-for-food deal, but remains 4 percent below the 1997/98 level and 10 percent below the average for 1984/85-1988/89. This suggests that cereal imports under the oil-for-food deal have led to significant improvements in the food supply situation but per person cereal food consumption remains below the pre-1990 levels and may even be deteriorating compared to 1997/98.

Table II.3: Iraq - Cereal Balance Sheet for 1984/85 to 1988/89, 1995/96, 1997/98 and 2000/01
(‘000 tons)

	1984/85 - 1988/89 ^{1/}	1995/96	1997/98	2000/01
Domestic Availability	3,440	2,429	2,125	794
Opening Stocks	1,376	-	-	-
Production	2,064	2,429	2,125	794
Total Utilisation	6,694	3,646	5,356	5,502
Food Use	3,041	2,505	4,066	4,252 ^{2/}
Feed	1,497	641	740	750
Seed, losses and other uses	752	500	550	500
Closing Stocks ^{3/}	1,333	-	-	-
Exports	71	-	-	-
Imports	3,254	1,217	3,231	4,708
Commercial Imports	3,254	1,081	3,188	4,690 ^{5/}
Food Aid	-	136	43	18
Per Person Cereal Food Use (kg/year)	191	121 ^{4/}	179	172

1/ Average.

2/ Based on total availability including imports under SCR986 for an estimated population of 24.8 million, the annual growth rate of which has averaged 3.6 percent per year.

3/ Stock drawdown is assumed to be zero during the period considered. The difference between opening and closing stocks in the mid-1980s (43,000 tons) indicates that stock drawdown is minimal with little impact on per person cereal food use.

4/ Based on actual utilization, which was substantially below pre-1990 levels.

5/ 2000/01 commercial imports under SCR 986, based on six-month quantities projected for a year.

The drought-reduced harvests also suggest that local availability of quality seeds will pose a serious problem for the next growing season. It is therefore also important to ensure that adequate quantities of appropriate seeds are available on time for the next season, failing which a production recovery will not be achieved.

Since the implementation of SCR 986, market prices of food products such as wheat flour, rice, vegetable oil and sugar which are part of the food ration, dropped significantly at the beginning of the programme and have remained generally low. However, market prices of commodities not included in the ration continued to be high and above the means of a large section of the population with low purchasing power. As a result of the collapse of personal incomes and very low salary levels, particularly in the public sector, the effective demand for food products not included in the SCR 986 ration, particularly meat and vegetable products, is sharply reduced. This has serious consequences for the nutritional well being of the population, especially for children and other vulnerable population groups.

Food Industry

The food industry has been in decline since 1991 when most of the factories were closed due to lack of hard currency for importing new machinery, spare parts, raw materials and other supplies. The industry has shown some resurgence since the signing of the MOU in 1996 when the Government lifted restrictions on the manufacture of products using sugar. Shops and manufacturing outlets started to produce Arabic sweets, biscuits and chocolate bars, juices, soft drinks, jams, jelly, and ice-cream. Many of these products are manufactured using outdated equipment and low quality ingredients, often under poor hygienic and sanitary

conditions, that threaten the health of the consumer. Lack of power supply, water availability and sewerage disposal has further limited the development of a safe food industry.

Food control officials have been unable to adequately enforce food quality and safety regulations and standards. FAO is providing assistance in this area but more is needed to be done to rehabilitate the food industry and strengthen food control to enhance consumer safety and meet consumer needs. Initial support should be provided for the local production of processed foods under SCR 986 such as high protein biscuits or suitable weaning or complementary foods that could be used in child feeding programs or for enhancing the general ration.

While the GOI is concerned that some of the commodities sent to Iraq may not be in conformity with Iraqi standards, international food quality standards are also often not fully adhered to. The lack of trained government food quality inspectors and of adequate materials and equipment for proper testing makes verification difficult. The mission was informed that FAO and WFP were in the process of hiring a food quality consultant to look into this and other food quality issues, as the matter has been gaining increased relevance in the context of vulnerable group food assistance.

III. Food Sector

1. SCR 986

On 14 April 1995, the UN adopted Security Council Resolution 986 (SCR 986), allowing Iraq to export oil and use the proceeds to arrest the deterioration of the humanitarian situation in Iraq, in particular with regard to nutrition and health. On 20 May 1996, the Memorandum of Understanding (MOU) was signed between the Secretariat of the United Nations and the Government of Iraq, establishing the framework for SCR 986 implementation. The distribution of humanitarian supplies was undertaken by the Government of Iraq (GOI) in the centre/south and by the United Nations Inter-Agency Humanitarian Programme in the three northern Governorates on behalf of the GOI.

The programme is implemented in phases, each phase lasting a period of 6 months. The programme's first phase was implemented during the first half of 1997. At the time of the mission, the programme was in its seventh phase. The purchase and distribution of food, humanitarian supplies and equipment are made within the framework of Distribution Plans (DPs) for each phase, submitted by the Government and approved by the UN Secretary-General. The composition of the food ration is set for each phase as a function of recommended nutritional levels, food pipeline prospects and in-country food stock availability. All Iraqi citizens are entitled to a monthly food ration for which they pay a nominal fee of ID 250 (US 12 cents) to the GOI.

Allocation for the food sector rose from US\$ 870 million under DPs I – III, to US\$ 1.018 billion under DP VI. A total amount of US\$ 5.44 billion was allocated to the food sector under DPs I – VI for the purchase and delivery of basic food commodities, toilet soap and detergent. The food allocation for DP VII approved on 9 June 2000 is US\$ 1.05 billion for the center/south and an additional US\$ 152 million for the north. Phase VII commodities

had not yet reached Iraq at the time of the mission. As at 30 April 2000, a cumulative total quantity of 14.7 million tons of food items, valued at US\$ 4.9 billion was recorded as having been delivered to Iraq. In dollar terms this amount represents around 75% of the planned quantity.

Upon its inception, SCR 986 distributions were erratic, covering about 80% of the planned items in the ration in the first half of 1997. Since mid-1997 up to Phase VII, monthly distributions improved to cover about 95% of the target¹. However despite improvements in performance in covering the GOI monthly requirements, food basket targets were fully met in only 6 out of 38 monthly distribution cycles. In fact resource allocation was only adequate during DP VI due to increase in oil revenue as a result of increasing oil prices. Main reasons for shortfalls since 1997 have been delayed submission of contract applications for some items of the food basket by the GOI, delays in the processing of contracts by the UN and untimely delivery of goods by suppliers to Iraq. Delays in opening of Letters of Credit by the Banque Nationale de Paris have reportedly affected the delivery of goods by suppliers to Iraq, given international price variations during the period of contract processing and release. The absence of any performance guarantees in the contracts as to ensure the supplier's commitment to timely delivery of commodities has also had a bearing on food availability. While the Government of Iraq, from its alternative resources, has contributed cereals and other commodities, on a loan basis, to cover the shortfalls of the 986 food basket, the UN has implemented a series of measures since the end of 1999 to remedy this situation and has called upon the GOI to expedite applications for the procurement of humanitarian items.

Nutritional Content of the SCR 986 Food Ration

Prior to embarking in an analysis of the nutritional content of the SCR 986 food ration, an important distinction must be made between the different ration scales and the corresponding nutritional levels referred to within the context of SCR 986. Firstly, there is the Secretary General's recommended nutritional level, which, based on the advice of UN nutritional experts, stands at 2,463 kcal/person/day and 63.6 g of protein/person/day since 1998.

The second level pertains to the previously referred to Distribution Plans and constitutes a planning level, calculated on the basis of forecasts of food imports and availability of in-country food stocks. This level, and the corresponding ration composition, are set in the process of submission of each DP by the GOI and its subsequent approval by the Secretary-General. DP levels in the first three phases of SCR 986 were 2,030 kcal/person/day and 47 g protein/person/day and reached 2,330 kcal/person/day and 52.5 g protein/person/day in Phase VII.

The third level is the one set by the GOI on a monthly basis, adjusted as a function of available monthly in-country stocks. The composition of the monthly food ration to meet the pre-determined nutritional level is announced publicly by the GOI through national the media prior to the beginning of monthly distributions. The GOI determined level is usually lower

¹ The implementation of any given phase normally overlaps into the official time-frame of the successive phase; e.g. resources for Phase VI were still arriving in March 2000/Phase VII.

than the DP planned level (see figures and tables below). As an example, the level announced by the GOI for the month of March 2000 was 1,994 kcal/person/day and 42.8 g protein/person/day compared to the DPs 2,330 kcal/person/day and 52.5 g protein/person/day.

The energy content of the GOI ration in the pre-SCR 986 period of 1996 was calculated at 1,295 kcal/person/day. Since the implementation of the SCR 986 programme, the intake of energy and protein increased steadily, reaching an average of 2,000 kcal/person/day and 43.3 g protein/person/day in Phases IV through VI. The most recent data are for Phase VII under which 2,199 kcal and 48.2 g of protein per person were distributed. While these figures and the above-mentioned shortfalls may suggest a lower-than-projected nutritional intake (considering also the WHO recommended level of 2,210 kcal/person/day for emergency energy requirements), mission findings indicate that some segments of the population supplement their diet with market purchases. Indeed, the combination of the average daily per person energy availability provided by the SCR 986 food ration with that obtained through complementary food purchases, results in a total per person energy availability per day of around 2,500 kcal (see Household Nutrition Survey - section IV.2). This is confirmed by the high prevalence of overweight in adults as more than half the adult population of Iraq is considered to have some degree of overweight. Although only a nominal fee of ID 250 (US 12 cents) per person is paid to the GOI for the ration, for those who are too poor to supplement the ration from other sources, nutritional problems continue.

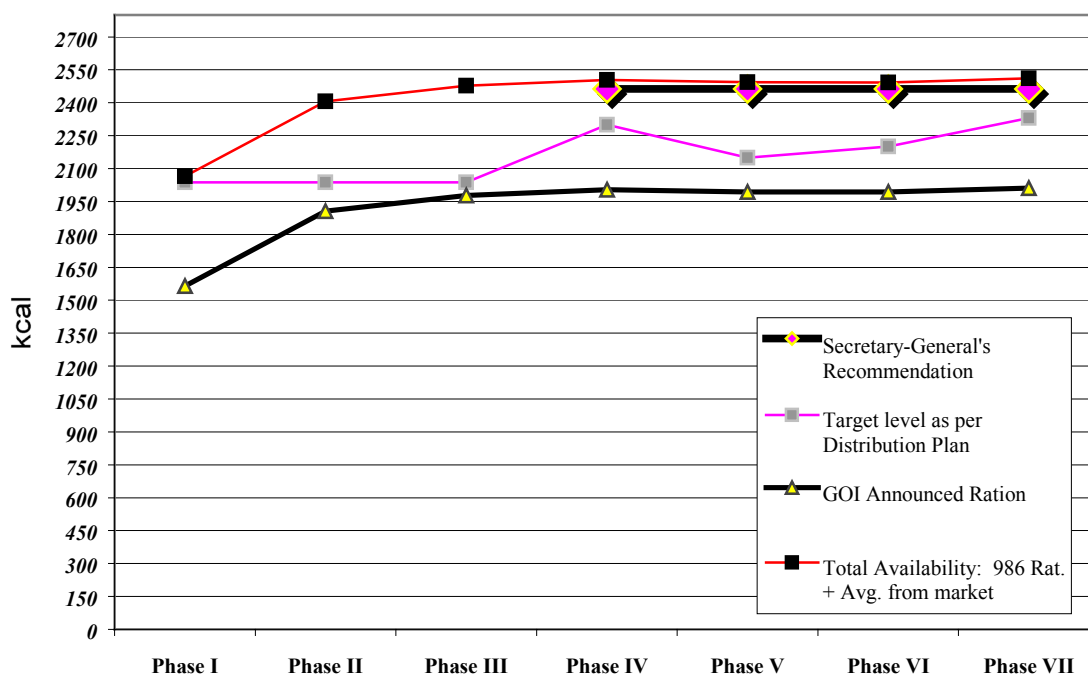
Of great concern is the the lack of a number of important vitamins and minerals such as vitamin A, C, riboflavin, folate and iron in the diet. Although the planned ration is reasonably adequate in energy and total protein, it is lacking in vegetables, fruit, and animal products and is therefore deficient in micronutrients (see section IV on micronutrient deficiencies).

