

PART TWO

CHILD SURVIVAL, RIGHTS AND BASIC NEEDS

The U.N. throughout its history has produced a series of legal frameworks in support of human rights. These cover specific social areas such as age, gender, race, religion, and cultural heritage, with mutually reinforcing principles in support of human rights and basic needs. Such international legal frameworks progress to joint declarations by UN member countries (e.g., World Summit for Children in 1989) followed by national plans for action.

Of the cluster of Survival Rights of the CRC, Article 27 on the right to adequate nutrition and freedom from hunger is very relevant to Iraq. Further, the concern for "Children in Especially Difficult Circumstances (CEDC)", generally reserved for a minor segment of Iraq's child population, is increasingly applicable to a large number of children since the economic embargo. Article 24 of the CRC asserts child's right to *the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health.*

Economic hardship has led to widespread food insecurity. Reinforced by the lack of resources such as economic, environmental and health services, such food insecurity seriously compromises children's basic needs, rights and welfare. Iraq's situation is unusual having a prior high level of consumption, even over-consumption. This pre-sanction "oil for imported food" provided two thirds of national food availability.

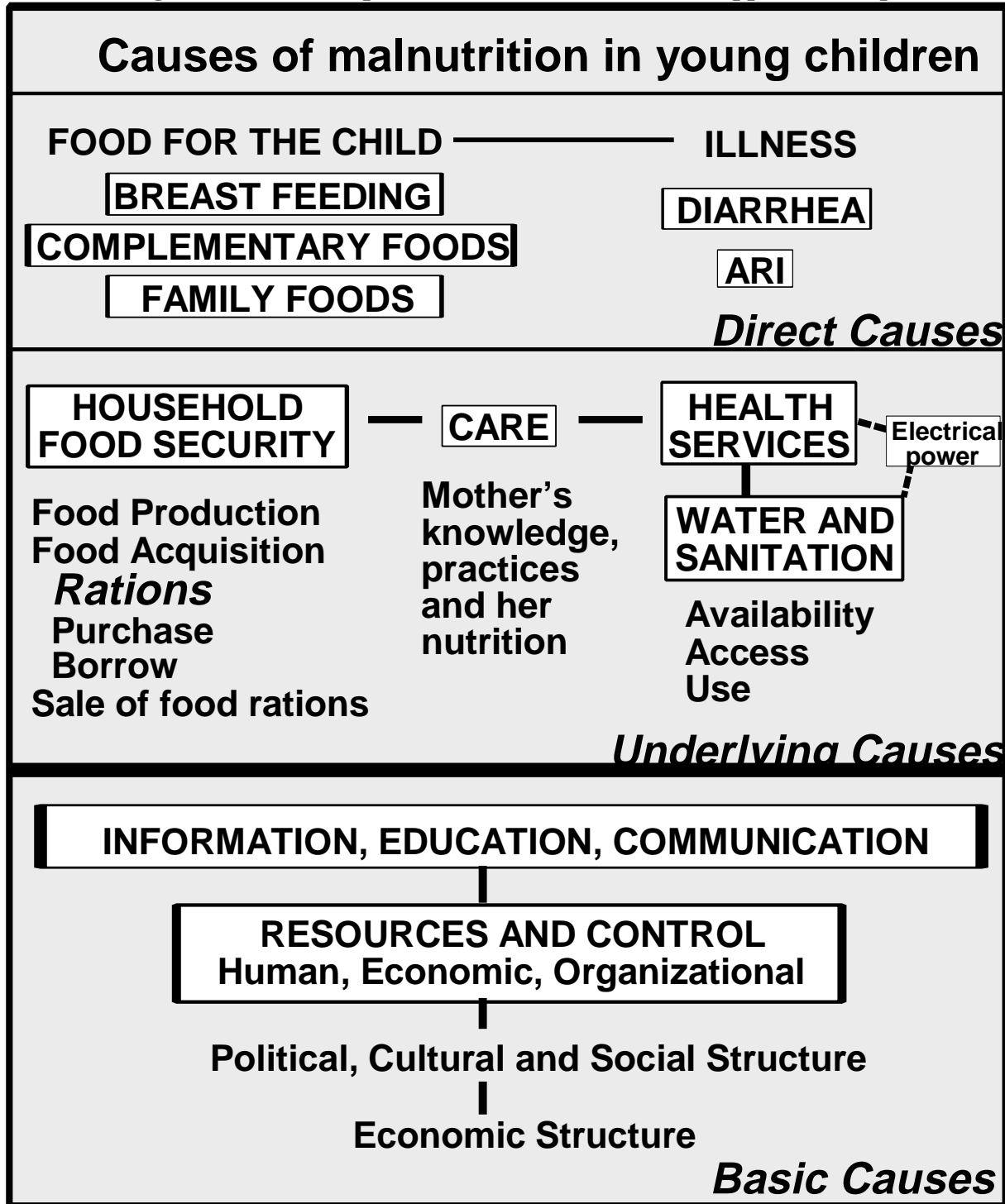
Malnutrition was not a public health problem in Iraq prior to the embargo. Its extent became apparent during 1991 and the prevalence has increased greatly since then (18% in 1991 to 31% in 1996 of under fives with chronic malnutrition). By 1997, it was estimated that about one million children under five were malnourished.

Children's right to survival requires due attention, not only to household availability and access to food, but also to other causes which influence malnutrition, a condition responsible for over one-half the deaths of young children and a key element for child growth and development. These multi-sector concerns involving food, health and care, must be addressed by a Safety Net for both households and for their vulnerable members - children and mothers.