The protein content of the ration has reached neither the planned SCR 986 DP ration levels nor that recommended by the Secretary-General. However with additional protein obtained from foods purchased outside the 986 ration estimated at 17 g protein/person/day, this brings the total availability to around 60 g protein/person/day, a level just below those recommended by the Secretary-General. Nonetheless, the high cost of protein-rich foods and the general lower-than-projected protein levels provided by the 986 ration imply the need to be vigilant and act upon ensuring the adequate provision of protein to the population. Reduced amounts of pulses and dairy products in the monthly food basket were the main contributing factors for the shortfalls in the targeted nutritional values. Amongst the main reasons for this reduced provision is the non-submission of applications for the purchase of pulses by GOI during a nine month period, applications having only resumed in late September 1999.

Figures III.1 and III.2 illustrate daily per person energy and protein availability provided by the 986 food ration compared with the Distribution Plan levels, the Secretary-General's recommended levels and total availability including average supplementary energy and protein obtained from market food purchases. Tables III.1-3 and Figure III.3 show the composition of the planned food ration under the public rationing system since 1991.

Figure III.1: Daily per caput Energy Availability

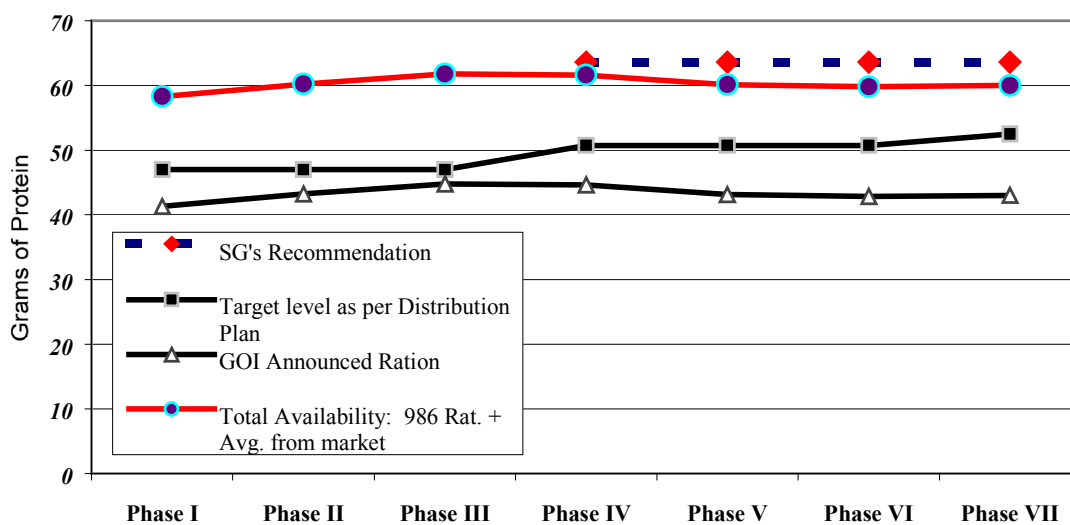
SCR - 986 Phases 1997/2000



Source: WFP, Baghdad, 2000

Figure III.2: Daily per caput Protein Availability

SCR - 986 Phases 1997/2000



Source: WFP, Baghdad, 2000

Table III.1:

**Planned Per Capita Monthly Food Ration Under the Public Rationing System, 1991-2000
(kg/person)**

Commodity	1991	1993	1995	SCR 986 Programme (MOU)							
				Pre-MOU	Phase I	Phase II	Phase III	Phase IV	Phase V	Phase VI	Phase VII*
Wheat Flour	8.00	9.00	6.00	7.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
Rice	1.50	2.25	1.25	1.25	2.50	2.50	2.50	2.50	2.50	2.50	3.00
Pulses	2.00				1.00	1.00	1.00	1.00	1.00	1.00	1.00
Vegetable Oil	0.25	0.50	0.63	0.75	1.00	1.00	1.00	1.25	1.00	1.25	1.50
Sugar	1.00	1.50	0.50	0.50	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Tea	0.05	0.08	0.10	0.10	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Salt					0.15	0.15	0.15	0.15	0.15	0.15	0.15
Milk								0.25	0.25	0.50	0.50
Cheese								0.25	0.25	0.25	
Weaning Cereal								0.80	0.80	0.80	0.80
Infant Formula	1.35	1.80	1.80	1.80	2.70	2.70	2.70	3.60	3.60	3.60	3.60
Soap	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Detergent	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Kcal value per caput/day excluding baby milk	1,372	1,705	1,093	1,295	2,030	2,030	2,030	2200	2150	2200	2330

Table III.2:

DP Planned Ration vs. GOI Announced Ration per Phase

Average energy value of monthly rations - From DP I to DP VII						
Phases	Full MOU Food basket (kcal)		Actual GOI Food basket ration (kcal)		End-User Availability Actual as % of Full	
	South/C	North	South/C	North	South/C	North
Phase I	2,038	2,038	1,565	1,565	77%	77%
Phase II	2,038	2,038	1906	1853	94%	91%
Phase III	2,038	2,038	1978	1978	97%	97%
Phase IV	2,300	2,300	2004	2004	87%	87%
Phase V	2,150	2,150	1994	1994	93%	93%
Phase VI	2,200	2,200	1,993	1,993	91%	91%
Phase VII	2,330	2,330	2011	2011	86%	86%

Source: WFP, Baghdad, 2000

Table III.3:

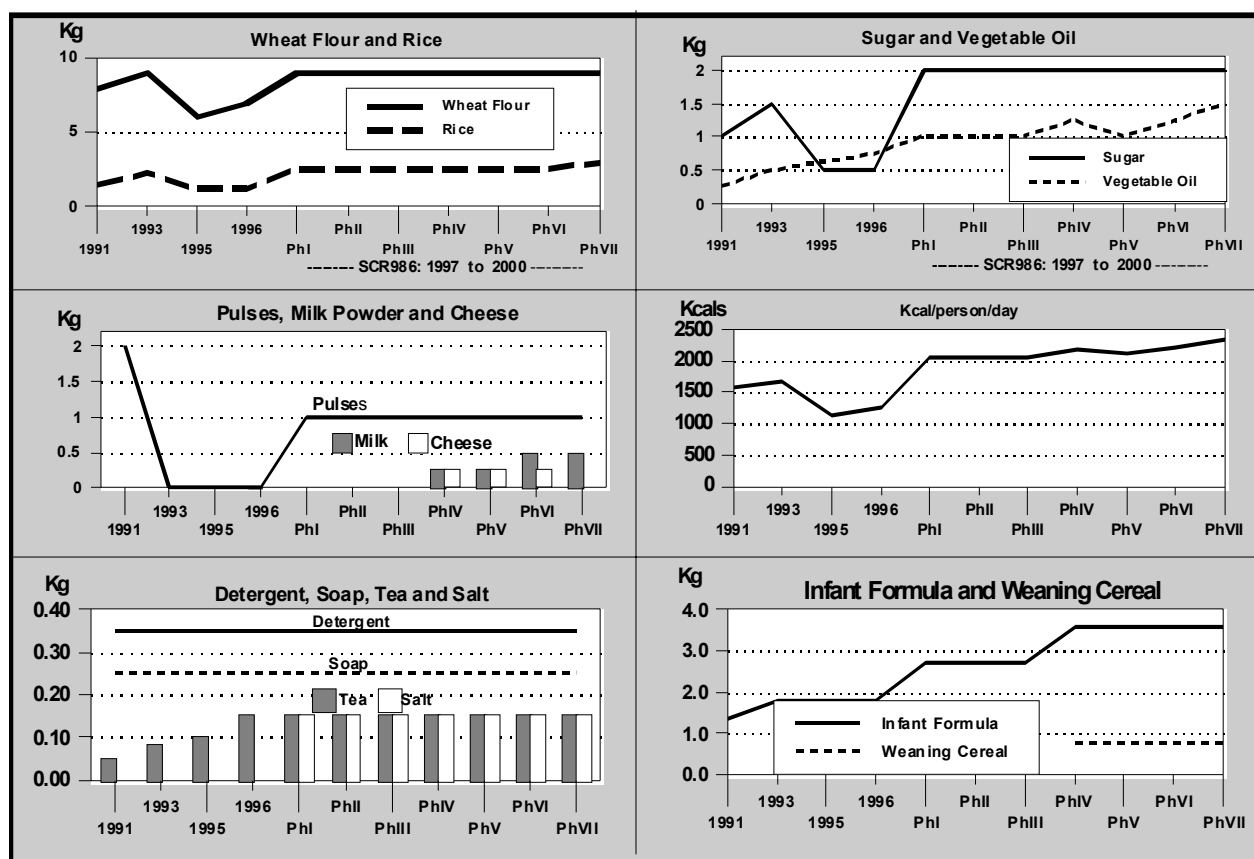
DP Planned Ration vs. GOI Announced Ration per Phase

PHASES	Average Protein Value of Monthly rations - From DP I to DP VII					
	Full MOU Food basket ration (g)		Actual Food basket ration (g)		End-User Availability Actual as % of Full	
	South/C	North	South/C	North	South/C	North
Phase I	47.0	47.0	41.3	39.7	88%	84%
Phase II	47.0	47.0	43.2	43.2	92%	92%
Phase III	47.0	47.0	44.8	44.8	95%	95%
Phase IV	50.77	50.77	44.6	44.6	88%	88%
Phase V	50.77	50.77	43.1	43.1	85%	85%
Phase VI	50.77	50.77	42.8	42.8	84%	84%
Phase VII	52.5	52.5	43.0	43.0	82%	82%

Source: WFP, Baghdad, 2000

Figure III.3

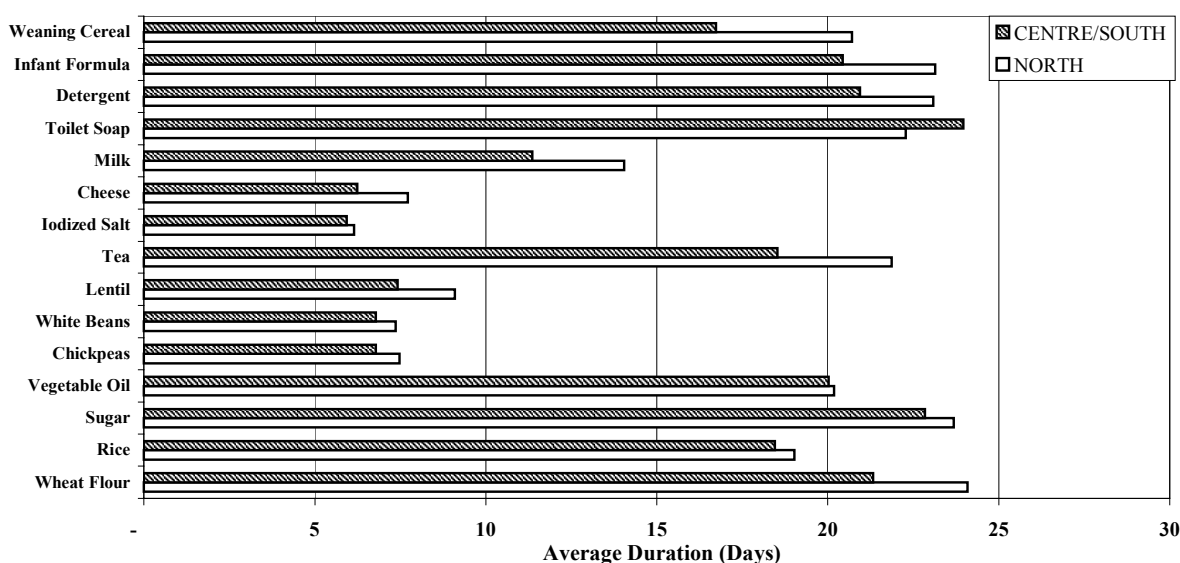
Planned Food Ration (Kg/cap/month) -1991 to 2000



SCR 986 Food Sector Shortcomings

Past UN reports have highlighted that the humanitarian needs in Iraq are greater than what SCR 986 has been able to provide so far. There is need for a comprehensive nationwide rehabilitation and development of infrastructure and the economy in general as well as specific programmes to target the most vulnerable in particular. The SCR 986 monthly food basket, even if distributed in full, lasts less than a month for most people depending on the type of food. Cereals last around 22 days whereas pulses, of which only 250 g/person/month have been distributed instead of the 1 kg/person/month intended, only last one week. While evidence suggests that households do purchase over 500 kcal/person/day of food in addition to the 986 ration, with the decline in household income, a significant number of Iraqis are not in a position to adequately complement the ration from market purchases. The proportion of household income spent on food, which according to the Central Statistics Office, Iraq, was already around 72% in 1994, is likely to have increased as income decreased. More information on household income and expenditures is needed. What alternative sources were available have been reduced by the current drought.

Figure III.4: Duration of Food Basket



Food and Food Handling Sector Contracts

Food sub-sector contracts have experienced minimal number of holds (1.15% of total contracted) when these were directed to the UN Security Council Sanctions Committee for approval. With the new “fast-track” approach which began to be implemented on 1st March 2000 (SCR 1284), whereby food contracts no longer need to be submitted to the Sanctions Committee but are only notified to the Secretary-General, the situation is expected to improve. However, the UN has also appealed to the Government of Iraq for more expeditious contracting and submission of applications to address all segments of the food contracting and delivery process.

In contrast increased difficulties are being experienced in the latter phases in the food-handling sub-sector. Delays in clearance and finalization of international procurement contracts have been an important reason for delay in the rehabilitation of food-handling facilities such as railway rehabilitation and milling facility reconstruction. The rehabilitation of mills was aimed to ensure that the minimum requirements for wheat flour production were met. However, the delivery of spare parts has not been adequate to address the extreme deterioration of 70 percent of the mills that need to be replaced. With regards to transportation capacity, some 4,000 vehicles over-15 years old need to be replaced to ensure reliable and efficient distribution of food commodities. Under phases IV to VI, contracts for the procurement of 850 trucks, valued at US\$ 104 million were approved, of which 447 trucks had arrived. In DP V, DP VI and DP VII, the value of food-handling contracts put on hold exceeds US\$ 192 million. Aware of the fact that holds in the food-handling sub-sector may soon represent an important limitation in the implementation of the food component of SCR 986, the UN is presently reviewing the matter and studying means and ways to reduce the number of holds.

2. WFP Food Assistance (outside SCR 986)

During the period 1991-1998, more than 500,000 metric tons of food at a value of 225 million dollars were distributed to vulnerable population groups in all of Iraq through WFP Emergency Operations (EMOPS) and a Protracted Relief and Recovery Operation- PRRO. Throughout the years EMOPS targeted different kinds of vulnerable groups, primarily through the Ministry of Labour and Social Affairs, including malnourished children, needy pregnant and nursing mothers, female headed-households, families of war-widows, destitute families, hospital in-patients, orphans, elderly, disabled people and refugees.

At the peak of EMOP implementation in 1995, WFP was assisting some 2.15 million people (see table below). This assistance being vital to meeting the needs of vulnerable groups before and during the initial implementation of the Oil-for-Food Agreement. The EMOPs phased down substantially in Iraq as the Oil-for-Food Programme came on line.

Table III.4: EMOPs and PRRO Targeted Beneficiaries, 1991 – 2000

S/N	EMOP No.	Period	Targeted Beneficiaries	Quantity Distributed (MT)
1-	4698		735,000	
2-	4698.01	Mar 91 - Dec 91	1,235,000	136,948
3-	4698.02		1,540,000	
4-	5001	Dec 92 - Mar 93	1,200,000	53,464
5-	5311	Jul 93 – Dec 93	1,300,000	32,882
6-	5311.01	Jan 94 - Mar 94	1,300,000	87,407
7-	5311.02	Oct 94 - Mar 95	1,300,000	59,483
8-	5311.03	Apr 95 - Sep 95	1,325,000	21,239
9-	5311.04	Oct 95 - Mar 96	2,150,000	71,683
10-	5311.05	Oct 96 - Mar 97	2,150,000	54,424
11-	5311.06	Apr 97 - May 97	2,150,000	96,726
		May 97 - July 97	1,260,000	
		Aug 97 - Dec 97	680,000	
		Jan 98 - Dec 98	893,000	
12-	PRRO 6085	Jan 99 - Dec 2000	1,075,000	1,533

By the end of 1998, given the fact that despite significant improvements in overall food availability in Iraq as a result of SCR 986 food distributions, there were still significant health and nutritional problems to be addressed (particularly among children under 5), in January 1999 WFP approved the Protracted Relief and Recovery Operation - PRRO 6085. The PRRO intends to address and improve the nutritional status of approximately 200,000 acutely malnourished children by providing a total of one million rations to all family members enriched with micronutrients, to meet the recommended daily allowance for selected vitamins and minerals. Family members are also entitled to receive the blended food mix, serving an important nutritional purpose, particularly for mothers. Additional rations are provided as an incentive, offsetting costs involved in taking children to health centres for monitoring purposes. The PRRO also includes assistance to 75,000 hospital patients and other vulnerable people who are housed in social institutions (mainly orphans, the disabled and the elderly) in close collaboration with the Ministry of Health and the Ministry of Labour and Social Affairs. With a total budget 21 million dollars, PRRO 6085 was originally designed to last 12 months, from January 1999 to December 1999. However, cognisant of the fact that the nutritional situation of Iraqi children warranted further intervention, WFP extended the operation until mid 2001.

The PRRO has nonetheless suffered from very low funding levels. By the end of April 2000 the operation was showing a shortfall of more than 75% of the planned resources. Due the very constrained resource situation, WFP food assistance is being primarily provided to social institutions and hospitals. Some 60,000 beneficiaries out of an intended total of 75,000 under this component are receiving food assistance. As for the malnourished children component, WFP has only been able to cover around 30% of the programmed caseload and prospects of maintaining even this level of support remain uncertain. As of the end of May, the need for stock replenishment was an urgent one. Despite repeated appeals and publicity concerning child malnutrition, donors have not responded to meet these needs.

3. FAO's Contribution to the Food Supply and Nutritional Situation in Iraq Under SCR 986

In addition to the distribution of agricultural inputs by the Government of Iraq under the SCR 986 Programme, FAO has provided specific assistance to small-scale farmers in the south and central Governorates with the objective of enhancing their nutritional status. Vaccination and protection campaigns against rinderpest, old world screw-worm (OWS), peste des petits ruminants (PPR) and foot-and-mouth disease (FMD) have been carried out to protect livestock against outbreaks that occurred in Iraq. Emergency assistance was provided to enhance the food production capacity of the rural population in Iraq, through the restoration of honey production.

In the north, an important contribution has been made towards increasing agricultural production and yields. Since the inception of the humanitarian programme, extensive support to all agricultural sub-sectors has been provided with a specific emphasis on livestock production and irrigation. The FAO agricultural programme in the north encourages rural backyard poultry raising in order to increase the availability of animal protein at the family level and thereby enhance nutritional status. The programme also distributes seed for vegetable production to supplement the deficiency of micronutrients and vitamins in the SCR 986 food basket for vulnerable groups. Agricultural extension, training and capacity building in the north are also being addressed by the Organization. As part of the humanitarian programme, FAO has also embarked on implementing complex projects to rehabilitate some food processing industries (namely, tomato paste, sunflower oil, and dairy milk products).

As a means of alleviating the adverse effects of the drought, FAO is utilizing a special funding allocation under SCR 986 to procure and distribute urgently needed inputs such as animal feed and irrigation equipment for agricultural and livestock production. In addition, early warning systems are being established through the provision of agro-meteorology stations to the three northern Governorates.

IV. Nutrition and Health

1. Nutrition

The level of malnutrition among young children remains unacceptably high. During April 1999 the Ministry of Health/UNICEF conducted a nutrition survey in Primary Health Centres on Polio National Immunisation Days in centre/south Iraq. Results showed 21.3% of children under five years of age were underweight, 20.4% were stunted (chronic malnutrition) and 9.3% were wasted (acute malnutrition). These results are confirmed, at least in part, by the current Mission household nutrition survey. Levels of acute malnutrition are slightly below the 12% recorded by the 1995 assessment mission, but since the six-monthly surveys began in 1997 it appears that there has been little further improvement except for chronic malnutrition which decreased from 27% to 21%. Still, at least about 800,000 children under the age of five are chronically malnourished.

To combat malnutrition, the Secretary-General of the United Nations has repeatedly called for improvements in the food basket and more support for agriculture to increase the supply of animal products and other foods rich in micronutrients. In addition to this and following SCR 986, the UN proposed the setting up of feeding programmes to assist those who had little or no access to foods to supplement their food ration and who were considered nutritionally vulnerable. A programme for US\$ 32.3 million was drawn up but this initiative has yet to be implemented by the GOI.

The UN also proposed to support through SCR 986 the targeted nutrition programme of the Ministry of Health with UNICEF support. This programme began in 1996 to prevent, treat and rehabilitate malnourished children under five years of age. The provision of complementary and therapeutic foods was to be co-ordinated with education and improved health care. By 1998 an infrastructure had been set up for the screening, referral and follow-up of malnourished children throughout south/central Iraq. A network of 1,333 Community Child Care Units (CCCUs) and 500 supporting Primary Health Care Centres (PHCs) to cover about 60% of the total population, and in hospitals 61 Nutrition Rehabilitation Centres (NRCs) for those with severe malnutrition, was established. Reviews in late 1998 showed the system had the capacity to reach and provide assistance to targeted beneficiaries, and recommendations were made for additional training and logistics to expand its coverage. By end 1999, the number of CCCUs had increased to 1,700 and NRCs to 67.

Food supplies for the programme were to start in Phase IV of SCR 986 (June-December 1998), with US\$ 8 million worth of high protein biscuits (HPB) for 250,000 pregnant/lactating women and 150,000 moderately malnourished children under five, and US\$ 2.4 for Therapeutic Milk (THM) for 100,000 moderate and severely malnourished children under five for six months. This was to be repeated during Phases V to VII.

The overall implementation of the programme has been poor, primarily due to delays in orders and receipt of contracts for special foods by the GOI, as well as problems with quality control standards. These delays caused a drop in attendance and motivation, both at CCCUs and NRCs. Despite this, from January to November 1999, CCCUs screened a total of 1,014,172 children under five years of age (40% of the targeted population), of whom 233,259 (23%) were either moderately or severely malnourished (between -2 to -3 SD and under -3 SD weight-for-age, respectively) and referred them to PHCs. According to UNICEF the NRCs treated 11,287 severely malnourished children during this period.

To offset the delay in SCR 986 supplies, UNICEF provided 10 tons of therapeutic milk and 50 tons of high protein biscuits under its regular programme. The first SCR 986 shipment of high protein biscuits arrived only in late 1999. These were distributed to 1,012 CCCUs out of the total of approximately 1,500 CCCUs but the amounts per centre were limited. Therapeutic milk started to arrive in May 2000. The plan is for PHCs in addition to NRCs to provide HPB for moderate and therapeutic milk for severely malnourished children, the latter under medical supervision.

Programme preparations included training workshops for CCCU and PHC staff. Two data bases were established: one at UNICEF under SCR 986 to track the arrival and

distribution of supplies to the end-user; and the second by the Ministry of Health for regular reporting on the nutritional status of children under five years of age, screening activities and distribution of supplies to beneficiaries.