The conceptual orientation (Figure 2.1, page 24) is a useful tool to analyse the various factors affecting the situation of children and women. It outlines the three layers of causes of malnutrition and consequent mortality. Each has relevance to promoting Child Rights, Survival and Protection. Such layers start with direct causes (feeding⁵⁷ and illness) involving the child. These are influenced by underlying causes (household food security, care, health services and water/sanitation). Care is a crucial, often neglected element which is especially needed to compensate for the constraints of food and health. The third layer comprises basic causes of which the economic structure is the dominant component. This is apparent in the reduction of GDP per capita from \$3,508 in 1990 to \$761 in 1993; also in the reduction of family purchasing power by several fold. The three causal layers affect all aspects pertaining to malnutrition through nation to household to child.

⁵⁷ In the first six months of life breast milk is the ideal and complete food, to be continued well into the second year. After six months of age, the child needs frequent small servings added caloric dense semi-solid to solid foods (with adequate protein, minerals and vitamins) often in the form of complementary foods. During the second year the child can share food with the family.

Figure 2.1 : A Conceptual Framework for Nutrition applied to Iraq



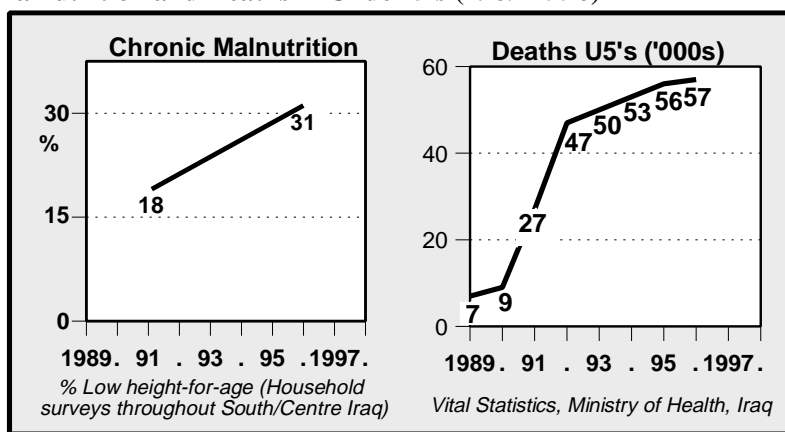
There is no single cause for malnutrition. Nor can attention limited mainly to one cause solve the problem. Thus food acquisition by the household (such as with food rations, perhaps complemented by the current limited means from other sources) does not necessarily insure that the child receives an appropriate diet. Further, even if the child was adequately fed, this alone does not insure protection from malnutrition and death. Illness such as from diarrhoeal episodes, acute respiratory infections, and others such as malaria and kala-azar are also potentially lethal, especially when untreated.

In the following section, the changes from 1989 to 1997 (or the year with the most current information) is applied to components for each causal layer.

Malnutrition and Mortality:

Increased malnutrition is a potent factor for increased mortality in young children. Since August 1991, when sanctions had already been in effect for one year, chronic malnutrition rates for under 5's in the South/Centre (based on a low height-for-age; less than -2SD from WHO reference) have increased by 70%. Deaths rose several fold (Figure 2.2). The exponential link between malnutrition and mortality has been well documented.⁵⁸

Figure 2.2:
Malnutrition and Deaths in Under 5's (1989-1996)

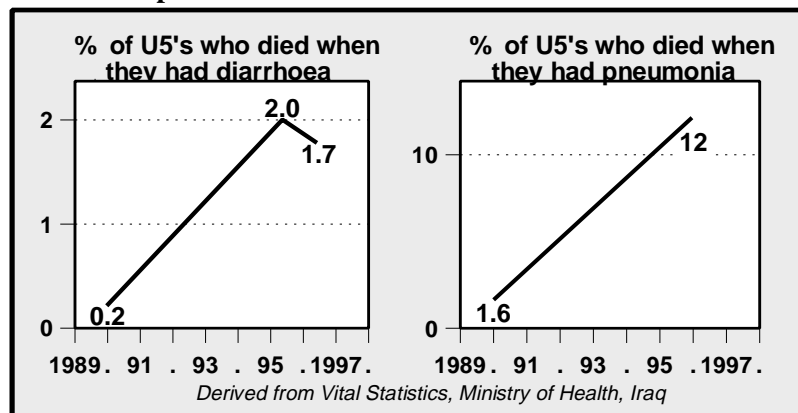


Infections: The lethal synergy between malnutrition and infection is illustrated in Figure 2.3.

A child with diarrhoea in 1990 had a 1/600 chance of dying; in 1996 this became 1/50. A child with pneumonia in 1990 had a 1/60 chance of dying; in 1996, 1/8 children with reported pneumonia died.

Both malnutrition and infection perpetuate each other. Young children with recent or chronic illness fail to resume their diet (already often inadequate) due to apathy, loss of appetite and the direct effect of the malady, such as fever.