While funds had been allocated for supplies under phases IV-VI (June 1998 to December 1999), no provisions were made for infrastructure support, equipment and capacity building, some of which would require a cash component. The OIP Technical Review of progress made in the implementation of SCR 986, presented to the Security Council in April 2000, considers that the inclusion of a cash component in the centre/south would enhance the effectiveness of the humanitarian programme in Iraq.

Micronutrient deficiencies

The level of micronutrients in the ration and added food purchases continues to be far below requirements, especially for vulnerable groups. This indicates a continuing serious problem. A survey of mothers in Baghdad conducted by the Nutrition Research Institute (NRI) during 1995 showed 61% had anaemia based on WHO reference criteria for low haemoglobin percent. This is unlikely to have improved since then due to the lack of adequate absorbable iron and folate in the ration. The current school survey conducted by the Mission also reports a high prevalence of anaemia.

In 1994, a survey supported by UNICEF, of 9,000 children under five years of age throughout Iraq reported that 1.6% had night blindness, indicating a vitamin A deficiency public health problem according to WHO. Vitamin A liquid and capsules have been regularly distributed to most mothers and their children aged nine and 18 months at the same time as vaccinations. However, vegetable oil in the ration is not regularly fortified with vitamin A, suggesting at best a partial solution to the problem.

Surveys of primary school children in 1994 showed a 30-50% prevalence of goitre in the northern parts of Iraq and evidence of Iodine Deficiency Disorders elsewhere throughout Iraq. This is expected to have improved to some extent as the ration salt contains iodine. However, the salt is often inadequate to cover the whole month.

Rickets (vitamin D deficiency) is still being reported from hospitals (3-5 cases per week), some of these cases being confirmed by Mission members, and in one of the primary health care centres visited, ten cases a week of rickets were being reported.

Mission's observations

The presence of severe malnutrition was confirmed through observations by Mission members in hospitals – both inpatients and outpatients. Almost all the admitted children were being treated for either respiratory or gastro-intestinal tract infections superimposed on moderate to severe malnutrition. Although the Nutrition Rehabilitation Centres (NRCs) attached to tertiary care hospitals had supplies of therapeutic milk and high protein biscuits, in other hospitals these supplies were either absent or limited. The absence of these supplies and the inability to maintain systems for sanitation and clean water discourages attendance and

many NRCs had stopped or curtailed functioning. Because of this the Nutrition Research Institute reported admissions to NRCs during 1999 were less than half that during the corresponding period in 1998.

Nutrition and health education of the mothers was not frequently practised. Having other family members to take care of, mothers often took the child home before the child had fully recovered. Re-admission soon after returning home was not uncommon. Children are taken to hospital only when the malnutrition becomes severe. This is often so late that the hospital with its poor facilities is not likely to be very helpful and children are returned to the same unhealthy environment from whence they came. Doctors discharged patients from overcrowded hospital wards for fear of cross-infections of children whose body defences are weakened due to malnutrition.

About half of all women deliver at home, but for those who give birth in medical facilities it is common practice to send mothers home within a few hours of delivery. Neonatal care at the place of birth and at the primary health care centre needs improvement. Health staff and traditional birth attendants need further training in midwifery, counseling on breastfeeding, infection control and home care of new borns. Mothers and their new born would benefit from early home visits from trained health care staff and follow-up visits to the PHC.

Major Primary Health Centres were very crowded with children having malnutrition associated with infections. Diarrhoea was high, due to the use of contaminated water in the preparation of infant foods or diluted feeds. Laboratory examination showed high prevalence of intestinal parasites. Although routine boiling of water was widely advised it was difficult for poor mothers to do so in practice. Poor water supply both in quality and quantity as well as inadequate sanitation are key causative factors of frequent and repeated infection resulting in infant and child malnutrition throughout the country. Childhood malnutrition was also induced by feeding the infant a diluted formula in an attempt to make the baby milk supply last longer.

The functions of Community Child Care Units have also been severely constrained due to limited supplies of high protein biscuits. Mission examination of CCCU records confirmed that more than 30% of the screened children were malnourished. Nutrition education activities at the CCCU are very limited and staff need training and motivation in this area.

2. Household Nutrition Survey

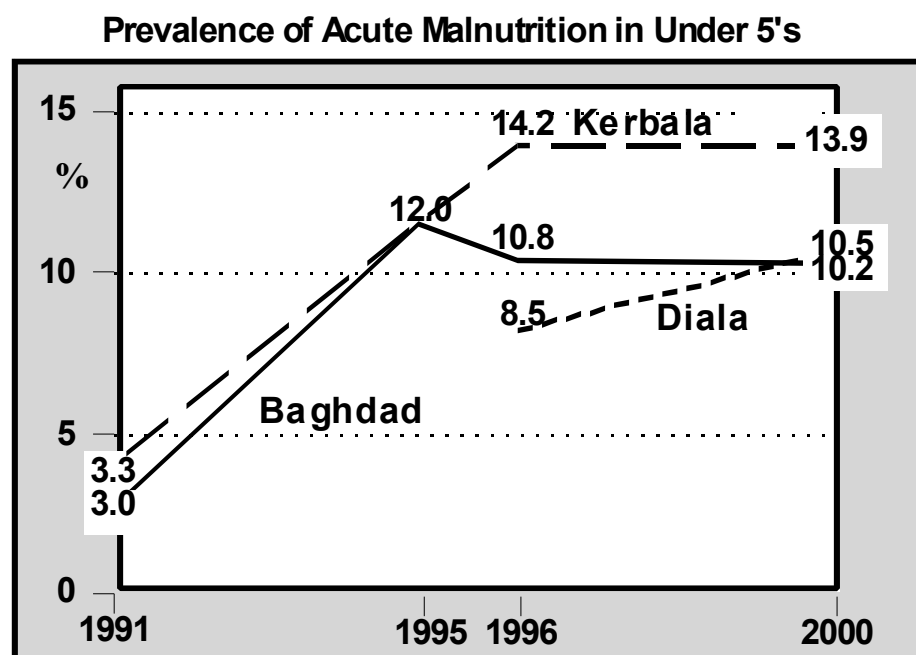
A household nutritional survey was conducted by the Nutrition Research Institute, Ministry of Health and Mission staff from May 7-16, 2000. Its purpose was to assess the nutritional status of all family members, the patterns of recent household food consumption using food frequencies and derive information on key nutrition-related indicators of young children such as breastfeeding, feeding patterns and recent illness. Following similar surveys conducted in 1993, 1995 and 1997, this survey provided an opportunity to directly assess

households thus complementing the interim nation-wide surveys supported by UNICEF which were based in Primary Health Care Centres during immunization campaigns.

Sixty-four clusters, each with some 15 households, were sampled from three Governorates, with Baghdad (32 clusters) and Kerbala (10 clusters) having most of the same sites as previously visited in 1997. The provincial town of Diala (22 clusters, of which 9 were rural), was selected as it was especially affected by the drought. The survey assessed the nutritional status of 838 children under five years of age, 2,534 from 5 to 19 years and 3,157 adults.

Results indicate that the prevalence of wasting (low weight-for-height which reflects acute malnutrition) in children under five years of age continues at unacceptably high levels: over 10% for each of the three centre/south Governorates surveyed. There has been only a marginal decrease for these Governorates since the FAO/WFP assessment of 1995 and the 1996 Multiple Cluster Indicator Household Survey (Figure IV.1). The Baghdad result can be compared with the much lower prevalence of 3% in 1991 reported by the International Harvard Team.

Figure IV.1

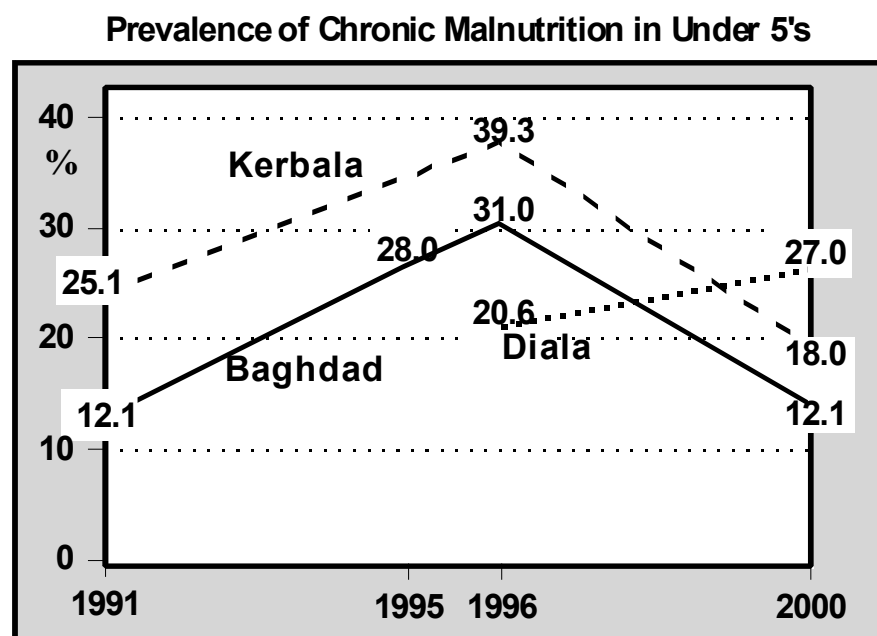


Further, the acute malnutrition level of about 10% for south-centre Iraq has remained much the same during regular six-monthly surveillance from 1997-1999. This high level corroborates the findings of the 1999 Mortality Survey supported by UNICEF that found more than a two-fold increase in infant and child mortality since the end of the 1980s. As expected the prevalence of wasting was lower in children aged 5-8 years from Diala (5%) and Baghdad (1%), as compared with those under five years of age.

Acute malnutrition is caused and compounded by inadequate foods, disease and unsafe water. About half the children under five years on the survey had recent diarrhoea and acute respiratory infection was common (about 40%). Households reported a marked decrease in both the quantity and quality of water over the past two years. In both Kerbala and Diala about 80% reported at least a decrease of one-half the quantity; in Diala one-quarter of households received much less. In each Governorate, 80-85% of households reported a deterioration in the water quality, in terms of turbidity, smell or taste.

The prevalence of stunting (low height-for-age which reflects chronic malnutrition) in children under five years of age suggest that there has been some improvement, notably in Baghdad with a prevalence of 12% compared with 28% in the 1995 survey and equalling the 1991 estimate. In Diala the prevalence was higher at 27%, with a worsening from 20.6% since 1996 possibly reflecting the effects of the drought. The April 1999 PHC-based survey for all Governorates indicates that stunting in children less than five years appears to have decreased from 27% in 1997 to 21%. However, even with such an improvement, the level is still high.

Figure IV.2



Among children aged 5-8 years the prevalence of stunting was also much less in Baghdad (11%) than Diala (23%). It is likely that Baghdad has better electrical power and other basic services and a more diversified economy than rural Diala which influence the malnutrition rates. The effects of the drought on water supply are probably greater outside Baghdad, although some areas of Baghdad also have serious problems with the quantity and quality of their water supply.

Although breast-feeding during the first six months of life is high (about 85%), only 5-10% were exclusively breastfed. Infant formula distributed in the ration reached over 60% of young infants, usually given by bottle and compromising breast-feeding. About one-quarter of infants aged 6-11 months had received no added foods in the previous 24 hours. The amount of complementary cereal for these children in the ration (30g or 120 kcal/day) is far too small to be effective and no special food is available for children in the second year of life. Diarrhoea, respiratory infection or fever, often with loss of appetite and apathy further compound their problems.

The method used by the mission for assessing nutritional status in children aged over eight years is the Body Mass Index (BMI). BMI is age and sex specific and reference data are available from WHO for subjects aged 9 to 19 years. Low levels of the BMI indicate a higher risk of malnutrition. The accepted cut-off for those aged 9-19 years is the 5th centile of the international reference. Five percent of a reference industrialized population would be, by definition, in this category. However, the functional significance of results for these age groups is less clear than for indicators of nutritional status in children aged under five years.

In children aged 9-15 years, the prevalence of low BMI ranged from 16-18% for the three Governorates, a level that is 3-4 times that of the reference population. This supports similar findings from the school survey conducted by the mission in Baghdad. In children aged 16-19 years, the prevalence of low BMI ranged from 5-8% for the three Governorates, or a little over that of the reference population. It would appear, at least for this measure, there is no pressing problem of undernutrition in this age group, although this does not preclude the need to address other nutritional deficiencies such as iron deficiency anaemia.

For adults a BMI less than 18.5 is defined by FAO/WHO as chronic energy deficiency (CED). In adults there is some degree of underweight with prevalence of CED ranging from 4% in Baghdad to 6% Diala and Kerbala. However more than half the adult population has some degree of overweight. For those aged 25 years and over, the survey revealed a high prevalence of overweight (BMI 25+). For Baghdad, this was 67%, Kerbala 50% and Diala 47%. The greater this excess, the more a subject is at risk of obesity. The prevalence of severe overweight (BMI 30+) was 30%, 27% and 18% respectively. This was more prevalent in females than males for Baghdad (34% and 23%) and for Diala (21% and 14% respectively), but the problem is serious for both sexes. The major reported causes of death in adults are heart disease, hypertension and diabetes, all conditioned by obesity.

Obesity is found in both poor and rich sectors of society alike and may be due to several causes, including inappropriate diet, lack of physical activity and lifestyle. One factor may be the relatively high carbohydrate content of the rations which reaches all households at the expense of quality proteins and micronutrients. Physical activity of adults has been reduced due to unemployment and the adoption of sedentary lifestyles. This change of lifestyle has probably been cumulative for some years as there was already evidence of a major degree of overweight as observed in Baghdad and Kerbala by the 1997 Mission. Obesity is not a new phenomenon to the region but it is likely that the long-term abnormal situation of Iraqi families contributes to this condition.

Household Dietary Recall

A qualitative household dietary recall for 31 key foods was undertaken in collaboration with the Nutrition Research Institute, Ministry of Health on a sub-sample comprising 66 households in Kerbala and 166 households in Diala, with data collected on a total of 1599 people over one year of age. Information on food purchases was also obtained.

MOU ration wheat flour was eaten almost three times a day as was milk for those households (66%) which reported consuming milk. Other ration foods were eaten about once a day on average. Pulses and cheese were not commonly eaten during the past 24 hours due to supply shortages (Table IV.1). Of non-ration foods, vegetables were the most commonly eaten, followed by butter/ghee, eggs and potatoes (Table IV.2). Meat and fish were rarely consumed.

Table IV.1:
Percent of Households Consuming any Ration
Foods and Average Frequency in Past 24 Hours

Ration foods	% Past 24 hours	Freq/24 hours
Wheat Flour	100	2.8
Rice	73	1.3
Chick peas	2	1.1
White beans	2	1.1
Milk (powder)	66	2.8
Cheese	18	2.3
Sugar	98	1.1
Vegetable oils	96	1.0
Tea	96	1.1
Salt	81	1.4

Table IV.2:
Percent of Households Consuming Non-ration
Foods and Average Frequency in Past 24 Hours

Non-ration foods	% Past 24 hours	Freq/24 hours
Barley	2	1.0
Potatoes	33	1.0
Other lentils	11	2.7
Nuts	2	2.2
Butter/Ghee	48	2.3
Animal fat	7	1.0
Dates	15	1.2
Other fruits	24	1.5
Tomatoes	84	1.1
Onions	84	1.0
Other vegg.	75	1.3
Beef/veal	13	1.2
Mutton/goat	9	1.1
Poultry	6	1.0
Eggs	44	1.0
Fish	4	1.0
Juices	12	1.8
Soft drinks	3	1.3
Cakes	3	1.2
Biscuits	5	1.0
Other	3	1.0

About two-thirds of the households surveyed said that they bought additional quantities of wheat flour, rice, chick peas and vegetable oils. Non-ration foods such as tomatoes and onions, the basis for the traditional accompaniment to the staple, were commonly eaten in the previous 24 hours; potatoes, eggs and butter/ghee less often (33-48%). Three-quarters of all households reported not eating meat or fish in the past 24 hours and 40% none in the past week.

The greater the number of food groups consumed, the more likely nutritional needs are met, including those for micronutrients. Results show that on average out of the possible 5 groups which comprise the ration (cereals, legumes, milk products, oils and sugar) an average of 3.8 groups were consumed in the past 24 hours with only 10% of households eating all 5 groups. Of the 5 added non-ration food groups (eggs, meat, fish, fruits and vegetables), an average of only 2 groups were consumed. Results indicate that most households do not regularly receive the full complement of ration foods because of shortages and cannot adequately improve the variety of the diet from non-MOU sources. Results were similar for Diala and Kerbala, and for urban and rural areas.

Analysis of the responses to questions on how much food is purchased suggests that 550 kcal per person per day is bought from the market, with wheat flour, rice, butter/ghee and vegetable oils contributing to about half of this amount. However it is not clear to what extent this is in addition to the 2,000 kcal provided by the ration as ration items may be sold/exchanged to acquire other items including foods not available in the ration. To better assess the adequacy of the food ration, more information is needed on how households use the ration and acquire other needed foods. The nutrient values of total foods purchased are consistent with the shortfall in the ration supplies, for example a month's supply of wheat flour lasted for 21 days and milk powder only 12 days (see section on SCR 986 shortcomings). It would appear that, despite shortfalls in energy, the population can replace this, albeit at considerable cost, especially for the poor. This is confirmed by the finding that more than half the adult population in the areas surveyed by the mission is considered to be, to some degree, overweight.

Wheat flour, potatoes and pulses were the major contributors for the added 3.7 mg of iron and; butter/ghee and vegetables for the additional 200 µg vitamin A (retinol equivalents). The amounts of iron (especially in a form with better bioavailability, such as with animal products) and vitamin A consumed are still far below requirements (iron: 20-59 mg/day for adult females and 9-27 for males, depending on bioavailability; vitamin A 500-600 µg retinol equivalents/day), even taking into account the ration distribution. Further, the vegetable oil in the ration is not fortified with vitamin A. The WFP Observation Spot-checks conducted throughout Iraq during May 2000, had similar findings about the inadequate additions for ration foods regarding micronutrients.

Using the market costs for each food from the WFP report for April 2000, the average total cost for all purchased foods was estimated at 1,068 ID/day for households or 155 ID/per person/day; this being equivalent to US 8 cents a day, based on the current exchange rate of 2,000ID per US dollar. As information on household income and expenditures is not available, it is difficult to determine the relative importance of additional expenditures on total household income. However, with incomes for most public servants as low as 5,000-10,000 ID/month it is undoubtedly a considerable hardship for the poorest households.

3. School Nutrition Survey

The nutritional status of a sample of primary and intermediate school students was determined using anthropometric indicators: weight-for-age, height-for-age or weight-for-height (from 6-11 years) or their Body Mass Index for 9-15 years. The sample included 996 primary and 819 intermediate students from six urban and three rural schools in Baghdad. The schools reflected a range of socio-economic environments from the very poor (in Saddam City) to rural (Abu-Ghreb) to the urban advantaged (in Adamiyha). Another sample of 314

students was selected from 4 schools in Erbil, in the autonomous Northern Governorates reflecting a middle-class environment.

In children aged 6-8 years the prevalence of wasting (weight-for-height below -2 SD reference) ranged from 1.0% in the upper class school to 6.7% in the rural area (Table IV:3). Similar differences were found for stunting or low height-for-age (5.7% upper vs.10.5% rural) and underweight (2.9% vs. 13.9%). Similar results were obtained for children aged 9-11 years.

From 9-15 years, under the 5th percentile of reference age and sex specific BMI was defined as malnutrition. For children 9-11 years, these rates were higher than for the other indicators of nutritional status, but the similar differentials relating to socio-economic status were found: 8.5 % of the students from the upper class school were malnourished, 15.8% from middle class and 21.4% from rural. The result for Erbil is close to that for the middle class Baghdad school.

For children aged 12-15 years, a poor school in urban Baghdad was part of the sample. Malnutrition rates based on low BMI were by far the highest in that school (37.9%) compared with the others (e.g. upper 4.2% and middle class 15.6%). The Erbil result is mid-way between the upper and middle class for Baghdad.

Table IV.3: Malnutrition Rates in School Children by Age

Primary Schools (6-8 years)						
Social class						
Nutritional indicator	Upper	Middle	Rural	Total		
Wasting	1.0	1.3	6.7	3.0		
Stunting	5.7	3.7	10.5	6.4		
Underweight	2.9	5.1	13.9	7.3		
Sample size	104	158	122	384		

Primary Schools (9-11 years)						
Social class						
Nutritional Indicator	Upper	Middle	Rural	Total		
Wasting	2.3	3.1	11.8	5.1		
Stunting	3.3	5.3	16.3	7.3		
Underweight	1.4	2.3	13.1	4.8		
Sample size	148	171	115	434		

Primary Schools (9-11 years)						
Social class						
Nutritional Indicator	Upper	Middle	Rural	Total		
Low BMI(<5 th centile)	8.5	15.8	21.4	14.6		Erbil 15.9
High BMI(>95 th cent.)	5.2	4.1	3.4	4.5		0.0
Sample size	153	171	117	441		107

Intermediate Schools (12-15 years)						
Social class						
Nutritional Indicator	Upper	Middle	Poor	Rural	Total	Erbil
Low BMI(<5 th centile)	4.2	15.6	37.9	19.2	17.7	8.9
High BMI(>95 th cent.)	5.6	1.6	1.1	2.2	2.4	0.8
Sample size	72	519	87	224	902	101

The prevalence of malnutrition was usually greater in boys as compared to girls (Table IV:4). In children aged 6-8 years, boys had twice the rates than girls (e.g. underweight 11.2 vs. 3.9%). Similar differences occurred for children aged 12-15 years, but less so for 9-11 year olds. One possible explanation for this is the higher energy demands on adolescent males than females as a result of their greater involvement in the labour force.

Table IV.4: Malnutrition Rates in School Children by Sex

Nutritional Indicator	6-8 years		9-11 years		Nutritional Indicator	9-11 years		12-15 years	
	Male	Female	Male	Female		Male	Female	Male	Female
Wasting	4.6	1.5	5.4	4.3	Low BMI (<5th centile)	17.1	12.8	22.0	13.5
Stunting	9.3	3.9	9.1	6.3	High BMI (>95th centile)	4.3	4.7	2.0	2.9
Underweight	11.2	3.9	4.5	6.2					
Sample size	178	206	183	254	Sample size	187	257	452	450

Prevalence rates for malnutrition using anthropometric indicators in children aged 6-8 and 9-11 from the school survey were much less than from the concurrent household survey. The reasons for this are unclear, but may be related to smaller samples and a favouring for school attenders. However, results using low BMI were almost the same and in all cases major sex differences were found in both surveys.

Physical examinations of a sub-sample of school students (more than 250) revealed mild to moderate anaemia ranged from 35-75%. Signs of gross deficiencies of other micronutrients (vitamin A, D and riboflavin B2) were observed in 3-5%. Poor oral hygiene with dental caries was seen in about one third of the children examined. Menarche and the development of secondary sexual characteristics were delayed.

4. The Northern Governorates

The implementation of the SCR 986 (oil-for-food) programme in the north, phases I-VI since 1997 has been accompanied by significant improvements in health, mortality and nutritional status. After nearly three years of programme implementation, wasting has almost been eliminated and there has been a fall in chronic malnutrition rates among children below five year of age from 26% in 1996 to 18% in 1999. This demonstrates that SCR 986 has made and is continuing to make a significant impact on nutrition. The improvement in malnutrition rates and reductions in the infant and under-five child mortality rates from 80 deaths per thousand live births in 1984-89 to 72 deaths per thousand in 1994-1999), reflect general improvement in the economic situation of the region.