Figure 2.3:
The percent of children under 5 years who died when they had diarrhoea or pneumonia



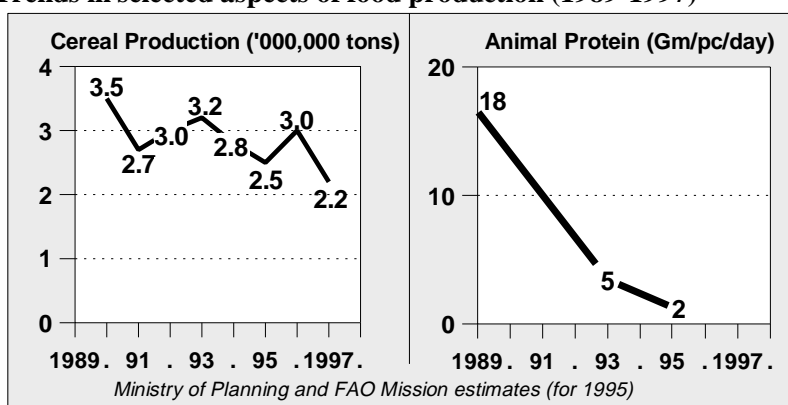
⁵⁸ Pelletier et al., 1994. Based on multi-country studies the risk of a young child dying if moderately malnourished is about four times those with no malnutrition and eight times greater when severely malnourished. This is compounded further if combined with unfavourable practices such as bottle feeding in infants with lack of breast milk.

Child feeding: Feeding patterns in young children indicate that the prevalence of breast feeding has increased recently, probably due to economic reasons. However, the quality of breast feeding is sub-standard. A survey throughout the South/Centre during October 1997⁵⁹, showed 87% of infants aged 0-5 months were not exclusively breast-fed (only breast milk); 21% of infants were bottle fed and 24% aged 6-8 months did not receive any complementary food at all. Similar problems at least with inappropriate breast feeding probably existed in the past, but were compensated by the better economic and health situation..

Household food security depends on several factors such as food availability (e.g. production and imports), direct acquisition by households through rations, purchase or borrowing and the need to sell food.

Figure 2.4 illustrates the trends for two aspects - cereal production and animal protein availability. The decrease in cereal production is evident as well as the precipitous drop in animal protein, which is greatly due to the expense of these items. It is significant that the present rations contain no animal protein, apart from the infant formula. There is no current information on sale of foods nor distribution within the household.

Figure 2.4:
Trends in selected aspects of food production (1989-1997)



Aspects of child care are critical for proper nutrition. This pertains to care for women, home hygiene and health practices and child feeding⁶⁰.

Care of the mother's health and nutrition will reflect on the resulting care of her child. Recent surveys in Baghdad indicate that anaemia occurs in more than one-half of pregnant women⁶¹ and chronic energy malnutrition (based on weight and height) occurs in more than 10% of women aged 25 to 35 years. Further, most mothers were unaware of signs of young child malnutrition⁶².

Health Services (both preventive and curative) and the environmental situation, principally water and sanitation are other underlying causes of malnutrition. The depletion of health service support (structure, supplies and function) is considered in more detail elsewhere.

⁵⁹ Nutritional Status Survey of Infants in Iraq, October 1997. MOH/UNICEF - Iraq

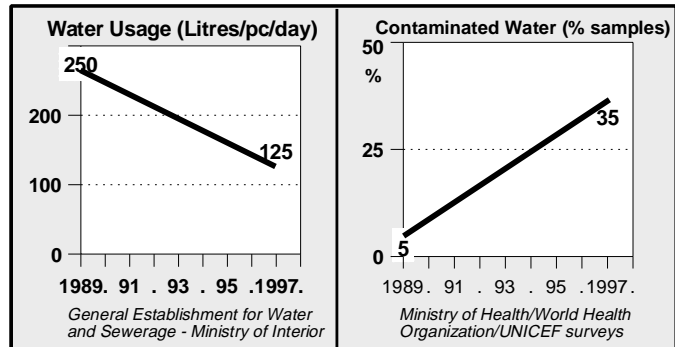
⁶⁰ The Care Initiative - assessment, analysis and action to improve care for nutrition. Nutrition Section, UNICEF/New York. April 1997

⁶¹ Dr. Isshan, MOH 1996

⁶² FAO/WFP Mission to Iraq, June 1997

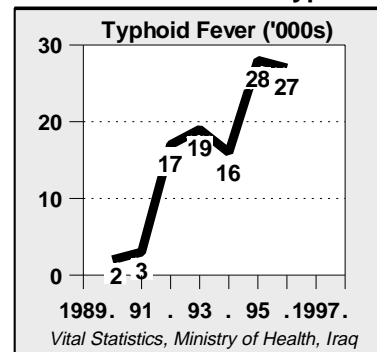
The water usage per capita in the South/Centre has been halved since 1989. Contaminated water based on bacteriological testing of major outlets in three governorates in the South/Centre has increased greatly. This is expected to be much worse at village and household levels (Figure 2.5).

Figure 2.5:
Trends in water use and quality (1989-1997)



A relevant indicator for water/sanitation provision and use is the extent of certain communicable diseases, such as typhoid fever. Previously rare in Iraq, it is now a major health problem (Figure 2.6).

Figure 2.6:
Trends in Prevalence of Typhoid Fever



Basic causes of malnutrition are dominated by the economic situation where the GDP per capita has reduced from \$3500 to \$600 and the current salary of public workers now averages about \$3 to \$5 per month, compared with \$50-100 prior to 1990. This influences diverse aspects of the human basic needs, for example electrical power (Figure 2.7), especially important for health and water/sanitation services, and the level of school attendance (Figure 2.8).