The positive impact of SCR 986 was effected through increases in the quantity and quality of the food ration, provision of other basic needs including medicines, water and sanitation, and improvements in infrastructure. This, together with improved services as provided by an extensive network of health centres and community care units responsible for child nutrition, have contributed to this improvement.

As already reported in the UN Secretary-General's 90-day report for Phase VII (10 March 2000), under the programme in the north, the Government of Iraq's food ration has been extended for the first time since 1991 to the entire eligible population of over 3 million people, and a total of nearly 1.8 million tons of food ration commodities, valued at over \$611 million, has been delivered to WFP for distribution. As part of its activities related to nutrition, over 52,000 tons of foodstuffs have been purchased by WFP for supplementary feeding programmes for supporting vulnerable families, groups and social institutions. An indicator of the success of the supplementary feeding programme is the decreasing beneficiary caseload, which fell from 258,995 to 80,575 between phases IV and VI. To improve the nutritional status of the population, specific focus has been placed on enhancement of the food basket, targeted nutrition and food production, as well as growth promotion and the early detection of malnutrition among children under the age of five.

UNICEF has been able to expand its targeted nutrition project in primary health-care units and community childcare units because of the inputs provided by the programme.

However in contrast to the situation in the centre/south, improvements in the nutritional situation in the north had started in 1994, prior to SCR 986. This is due to greater resources in the north, the north has 9% of the land area of Iraq but nearly 50% of the productive arable land, and receives higher levels of assistance per person. The north also benefits from the greater flexibility the use of cash gives agencies for the more effective operation and management of programmes. For example cash is essential for local purchases for infrastructure support, transport costs such as the maintenance of vehicles, equipment and training of staff.

5. Health

Since the 1997 Mission report, the provision of drugs and medicines has improved greatly but health services still remain far from adequate. Major constraints include the dilapidated infrastructure and the limited electrical power supply in hospitals and health centres. The water and sanitation situation, exacerbated by the drought, is still precarious and affects both health facilities and people's health.

The Ministry of Health reports an increase in water-borne diseases from 1997 to 1999, such as typhoid fever by 60% and cholera from 486 to 2 398 cases. Adequate data for diarrhoea and respiratory infections were unavailable, but the case fatality rate for each (1.8% and 1.3%) remains high. A measles epidemic occurred in 1998 with over 25 000 cases, with numbers much less in 1999. Malaria continues to decline in extent down from 9 594 cases in 1997 to 3,212 in 1999.

A survey conducted by the Ministry of Health/UNICEF/WHO in 1999 reported that under five child mortality (U5MR) in the south/centre more than doubled from 56 deaths per thousand live births in 1984-9 to 131 per thousand in 1994-9 and that over the same period infant mortality rate (IMR) rose from 47 to 108 deaths per 1 000 live births. In the north U5MR rates declined from 80 to 72 per thousand.

Of the total US\$ 776.8 million SCR986 allocations for health from June 1998-December 1999, 65% was approved and 39% arrived; and 77% of arrivals were distributed. None of the US\$ 300 million for January-June 2000 (Phase VII) has arrived so far. This allocation does not include the cost of programme support services and facilities (including logistics, cold chain and information systems) and construction materials for the deteriorated health infrastructure.

Drug supplies although increased, lack a balanced adequacy. Whereas 90% of hospital in-patient essential drug needs have been covered, that for outpatients, chronic diseases and for health centres are lacking basic supplies, such as antibiotics. The planned increase in local drug production has not occurred because of holds placed on machinery and raw materials. Of the 2,000 required ambulances, 600 are now in use. Delays in the arrival of vaccines under SCR 986, together with lengthy quality control procedures, hampered immunisation. Further, essential supplies such as suturing materials and disposable syringes, are inadequate.

Overall, patient attendance has increased by 46 per cent the past year. According to WHO observations, laboratory tests in health centres have increased by 9% since 1997-8 and the number of X-ray investigations increased almost four times. Inadequate programme support continues. A recent acute respiratory infection (ARI) health facility survey reported only 10-15% of cases were correctly managed and treated. A prior survey showed similar results for diarrhoea management, with undue emphasis on drug treatment.

Observations by Mission members confirmed the shortages of antibiotics, the need for building repairs and furniture, the poor hygiene of hospital wards and shortage of basic hospital amenities such as linen. Hospital kitchens were poorly equipped and dietary provision was very poor. In the hospitals visited, public patient wards were overcrowded, especially with the change of policy to establish private wards. Inpatient stay is often brief due to the discomfort of no cooling system due to power failures and the recognised dangers of cross-infection.

A major constraint to improved health delivery is the dilapidated health service infrastructure which cannot be adequately rehabilitated due to the low level of funding and lack of cash under SCR for local financing. Other difficulties include poor and underfunded logistic support, lack of electrical power and of proper cold chain facilities, lack of skilled labour and of computerisation for information systems, absence of a cash component for transportation, installation, labour expenditures and training. Many contracts remain on hold for “dual use” reasons and the delivery of health supplies is erratic and often incomplete.

6. Water and Sanitation

In 1996, 96% of urban and 48% of rural households had access to a nearby network, tap or well (MICS, 1997). The supply in served areas averaged about 170 litres/person/day in urban and 90 in rural areas, well below pre 1990 levels. Moreover, contaminated samples ranged from 10-40% and unacceptably low chlorine levels of 20-50%. Water leakage and contamination with sewage is common.

Almost one-third of the population (6.8 million) mostly in the rural areas, have remained without water services. In Governorates such as Basrah, there is increased reliance on water tankers either private, where the cost is 10 ID's/litre, or public, where the risk of contamination at the source is high; or directly from the river. The better off pay for bottled water. In Diala, water use is restricted solely for human use or to maintain orchards. The absence of an adequate electricity supply for example for pumps, especially with the drought, has compounded the problem.

The poor state of water and sanitation have serious effects on the health and nutritional status of the population with increases in water borne diseases, such as typhoid fever and cholera and widespread gastro-enteritis. The addition of contaminated water to milk formula when bottle feeding young children is especially dangerous. The insufficient quantity and poor quality of water and poor sanitation still remain a major cause of serious health hazards, frequent enteric infections, especially in infants and children, leading to preventable malnutrition, morbidity and excess mortality today.

The situation has improved very little over the past two years, according to the Technical Review submitted to the UN Security Council in April 2000. This is mainly due to grossly insufficient supplies under SCR986, including those for water-treatment plants, distribution and drainage networks; treatment chemicals; rehabilitation of effective water-monitoring system and additional inputs for sewage treatment and garbage collection. Of US\$ 428 million allocated for water and sanitation under phases IV to VI (mid- 1998 to end 1999), 39% has been approved (with US \$112 million still on hold) and only 5% arrived in country.

Apart from the delayed and uncoordinated arrival of supplies, other constraints include the absence of a comprehensive plan for the rehabilitation of this sector, lack of skilled labour, absence of a cash component to cover labour, installation and transportation costs and little updated automation, including computers. The erratic nature of whatever supplies have arrived, hinders rehabilitation, which requires a coordinated package.

7. Electrical Power

Very little has changed in the existing precarious situation of electricity supply in the country, with all its further repercussions on health, water/sanitation and agriculture. Severe power cuts, varying from on average 9-18 hours per day have persisted. During 1998, the power shortage was estimated at 1,500-1,700 megawatts, increasing to 2,300 megawatts in 1999, mainly due to reduced hydro-generation caused by the drought.

The UN estimates that US\$ 7.1 billion would be required to meet the total needs of the electricity sector. Although the amounts allocated for the electricity sector in distribution plans IV-VI were substantially increased and became second only to the allocations for food, the continuing deterioration of the national system could not be arrested. Under phases IV to VI of SCR986, about US\$ 1.12 billion was allocated for Centre/South. As at 31 December 1999, only 10 per cent of the allocations had arrived, with about one-half still on hold. However, 96% of the items received were distributed but their effectiveness is limited as other essential components are lacking. Further, the shortage of skilled labour, engineers and management and the absence of a cash component for support have been a hindrance to rehabilitation and maintenance efforts.

V. Conclusions

1. The agriculture sector has deteriorated significantly in the past few years, due to a lack of investment, shortage of essential inputs and two consecutive years of severe drought. Reflecting a substantial reduction in plantings and yields, cereal production in 2000 fell to 794,000 tons, some 47 percent below the 1999 poor harvest and 64 percent lower than the previous five years average.
2. Drought conditions also drastically reduced the water resources in rivers, dams, lakes and canals, some of which have virtually dried up. As a result, prospects are unfavorable for the upcoming irrigated summer crops. Total production of vegetables is anticipated to be about 1 million tons, some 33 percent below the 1997 level, fruit production is estimated at 1.3 million tons, 13 percent below the 1997 level. Aggregate animal population, estimated at 14 million head, has somewhat recovered from the 1997 reduced level, but remains below the 1986-90 average size of 15.8 million head. Shortage of imported feedstuffs, overgrazing, and inadequate veterinary services are the major constraints to the normal development of the livestock sector. Fish production has also decreased drastically. However, a positive and a notable progress has been made in the rehabilitation of the poultry sector which has benefited from substantial Government interventions with funds generated from the oil-for-food deal.
3. Cereal imports since 1997/98 under the oil-for-food deal has led to significant improvements in the food supply situation. In 1995/96 per person cereal consumption was down 63 percent from the 1984/85-1988/89 average. This year (2000/01) it is projected to be 90 percent of that level. However this is 4 percent less than 1997/98. Furthermore, problems of delays in the flow of food imports continue to be reported since the 1997 Mission, leading to repeated cases of low levels of MOU commodity stocks. While significant improvements have been made particularly with the introduction of the fast-track contract approval approach by the UN, unless there is timely submission of applications by the Government of Iraq, efficient contract processing by the UN and opportune delivery of food imports under MOU contracts, shortfalls are likely to result in an increase in the frequency of not being able to meet food basket targets. Similarly, unless agricultural inputs, such as appropriate seeds, are delivered in time for the next season, a production recovery will not be achieved.
4. The mechanisms and procedures for the contracting, screening, approval, and distribution of humanitarian supplies under SCR 986 have been protracted and cumbersome. Improvements introduced by Security Council Resolution 1284, particularly in relation to the accelerated approval of contracts for foodstuffs, as well as of basic or standard health, agricultural and educational supplies, will undoubtedly contribute to remedy problems previously experienced in the screening and approval of humanitarian supply contracts under SCR 986. There is however still a need to further streamline the process of getting foodstuffs into Iraq once these are contracted otherwise the arrivals of commodities will remain erratic, incomplete, and often delayed. Large numbers of contracts for example for health supplies often remain "on hold" or have long delivery lead times thus creating shortages. While holds on food deliveries from the 661 committee are rare, delays in delivery are common and quality control is often inadequate.

5. The effective nation-wide rationing system set up by the Government of Iraq in 1991 prevented famine but with the decline in the energy content of the GOI ration, which fell to an unprecedented low of 1,295 kcal/person/day in 1995, and the reduction in food available outside the rationing system, malnutrition and mortality of young children dramatically increased.
6. The Oil-for-Food Programme was adopted as a measure to arrest the deterioration of the humanitarian situation in Iraq, in particular to reverse the trend with regards to nutrition and health. The energy and protein content of the food ration increased steadily since 1997 and since 1998 have provided a national average of 2,000 kcal and 43 g of protein per person/day. This improvement in national food availability and the high level of UN and NGO activity in the autonomous north arrested further nutrition decline. However this is still below the 2,463 kcal recommended by the Secretary-General, below that of 2,210 kcal recommended by WHO for emergency energy requirements and short of the planned level of 2,330 kcal which is calculated based on forecasts of food imports and availability of in-country food stocks. Improvements are needed to fully meet planned levels. Supplementation of the ration through the consumption of local produce, especially to improve dietary quality, has been further compromised by the drought.
7. WFP observes that cereals in the SCR 986 food ration last on average around 22 days and pulses around one week. Mission findings indicate that the combination of the average daily per-person energy availability provided by the SCR 986 food ration combined with estimates of complementary food purchases, results in a total per-person energy availability of around 2,500 kcal/person/day. However more information is needed on how households use the ration and acquire other needed foods in estimating food consumption levels as ration items may be sold/exchanged to acquire other items including foods not available in the ration. This would include more information on household incomes and expenditures, the sale of food commodities and bartering, the degree to which households are self-provisioning, their coping strategies and how food is prepared and consumed.
8. Despite significant increases in the food ration since SRC 986, child malnutrition rates in the centre/south of the country do not appear to have improved significantly and nutritional problems remain serious and widespread. The high levels of acute malnutrition supports the findings of the UNICEF 1999 Mortality Survey that infant and child mortality have more than doubled since the end of the 1980s. The nutritional status of school children aged 5-8 years based primarily on stunting and those aged 9-15 years based on low BMI is also a cause for concern. In addition a number of micronutrient deficiencies are common.
9. Although it is difficult to assess the impact of the drought over the past two years on nutrition, evidence suggests that malnutrition is highest outside Baghdad and in rural areas, possibly reflecting the effects of the drought. Rates of malnutrition appear to be associated with poverty and access to services. In school-age children, rates of malnutrition appear generally higher amongst boys as compared with girls. One possible explanation for this is the higher energy demands on adolescent males than females as a result of their greater involvement in the labour force.

10. The continuing poor nutritional situation in the centre/south is in contrast with that in the north of the country where there have been significant improvements in nutrition and in infant and child mortality rates. Wasting has almost been eliminated and there has been significant declines in the prevalence of stunting and underweight. Amongst the reasons for the north-south differences are that the region is more self-sufficient in food, that far greater assistance per person has been received than in the centre/south of the country, and the benefits of using cash in the north for programme operations and management.
11. Use of cash by agencies in the north has proved to be crucial to the effectiveness of the humanitarian programme and instrumental in its success. Cash is essential for local purchases such as for vehicle maintenance, transport of humanitarian items and training of staff. The progress made in sectors such as the water and sanitation and the improvements made by the north in nutrition point to the need for similar initiatives in the centre/south.
12. Iron deficiency anaemia was widespread in all examined age groups and multiple vitamin deficiencies were also observed. Consumption of foods rich in iron and other micronutrients is limited. The widespread prevalence of micronutrient deficiencies combined with chronic undernutrition undermines the physical growth and mental development of young children and adolescents. As a consequence, their ability to acquire knowledge and skills and participate in the social and economic activities may be permanently impaired.
13. This mission confirms what many UN reports have stated, that SCR 986 food rations do not provide a nutritionally adequate and varied diet, though, except for the poorer segments of the population, supplementary food is acquired from other sources as well. Although since their effective implementation in 1997 they have halted further deterioration in the nutritional situation, they have not by themselves been able to reverse the trend. Although reasonably adequate in energy and total protein, the ration is lacking in vegetables, fruit, and animal products and is therefore deficient in micronutrients. With only one quarter of the planned ration of pulses distributed due to important gaps in the submission of applications for procurement, the protein quality of the diet has also been poor. Adequate amounts of items such as meat, milk and vegetables are too costly for families to purchase to supplement their diet given the parallel decline in the economy and the effects of the current drought on the availability of crops and horticultural products. Consequently a significant portion of the population requires special attention, particularly the most vulnerable population groups whose coping strategies are quickly being eroded.
14. The magnitude of the nutritional problems requires a proportionate response but current levels of assistance are largely inadequate. Intervention programmes within the framework of SCR 986 have either not been implemented or have suffered very slow start-ups. The Supplementary Feeding Programme recommended by the Secretary-General in 1998 has never been implemented. Initially this was due to low oil revenues and other priorities of GOI at the time. However, although the ceiling in oil exports from Iraq has been removed and oil prices have increased, there is no indication to date of action being taken by the GOI to implement this key initiative. Supplies for malnourished children under the Targeted Nutrition Programme are seriously delayed. In the case of interventions outside SCR 986, donor response for

these initiatives has been low. Few organizations are presently active in the country and the collective needs of Iraqi vulnerable groups far exceed the resources and programmes presently implemented. Coordination between institutions implementing existing nutrition supplementation and rehabilitation activities need to be enhanced as these are often “vertically driven” and not functionally well integrated.

15. Co-ordination between the different actors working in the field of vulnerable group feeding initiatives for the identification, setting-up and operation of vulnerable group feeding programmes could be improved. Some programmes are evidently complementary whilst some others tend to overlap. Not enough is being done to support mothers who are themselves malnourished.
16. Many institutions reported serious obstacles in vulnerable group feeding due to non-SCR 986 commodities being withheld or delayed by the GOI on quality grounds. The GOI are concerned that some of the commodities sent to Iraq may not be in conformity with Iraqi standards; the mission confirms that international food quality standards were not always fully adhered to. The lack of trained government food quality inspectors and of adequate materials and equipment for proper testing makes verification difficult.
17. Many locally manufactured food products are prepared using outdated equipment and poor quality materials, often under poor hygienic conditions, that threaten the health of the consumer. Rehabilitation of the food industry and the strengthening and enforcement of food control laws and regulations is required to enhance consumer safety and to meet consumer needs.
18. Other suggestions for providing support to the industry and increasing its markets would include local purchase of processed foods under SCR 986 that could be used in child feeding programs or for enhancing the ration. Costs could be appreciably below the price of imported products and this would increase employment opportunities and generate increased income. Such foods would of necessity be required to meet all appropriate quality and safety standards for which the above-mentioned rehabilitation of the food industry is indispensable.

These factors have had more of a negative impact in the centre/south than in the north with the beneficial effects of increased family rations being offset by the combination of these adverse conditions.

19. Malnutrition, especially child malnutrition, is often caused by factors other than those related to food. Poor water supply both in quality and quantity as well as inadequate sanitation are key causative factors of frequent and repeated infection resulting in infant and child malnutrition throughout the country. Infections in infants are often associated with the decline in breast-feeding, the too-early introduction of infant formula and an increase in bottle-feeding. Other important factors include the lack of general nutrition and health education, overcrowding and poverty. These factors have had more of a negative impact in the centre/south than in the north with the beneficial effects of increased family rations being offset by the combination of these adverse conditions, especially for children.

20. Significant improvement in the health and nutrition status of the vulnerable population, and of children and mothers from these households in particular, cannot be achieved without improving these contributing factors. Of top priority is the maintenance and rehabilitation of the water and sanitation system to increase the quantity and quality of water supplies and improve hygiene and sanitation.
21. Health and nutrition education activities have not been effective in the prevention of malnutrition. A large population of mothers, frequently poor and uneducated, are not being reached by the nutrition education and growth monitoring services and staff need intensive training in this area before an effective nutrition education programme can be implemented. Adolescents and young adults, especially, can benefit from wide dissemination of knowledge of life skills and health and nutrition messages. There is also a major lack of opportunities for health workers to keep abreast of new knowledge and skills in the practice of health care and substantial support is needed for formal and in-service training.
22. Unsatisfactory feeding practices in young children continue. The distribution of infant formula in the food ration contributes to the decline in exclusive breast-feeding and encourages an increase in potentially harmful bottle-feeding. Use of contaminated water in its preparation and/or excessive dilution of the formula can lead to diarrhoea and failure to thrive. Another major problem is the shortage of complementary foods in the ration for young children from six months of age.
23. In adults there is some degree of underweight with prevalence of chronic energy deficiency (CED), defined by FAO/WHO as a BMI of <18.5, around 5%. However, the mission found more than half the adult population over 25 years overweight (BMI 25+) and one quarter greatly overweight (BMI 30+). This high rate of obesity is a cause for concern with heart disease, hypertension and diabetes the major reported causes of death in adults.
24. There is a need for the rehabilitation and renovation of health facilities at all levels including physical infrastructure, replacement of obsolete and unserviceable equipment, and improvement of functional capacity to deliver and sustain acceptable standards of health services.
25. The supply of drugs is not sufficient to meet the needs of the population: delayed and erratic availability of drugs and supplies aggravate the situation. The chronic shortage of some medicines and medical supplies undermines the confidence of the public in health facilities and lowers the morale of the staff. The established pattern and choice of drugs indicates the need for more information and education of medical practitioners in the rational and effective use of drugs.

VI. Recommendations

Although food availability has increased since 1997 following SCR 986, nutritional problems continue to exist. Reasons for this include prolonged reliance of the population on a nutritionally inadequate and unvaried diet, the inability of the agricultural sector to make up this shortfall, particularly in view of the current drought, the dilapidation of the economy, underemployment and low incomes, poor quality of essential service delivery, unhealthy lifestyles and practices, and infections and disease. The mission provides recommendations for improving the food and nutrition situation in Iraq through improvements in food availability and consumption, particularly of the vulnerable groups, supporting the agricultural sector and the food industry, upgrading water, sanitation and health systems for meeting basic human needs, better information for monitoring the food and nutrition situation and encouraging appropriate health and feeding practices.

A. Improving Food Availability and Consumption

Timely delivery of supplies

1. There is a critical need to accelerate the process of contract processing and delivery under MOU contracts of SCR 986 food commodities and other humanitarian imports such as seeds, irrigation inputs and medical supplies to ensure a more efficient implementation of the UN resolution. With the co-operation of all parties the contracting process can be made more efficient, screening protocols and approvals liberalised and made more responsive to humanitarian concerns, distribution effected more rapidly and end use made more effective.
2. In the case of food imports, while hurdles in the contract approval process are being effectively tackled, additional efforts must be made to improve the efficiency of getting food stuffs into Iraq once these are contracted. In this context, the Mission believes that there should be renewed efforts to include standard commercial provisions in contracts; to identify suppliers with a record of poor performance and to exclude these from bid eligibility; and to increase superintendence capacity at the ports in order to allow for inspection and testing of larger quantities of food shipments.
3. The sharp decline in agricultural production this year and low commodity stock levels, constrains the ability of the Government to offset any MOU shortfall, especially cereals. This strongly underlines the particular importance of timely food imports under SCR 986 during the upcoming months.
4. To improve the quality and timeliness of food imports, suppliers can be made more accountable by i) inclusion of a penalty clause in the event of sub-standard supplier performance, ii) preparing a list, in collaboration with the Ministry of Trade, of suppliers with a record of poor performance either with excessive delays or with sub-standard commodities, and iii) improved surveillance at ports with testing of more samples of food arrivals.

Improving food consumption

5. Although foods provided by the ration are considered adequate in terms of energy, micronutrients are lacking as the diet is limited in pulses, fruits and vegetables and animal products. This is especially so given the effects of the drought over the last two years on local production. A top priority is to increase the consumption of

micronutrient rich foods through diversification of the ration and/or through local production. UN and other agencies need to advocate to the GOI and the UN Sanctions Committee the need for diversifying and improving the food rations as recommended below:

- ensure that the planned ration of 1 kg pulses per person per month is provided as a top priority
 - increase the amount of complementary weaning food from 30 g/person/day to at least 90 g/person/day for children aged 6 months to 24 months
 - add to the ration protein- and micronutrient-rich foods such as canned fish or meat, dairy products (cheese)
 - increase the amount of iodised salt from 5 to 10 g/person/day
 - fortify the vegetable oil ordered under 986 with vitamin A (18 µg of retinol/g)
6. Develop a mechanism to include in the ration essential, micronutrient rich foods, which are locally produced like vegetables, fruit, eggs, poultry and fish. Alternatively implement a targeted cash subsidy for the most needy households to buy fresh food and consider a targeted waiver of the nominal ration fee. In the same context, the local production of complementary foods should be supported for inclusion in the ration. This would be a cost-effective way of providing the needed nutrients and, at the same time, stimulating the local economy.
7. Infant formula in the ration should be restricted to children 6 months and above to encourage breast-feeding, the resultant decline in infant formula would be more than off-set by the proposed increases in complementary foods. Agencies and health professionals need to advocate strongly and campaign vigorously to convince GOI and mothers to accept this.
8. If a child is identified as malnourished by health care personnel, the family as a whole should be considered vulnerable entitling them to a more liberal provision of food supplements.
9. In the longer term, programmes for increasing the local production, preservation, marketing and consumption of pulses, fruits and vegetables and of animal foods, especially eggs from poultry, and where possible of fish, are needed and existing ones urgently expanded.