Figure 2.7:
Trends in Electrical Peak Power (1990-1996)

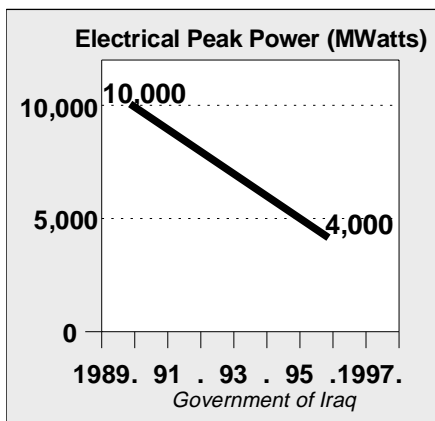
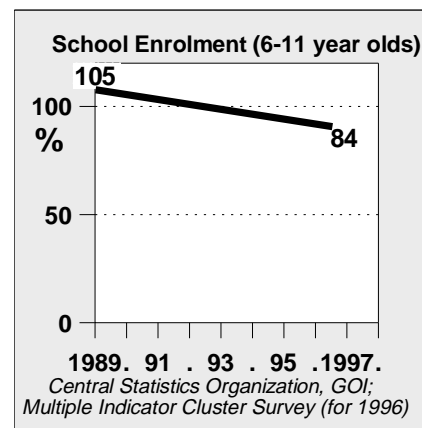


Figure 2.8
Trends in School Enrolment (1989-1996)



2.1 Food Availability and Access

2.1.1 Reduced Local Production

With the interruption of food importation in 1990, Iraq came to rely on domestic food production, which continues to be far from adequate in meeting the needs of the population. To encourage local production of food, the GOI raised the price of cash crops significantly. For example, between 1990 and 1993 the price of wheat per ton increased from ID500 to ID1,000.

However, with increased production costs despite subsidies and related decline of the value of the ID, such incentives were less than effective. Cereal production continued to decline from 3.4 million tons in 1990 to 2.8 million tons in 1994 and 2.5 in 1995. Decline in production extended to livestock (cows, sheep, goats, buffaloes) which decreased from 11.5 million in 1990 to 6.3 million in 1995.

Although there are no official statistics available for 1996, FAO estimates the crop harvest for wheat and barley was 30% less than that of the previous year. For rice and maize, which account for 15-20% of total cereal production, although cultivated area increased, the yield per unit area declined from its level in 1990.

In the northern governorates there occurred a decrease in the total cultivated area, yield and production of wheat. As illustrated in the graphic representation of Figure 2.9, and based on FAO estimates, wheat production declined from its 1993 level of 500,151 tons to 312,318 tons in 1996.

Whereas the relative decline for the years 1994 and 1995 is due to unfavourable climate, the drastic decline in 1996 is probably the result of a conscious decision on the part of farmers not to cultivate wheat.

With publicity about Oil-for-Food plan, a price reduction of locally produced wheat was expected.

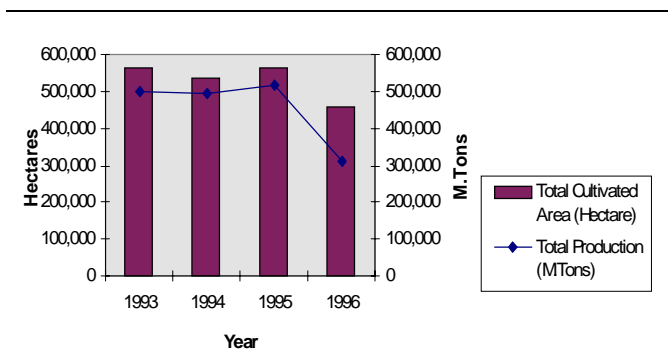


Figure 2.9
Area of Cultivation and Yield of Wheat
Northern Governorate, 1993- 1998

Source: FAO/ Iraq Report, 1996.

Further problems were of the breakdown of the agricultural infrastructure, and the end of extension services once provided by the Iraqi Ministry of Agriculture.

The agricultural potential of the northern region is also threatened by environmental degradation. Deforestation results in shortages of heating and cooking fuel which was once available at government subsidized prices.

Livestock production has been affected by the decline of veterinary services. Further, as elsewhere in Iraq, high dependence on imported technology in the past could not continue, for example, the vaccination of animals. Livestock diseases re-emerged. Lack of imports of poultry raising supplies has reduced production. Of the 600 chicken farms functioning in the northern governorates prior to 1990 only 23 remain in operation.

For the South/Central governorates, the increase in the area of vegetable production from 8 to 9% of the total cultivated land has been offset by decreased yield and poorer quality, 3.2 to 3.5 million between 1991 and 1995⁶³. This reduced yield is due to the poor quality of available seeds and their limited supply. Shortages affecting vegetable production extend to other agricultural inputs including pesticides, fertilizers and agrarian mechanical devices.

The export of dates, a traditional valued Iraqi crop, has been curtailed to meet increasing local needs. But the supply remains limited due to damaged palm trees during the Iran-Iraq war. The number of palm trees declined from 21 million in 1981 to 16 million in 1991; to 15 million in 1995.

Currently, local agricultural production for the country as a whole continues to be limited and provides about a third of the needed food. The food available within the framework of the Oil-for-Food Plan, far from representing an amount causing a glut in the cereal markets as anticipated, is not sufficient to meet Iraq's needs.

Household food production is also constrained by family's inability to purchase the necessary agricultural inputs and maintain infrastructure. This especially affects the small and subsistence farmers.

2.1.2 Reduction of Family Purchasing Power

Accessibility to food beyond the amounts provided through public rations is limited by soaring food prices⁶⁴. FAO reports that the Family Purchase Power Indicator (FPPI) for Iraq has been in constant decline⁶⁵. Starting at 3.62 in 1990, the FPPI dropped to 0.15 in 1993, and to 0.06 in 1995. The post-1990 FPPI values are well below the 1.25 level which FAO considers as a signal of household nutritional deficiency; such a level means that at least 80% of a family's income is spent on food.

For the northern governorates, civil servants receive pay which is in rarely sufficient to provide a minimum standard of living⁶⁶. For example, currently (1997) the salaries of civil servants are 200 to 500 Swiss Iraqi Dinars (SID, the local currency). A minimum of 1500-2000 SID are needed to support a five member family.

⁶³ FAO "Technical Cooperation Programme: Evaluation of Food and Nutrition Situation in Iraq," Sept. 1995

⁶⁴ Ibid

⁶⁵ The FPPI is the ratio between the lowest monthly income and the total cost of a basic food basket for a six-member family, including an infant. It is not clear whether the government ration was included in the estimates.

⁶⁶ UNICEF Situation Report, Suleimaniyah, Northern Iraq, April 1997.

Universal rationing addresses the issue of equity only in terms of equal distribution while side stepping the more basic one of unequal access to complementary resources (as extension of socio-economic differentiation). Hence, an objective national programme of Poverty Assessment would allow the identification of the most deserving/vulnerable groups. Even assuming the nutritional value of the food basket (supplied within the framework of the Oil for Food programme) is adequate, this may not be fully consumed by the household or used according to the needs of the members, including women and children. Access is not to be equated with actual consumption. Sale/exchange of some of the food basket to meet other urgent needs, such as buying medicine, often recurs. Further, accessibility to food has been jeopardized by the irregular or non-arrival of food basket components.

2.2 Food as Sustenance

As noted in Part One, compared to the ration distributed prior to 1997, the one planned under the MOU represents an improved nutritional value. Yet this ration, composed primarily of cereals, has nutritional limitations not restricted to its low caloric value (2,030kcal/day/per person compared to the WHO set amount of 2,500kcal/person\day). The needs are greater than the set amount due to the depressed nutritional status of the ration recipients. Many experienced the cumulative effect of almost seven years of inadequate diets and other adverse elements, such as polluted drinking water or fuel shortages in the cold winter months, as is the case in the northern governorates.

Protein derived from cereal alone is an inadequate means of body-building and tissue maintenance. The ration food basket is almost totally lacking in vitamins A and C, and the levels of calcium, riboflavin, vitamin B6, and zinc are very low. Moreover, the ration is deficient in fat, providing only 16% of daily food energy; its deficiency in vitamin C and meat (animal protein) compromises the body's utilization of iron⁶⁷.

The number of families who are able to supplement the food ration diet, is not known. However, it was noted by the observers that often the ration lasted only three weeks of the expected four.

Nutrition is affected by contaminated water and poor sanitation due to diarrhoea and communicable disease. The 1996 Water and Sanitation Survey revealed that only 44% of the rural population has access to potable water.

⁶⁷ FAO/WFP "Special Report". FAO/WFP Food Supply and Nutrition Assessment Mission to Iraq, 1997.

2.3 Water and Sanitation (WATSAN)

The CRC entitles Iraqi children to clean water and obliges their government to protect their health from environmental risks through provision of safe water and sanitation. These risks result in water-borne communicable diseases, primarily diarrhoea, but also others, such as typhoid and the continuing threat of cholera outbreaks. These are principal causes of malnutrition, illness, malaise and death in young children. A crucial risk applies to infants who receive contaminated water or milk, especially in a bottle, with breast feeding compromised by misuse of infant formula. It is likely that lack of safe water and sanitation has contributed greatly to the steep rise in malnutrition rates and mortality. In accordance with this basic right, the goal for the year 2000 for universal access to safe drinking water and sanitary means of excreta disposal, is unlikely to be achieved with the continuation of the embargo.

There are two major institutions in the South/Centre responsible for the provision of water and sanitation services in Iraq: the Baghdad Water Supply Administration (BWSA) and Baghdad Sewerage Board (BSB) for the capital; and the General Establishment for Water and Sewerage (GEWS), Ministry of Interior for elsewhere.

2.3.1 Water supply

South/Centre Iraq had an advanced system of 210 fixed water treatment plants which served urban and major rural areas and 1,200 compact mobile plants for mainly rural areas, with an extensive system of distribution pipes⁶⁸. Almost all water comes from the Tigris, the Euphrates, their branches and tributaries. Being surface water, most of the water systems require liquid chlorine gas and alum for treatment. In the North, springs and wells are the main source for rural areas.

Prior to 1990 over 90% of the urban and 70% of the rural population had an ample supply of potable water. However, government non-military expenditure was constrained by the Iraq-Iran war⁶⁹. After 1990, the per capita share of water decreased from 330 to 180 litres/day in Baghdad city, from 270 to 135 litres/day for other urban areas, and from 180 to 60 litres/day for rural areas⁷⁰.

Water quality has also greatly deteriorated. Bacteriological contaminated samples ranged from 25-40% in Basrah and from 10-20% in Babil, with Ninevah being less affected during the period January to June 1997. Results of similar order were found for the adequacy of chlorine levels (Figure 2.10)