Fortification

10. Fortification of wheat flour with iron and folate is recommended in view of the lack of micronutrients in the diet, and the drought-related shortages of vegetables and fruits. Fortification in Iraq is feasible and relatively inexpensive. The present high prevalence of iron deficiency anaemia and vitamin A deficiency particularly among children, and pregnant and lactating women must be addressed. Although it is understood that the Iraqi population in normal conditions can meet their dietary micronutrient requirements from the food supply, fortification will likely be required on a long-term basis. GOI is urged to implement at the earliest opportunity the fortification of wheat flour. The lengthy taste and efficacy trials now proposed should be abandoned and substituted instead with relevant international experience. The vegetable oil ordered under SCR 986 must be fortified with vitamin A.

Vulnerable group feeding

11. Added resources should be allotted for the implementation of feeding programmes for the most vulnerable both within and outside the framework of SCR 986.
 - Within the framework of SCR 986, the Supplementary Feeding Programme proposed by the UN SG in 1998 should be implemented. Likewise, initiating a school feeding programme is of paramount importance if the deterioration in the nutritional condition of the most vulnerable is to be reversed. Families with malnourished children as identified by the Ministry of Health should receive added food rations accordingly.
 - Outside the framework of SCR 986, a clear message must be sent to the donor community on the urgent need for increased support for programmes, such as the WFP Protracted Relief and Recovery Operation, which cater to the most vulnerable, for whom the SCR 986 ration is insufficient.
12. Better coordination to plan, start and operate vulnerable group feeding is needed for which a chairman and a task force should be established under UN auspices to prepare a Plan of Operation. This would include preparation of standard operating procedures and contingency proposals for the production and use of locally prepared foods to treat the malnourished. For this, a cash component is needed.
13. Vulnerable group feeding must include interventions in health, water and sanitation, and education. The CARE programme is one likely example.
14. Training for GOI personnel involved in food inspection and materials and equipment for proper testing should be provided so they can confirm if the quality of all food commodities coming into Iraq, including non-SCR 986 commodities for feeding programmes, meet GOI and internationally recognised food quality standards. The quality of foods can be verified through sampling and analysis of the commodities by an independent laboratory, possibly the food control laboratory in Jordan.

The use of cash in the centre/south

15. Given the widely recognised importance of cash as a key programme element, the use of cash by agencies within the framework of SCR 986 in the centre/south as allowed for the north, is strongly recommended.

School health recommendations

16. School feeding programmes to address micronutrient deficiencies and short-term hunger should be initiated as soon as possible in primary and intermediate schools with priority to poor areas in Baghdad and Governorates. This would improve the nutritional status of this high-risk group who are not targeted through other programmes. Snacks composed of fortified high-energy biscuits are convenient to distribute and will provide additional energy and micronutrients, increase the attendance and attentiveness of the students and improve performance. The biscuits should be locally produced.

17. The mission recommends a comprehensive school health and nutrition survey to assess health and nutritional status as well as mental development of school students at different ages. This should include physical examination, anthropometry and the quantitative assessment of dietary intake on a sub-sample. The survey may also include parasite load and haemoglobin levels and tests of mental, intellectual growth and development.
18. The nutrition knowledge of the school students should be enhanced and their dietary practices improved. This could include the introduction of basic nutrition and health lessons as part of the school curricula, the establishment of school gardens for vegetable production, and a weighing and measuring programme of and by the school students as part of their studies.

B. Support for the Agricultural Sector

1. Sustainable improvements in the agricultural sector and in the nutritional well-being of the population will require a substantial flow of resources for rehabilitating the agriculture sector and the economy as a whole given the urgent (drought-related) and the longer term development needs of the country.
2. In the immediate future, urgent attention should be given to the supply of the most needed irrigation inputs, along with assistance in water conservation/management, for an optimal use of the limited water resources currently available.
3. Similarly, timely access to quality seeds has become crucial and is required for any production recovery and sustainable progress in agriculture to take place; particular attention should, therefore be given to the rehabilitation of old seed processing plants and building of new ones.
4. Special considerations are needed to increase the feeding base for the large animal population in the country. This will include measures to increase the pasture and grasslands, but also to ensure timely delivery of imports such as the 750,000 tons of barley requested by the Government under the MOU.
5. The veterinary service needs support to prevent, diagnose and treat animal diseases. The recent outbreaks of foot-and-mouth disease (FMD) heighten the urgent need to control animal disease through national vaccination campaigns. Cold storage facilities and transport for veterinary supplies are urgently required.
6. The positive trends in the poultry industry illustrates the need for continued efforts by the authorities and international partners, to promote the production and marketing of major consumer products, including those that are not included in the SCR 986 ration (animal products, fruits and vegetables). All initiatives in this area should be encouraged. In this regard, greater access is required to agricultural inputs such as machinery and spare parts, fertiliser and pesticides, as well as access to credit, especially for small farmers.

C. Support for the Food Industry and Improving Food Safety

1. An active food industry is a vital component of an integrated food supply system. Rehabilitation of the food industry in Iraq to improve quality, enhance consumer safety and meet consumer needs is essential. Imports of raw materials and ingredients, food grade chemicals and additives, spare parts for existing equipment and equipment for new production lines are required. Extensive training for staff is required in food processing, quality assurance in the food industry and product development.
2. Support to and surveillance of local food processing industries and food distribution is needed to ensure proper hygiene and food safety and control.
3. The facilities and offices for food inspection urgently need upgrading to enhance food safety. This includes new testing equipment, appropriate inputs and trained staff. This includes the need to familiarise food inspectors with international quality standards.
4. SCR 986 should include local purchase of processed foods such as high-protein biscuits, animal or other foods, or other manufactured products for child feeding programmes, or for improving the quality of the ration. These must meet all appropriate quality and safety standards. Costs could be far below the price of imported products. This would also increase employment and income generation with a significant step towards rehabilitation of the food industry. If local purchases in cash cannot be implemented immediately the provision of raw materials to local food processors should be considered.

D. Upgrading Water and Sanitation Systems

1. Poor water and sanitation remain a major cause of preventable malnutrition and excess mortality. Prior recommendations from WHO and other agencies have called for the release of funds to rehabilitate the water and sanitation system including water treatment plants, distribution networks, and sewage disposal systems. Surveillance of drinking water for bacteriological and chemical contamination needs to be strengthened through the upgrading of laboratories and the training of personnel. The present mission fully supports this as it considers water availability in its widest sense, including drinking, irrigation, sewage disposal and the related problems of waterlogging and salinity, absolutely fundamental to health and agricultural productivity.
2. With the current drought, water control and management is crucial and requires equipment including pumps, wells and pipes for which investment is needed. Similar support is required to enhance the irrigation sector through facilitating the procurement of pumps, earth moving equipment and other supplies.

E. Information for Monitoring the Food and Nutrition Situation

A basic information system should be set up for the regular collection of information on nutrition and food security. Phased, appropriate surveys of households would complement routine reporting from hospitals, primary health care centres, schools and other institutions. This should include a detailed assessment of the adequacy of the food ration, efforts by the population to obtain additional foods, and factors affecting household food security. In-depth family profiles undertaken on a case study basis would complement country-wide household food security surveys. By broadening the

knowledge base, trends in nutrition and health could be monitored and feedback provided to GOI and agencies for programme planning, monitoring and evaluation.

F. Support for Nutrition Services

1. The Targeted Nutrition Programme where children under five years of age are screened in Community Child Care Units (CCCU) and if found malnourished are referred to the Primary Health Centre (PHC), Nutrition Rehabilitation Centre (NRC) or hospital, requires urgent support including the provision of a cash component to the GOI under the 986 programme. This support should include training of staff in the identification and treatment of malnutrition, particularly in the use of therapeutic milk (F100) for treatment of severely malnourished children, management and supervision, and logistics to increase the quality of services and to expand coverage. Added support is required for compensating volunteers and providing help in management information systems.
2. Availability of special foods used for treating malnutrition is essential for the performance of this programme and for maintaining attendance and motivation. But only a small fraction of the high protein biscuits have arrived and more are urgently required. Therapeutic milk has only just begun to arrive. The supply of these foods has to be improved if this programme is to be effective. Local production can be an important supportive condition in this respect.
3. Nutrition supplements should continue for pregnancy and lactating women, and vitamin A for young children (including during immunization) and their mothers. Other supplementary vitamins preparations should be given as required to prevent and counter severe dietary deficiencies.

G. Support for Health

1. A programme of extensive rehabilitation and upgrading of all health facilities is urgently required to restore the capacity and standard of health service delivery. Investment proposals need to be drawn up including those for local costs.
2. A review of the health service programmes should be undertaken to ensure their co-ordination and the integration of services. Examples include expansion of the recently introduced Integrated Management of Childhood Illnesses (IMCI) and of maternal care supported through birth attendants at village level.
3. All health facilities need to invest more effort and resources in nutrition education and counselling, in demonstrating food preparation and appropriate feeding practices, and actively promoting exclusive breastfeeding of young infants. Appropriate education materials including brochures and posters need to be prepared, distributed and applied. The use of mass media should be maximised.
4. Restore and expand opportunities and facilities for continuing education and training for health workers and professionals at basic and post-graduate levels.
5. The allocation of medicines and medical supplies in the distribution plan needs to be reviewed. For the importation of drugs, priority should be given to meeting essential drug needs and distribution to health facilities adjusted to the seasonal prevalence of the common infectious diseases. Delivery of medical supplies and equipment such as

vaccines, sutures and disposable syringes has been erratic and needs to be urgently improved. Support for the local drug industry should be given to increase its present capacity and reduce dependency on imports.

6. The clear danger of another drought this year requires emergency preparedness for likely epidemics of cholera and other acute enteric infections by intensive surveillance, early reporting, and movement of emergency supplies to the sensitive locations where epidemics could occur.
7. Electrical power is essential for hospitals and Primary Health Care Centres. This affects both quality of work and attendance. An adequate and sustained power supply is crucial for the maintenance of the cold chain for vaccines, the cooling and safe storage of therapeutic milk and other foods. Every effort should be made to repair power plants and give priority supply to health facilities.

H. Promoting Appropriate Feeding Practices and Healthy Lifestyles

1. Improve dietary and nutrition practices, specially in low income households through an intensive programme of information, communication and education of the general public, and of school children and youth in particular. Topics should cover healthy lifestyles and eating practices, getting the most from their food, family health and hygiene issues including improved household sanitation, safe water use, and community and personal hygiene of household family members.
2. Advocacy with policy makers should be intensified; training and motivation of health workers as well as school teachers on best practices in health, food and nutrition should also be improved. Within this effort, a key point is to disclaim the often-repeated statement that mothers cannot breastfeed adequately because they are malnourished. Although this does occur in severe cases, mostly it is due to the lack of understanding about the harmful effects of the bottle and added fluids or milk given too early for infants.
3. Promote and support breastfeeding practices using communication channels and including in particular the health facilities. Improve knowledge and skills of health workers to provide effective counselling for exclusive breastfeeding. Limit the use of bottles for infant feeding only by prescription, and restrict infant formula to children over six months of age to encourage breastfeeding.
4. Studies are required for the prevention of adult obesity and its control. Diversifying the ration to include animal protein and increase pulses should help as well as encouraging improved diets, where feasible. Increased employment with physical activity should be a positive development. Improved diagnostic tools and services for the early detection and treatment of diabetes and hypertension are needed.