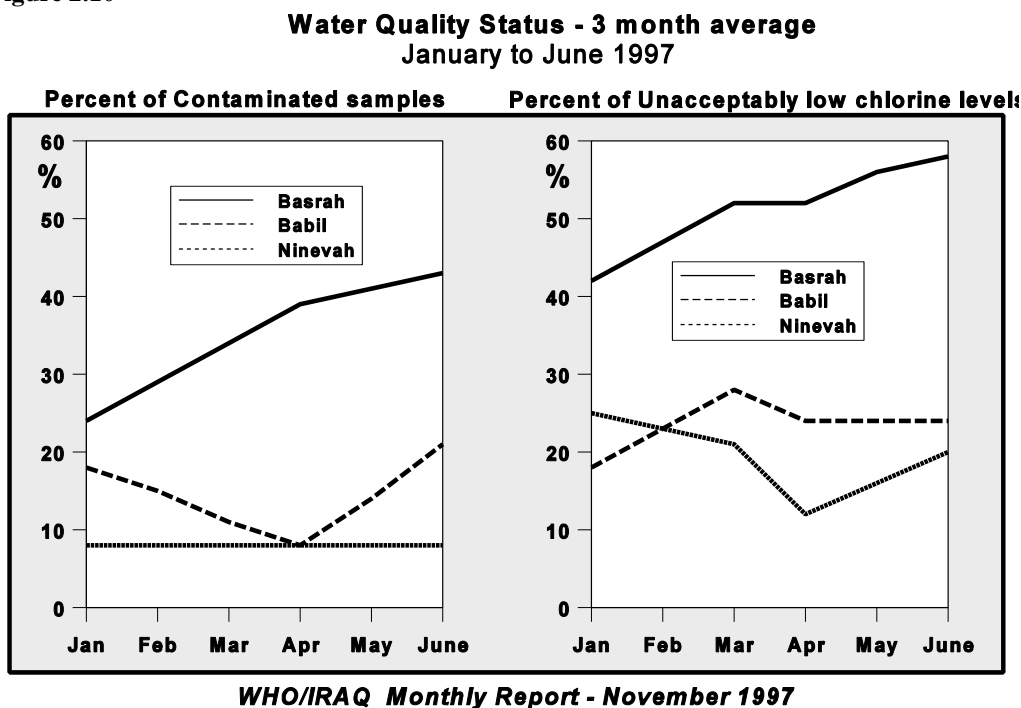
⁶⁸ The 1995 Water and Sanitation survey of facilities in the South/Centre supported by UNICEF found 84% were served by a fixed plant, 13% by a compact and 2% by both.

⁶⁹ During 1980, expenditure on water and sewage disposal was 16 million ID, this rose to 64 million by 1985, but tended to level off at 79 million by 1990 (Human Development Report, Iraq, 1995 p 93). The percent of total national expenditure dropped from 0.65% in 1980 to 0.26% by 1990, although treated water production tripled over this time.

⁷⁰ A recent survey "Coverage of Water and Sanitation Services in Iraq" reported by GEWS, UNICEF and CARE International, Dec 1997 estimates the average current supply to urban areas of the South/Centre (excluding Baghdad) is about 171 litres/per capita/day and for rural areas about 91 litres/pc/day. Adequate per capita coverage is a minimum of 150 litres/day in urban and 80 litres/day in rural areas (WHO), but this does not take into account variation by household and area. For more details, see the end of this section.

Whereas established Iraqi standards⁷¹ stipulate that water should not exceed 1 National Turbidity Unit (NTU), more than 70% of the water supplied to the population has turbidity exceeding 10 NTU. In some places the turbidity even exceeds 25NTU.

Figure 2.10



Water treatment plants lack spare parts, equipment, treatment chemicals, proper maintenance and adequate, qualified staff. Loss of electrical power supply is a crucial factor, where extended power cuts limit efficiency. Further, plants often act solely as pumping stations without any treatment, due to the high demand for water. The distribution network on which most of the population relies, has destroyed, blocked or leaky pipes⁷². Further, there have been no new projects to serve the expected population increase over the past seven years.

Local supplies of chlorine and alum are minimal. The major manufacturing plant for chlorine is unable to produce even one-tenth of the required 500 metric tons per month due to frequent breakdowns. Locally produced alum sulphate is impure, which ruins the water treatment equipment. Importation has not been possible.

The cost of water from escalating private dealerships is unaffordable to most people⁷³. State-owned tankers, which catered to the needs of undeserved areas of the country in the past, do not function due to lack of spare parts. People often have no choice but to obtain their water directly from the river,

⁷¹ Iraqi standards of water Quality Control are derived from those set by WHO, which are in turn based on American Standards.

⁷² Causing an even further decrease in water pressure .

⁷³ It is estimated that the monthly cost for water for an average size family is ID3,000 or 60% of the average monthly salary of a government employee. The subsidized official cost for one cubic metre is ID300..

already contaminated by effluent and resulting in major increases in water borne diseases such as typhoid, with reported cases from two thousand in 1989 to about 30,000 in 1996, cholera (zero in 1989 to over a thousand cases yearly) and an increase of diarrhoea incidence in young children by four times the pre-embargo level.

In the Autonomous Region, urban areas rely mainly on a piped water system from 21 treatment plants, while springs (most of which are unprotected) and wells provide the major portion in rural areas. Since 1990, urban areas in the region were affected by similar problems to those of the South/Centre. Following the 1991 war, as a consequence of the uprising, the destruction of villages usually also wrecked the fragile water supply system. In the urban areas, water tankers, sewage pumps and garbage disposal trucks were rendered inoperative. Since then, inter-party conflicts block the routine maintenance of chlorinators outside the larger urban centers.

One-half of the villages in the northern governorates still have no access to a water supply and two-thirds have inadequate sanitation facilities.⁷⁴ During the summer, many villages have no access to even impure water; women and children often have to walk 2-3 km to the nearest source. The construction of long-distance water distribution networks is restricted by the absence of electricity and fuel shortage throughout the region.

In the North, UNICEF has supported a WATSAN programme since April 1991. In partnership with 25 NGOs and local authorities, this programme installs and rehabilitates systems in cities, towns, collective villages and re-settled villages. Contributions from donors average about US\$3.5 million yearly. Since 1993, half of this amount was used for rural areas⁷⁵. By the end of 1996, 88% of the 800 water systems in urban and semi-urban areas were reportedly providing safe water to some 2 million people (or two-thirds of the population). The running capacity of each water system varied from 60-90%, and the quantity of water per capita per day ranged between 50 and 200 litres, mainly constrained by network problems and electricity shortage.

The Multiple Indicator Cluster Survey (MICS) in August 1996 is the only household-based survey throughout Iraq reporting on water and sanitation; but is limited by information solely on access to sources and not on their function and adequacy. In the South/Centre, most of the population⁷⁶ (82%) have convenient access to a water supply from a network or other source such as a public tap or well, inside the home or within 100 metres. (Table 2.1).

⁷⁴ UNICEF/ECHO proposal, 1997

⁷⁵ UNICEF, Donor Report for USAID/OFDA Contribution, March 1997

⁷⁶ Multiple Cluster Indicators Survey, Central Statistics Organization, Iraq and UNICEF/Iraq. In the analysis, population estimates were based on households, weighted for the average number in each household

Table 2.1 : Water and sanitation access in Iraq - MICS 1996

WATER/SANITATION	IRAQ	South/ Centre	North	South/Centre		North	
				Urban	Rural	Urban	Rural
Water Access	81.1	81.7	77.1	96.2	49.8	95.4	33.7
Sanitation access	74.6	77.1	57.7	96.7	33.7	75.1	16.2

Multiple Indicator Cluster Survey (MICS), August 1996

Urban areas are almost fully served with water supply from a nearby network, tap or well, whereas only half of the rural areas have such access.⁷⁷ This result is consistent with those reported from a 1997 area/facility-based survey by GEWS, UNICEF and CARE Australia where 94% in urban areas of the South/Centre (excluding Baghdad city) and 41% in rural areas were served by a suitable water supply. The situation in the North is similar to that of the South/Centre except that access in rural areas is even less. *All the above findings from the MICS do not take into account the quantity or quality of the water.*

The water access by governorate ranged widely from 50% to 99%. Because urban access exceeds 95%, comparisons mainly reflect rural areas (see Figure 2.11).

2.3.2 Sanitation

In the South/Centre, about one-third is served by piped sewage systems with treatment plants (in urban areas only), about one-half use septic tanks and the rest use non-sanitary means for sewage disposal to pit latrines, rivers or open areas⁷⁸

In the 1980's, the Iran-Iraq war interrupted plans to improve the sewage system. Whereas cities on the Tigris and Euphrates had more modern sewage plants, those in the south were less served, in part due to the need for lifting stations to counter the flat terrain and low water table. Since 1990, as with the water sector, sanitation has greatly deteriorated. There are 13 treatment plants that are semi-operational that partially serve 9 of the 15 governorate capitals of southern/central Iraq. The limited funds available for improvement go mainly for the higher priority water supply systems.

The lack of sewage plant function results (in the cities of the south especially), in over 100 tons of raw sewage disposed daily into the major rivers. Some plants (such as in Thiqr) are completely inoperative. In others, during summer, treated water is blended with raw water directly from the source to increase supply. Decreased water pressure results from breaks and leaks in the water network. In both rural and urban areas domestic pumps are installed directly on the network. The resulting back pressure in the pipelines allows the floating sewage to infiltrate the system.

The MICS in 1996 reported in the South/Centre, about three-quarters of the population (77%) have access to a convenient flush to sewage system or flush to septic tank system, inside the home or within 50 metres (*Table 2.1*). If a covered latrine is also included, then as much as 98% satisfied the criteria. Again, like water access, urban areas are almost fully served; in contrast, only one-third of rural areas have access. In the North, the situation is less favourable with three-quarters of urban areas served and only one-in-six people for rural areas. The appropriate means of controlling sewage was not investigated. In addition, information was obtained from direct questioning, with no systematic inspection of facilities.

⁷⁷ In the South/Centre, an access of 80% to the treatment networks has been officially reported. The discrepancies between this 80% and the 50% on the surveys may reflect different perceptions of access. The same discrepancies also occur in the North, such as for sanitation access.

⁷⁸ Water and Sanitation survey of facilities in the South/Centre, 1995.

Figure 2.11
Percent of population with water supply from a nearby network, tap or well - by governorate

It is useful to compare water access by governorate. Such access is to public (network) and local facilities (well) inside the home or within 100 metres. The range was wide - from 50% in Muthanna to 99% in Baghdad. Access appears less in most governorates to the South as well as Sulamanayah. Because urban access on average exceeds 95%, comparisons mainly reflect rural areas.

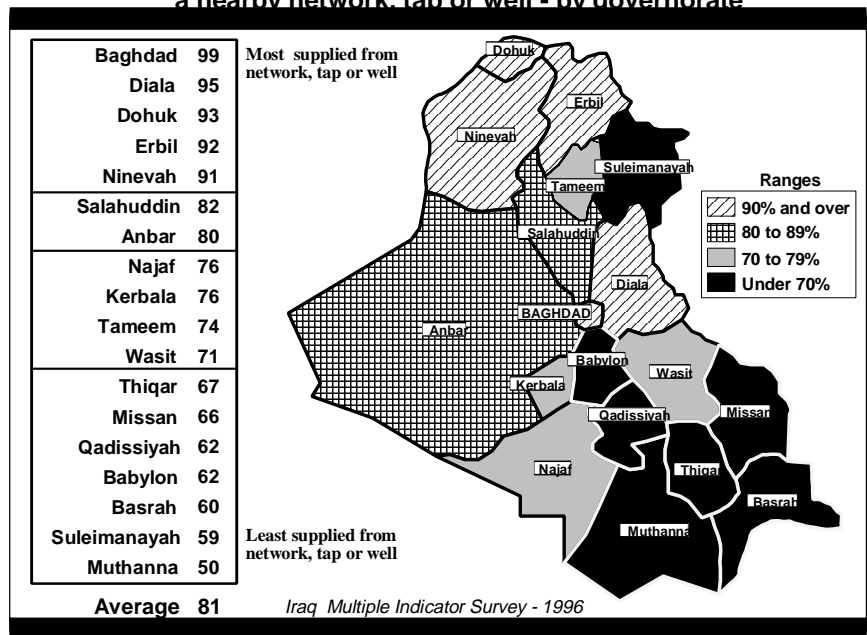


Figure 2.12
Percent of population with sanitation from flush to sewage or septic tank - Iraq 1966

It is also useful to compare sanitation access by governorate. Such access is to sewage systems or the use of a septic tank. Like water access, the range is wide - from 40% in Erbil to 98% in Baghdad. Erbil is of interest in that water access is relatively high. Because urban access on average exceeds 95% in the South/Centre, comparisons mainly reflect rural areas there. This is not the case for the autonomous northern governorates where urban access averages 75%.

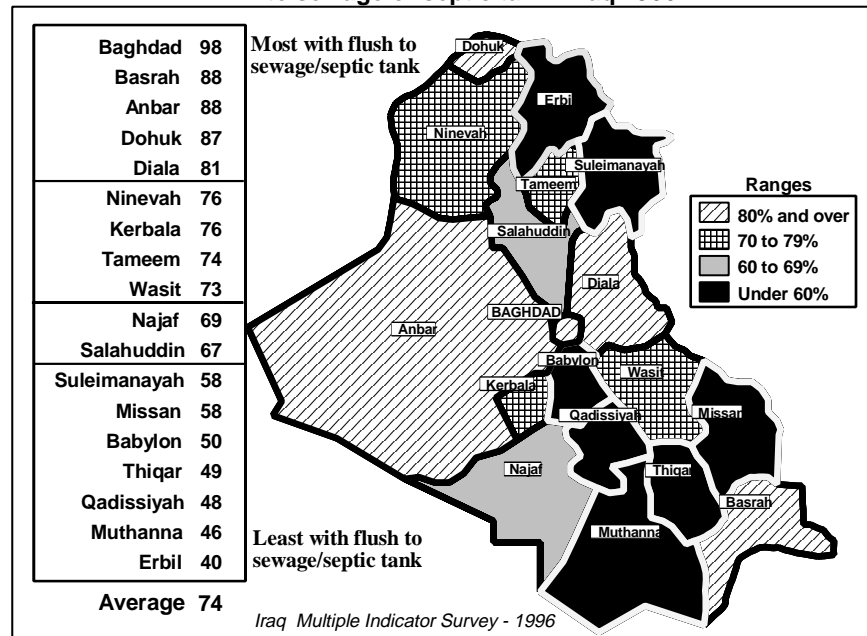


Table 2.2 : Water coverage and quantities and Sewage coverage (urban) - by Governorate, 1997

Governorate	Water coverage			Water supply (in served areas)			Sewage coverage
	% of Population Served			Litres/Capita/Day			% of Population Served (urban)
	Urban	Rural	Total	Urban	Rural	Total	
Anbar	91	70	85	155	83	137	100
Babylon	94	36	64	133	58	111	96
Baghdad	100	83	99	218	109	211	80
Basrah	90	61	82	93	58	86	16
Diala	91	45	64	246	159	212	82
Kerbala	92	49	81	136	46	122	100
Maysan	89	13	65	78	104	80	14
Al-Muthanna	93	40	66	122	97	114	88
Najaf	91	55	82	147	70	134	100
Nineveh	97	38	75	147	61	131	100
Qadisiya	95	49	74	134	91	121	100
Salah Al-Deen	66	38	52	243	146	207	99
Thiqar	77	6	42	53	30	51	11
Wasit	93	19	60	96	63	92	23
Totals	94	41	78	171	91	158	73

Source: Water and Sanitation Coverage Survey in South/Centre Iraq. UNICEF/CARE, 1997

Served areas - Water from a network (i.e., those covered). Sewage: from a sewage system.

2.3.3 Baseline Assessment and Monitoring of Water/Sanitation Needs at Local Levels

Reliable information is now available for water (urban and rural) and sanitation (urban only) coverage at the Sub-District level throughout the whole of South/Centre Iraq, due to the baseline survey of GEWS/UNICEF/CARE in 1997.⁷⁹

Results are aggregated by Governorate in Table 2.2, where there is a wide variation in all parameters. At the Sub-District level, this is even wider. Hence appropriate targeting is now possible at basic administrative levels for areas of greatest need (based on indicators such as access to and quantity of water, and prevalence of diarrhoea), to include feasibility and extent of community cooperation. Further, the baseline for programmatic monitoring is in place⁸⁰

⁷⁹ Data was collected at the Sub-district level, the smallest administrative unit in the country, for all areas (except Baghdad City). Aggregation of this data formed the coverage indicators for governorates and nation. Rural sanitation was not assessed, as they have virtually no proper disposal systems.

In urban areas, the number of beneficiaries connected to the main water supply was estimated by multiplying the number of subscribers by the estimated average number per household.

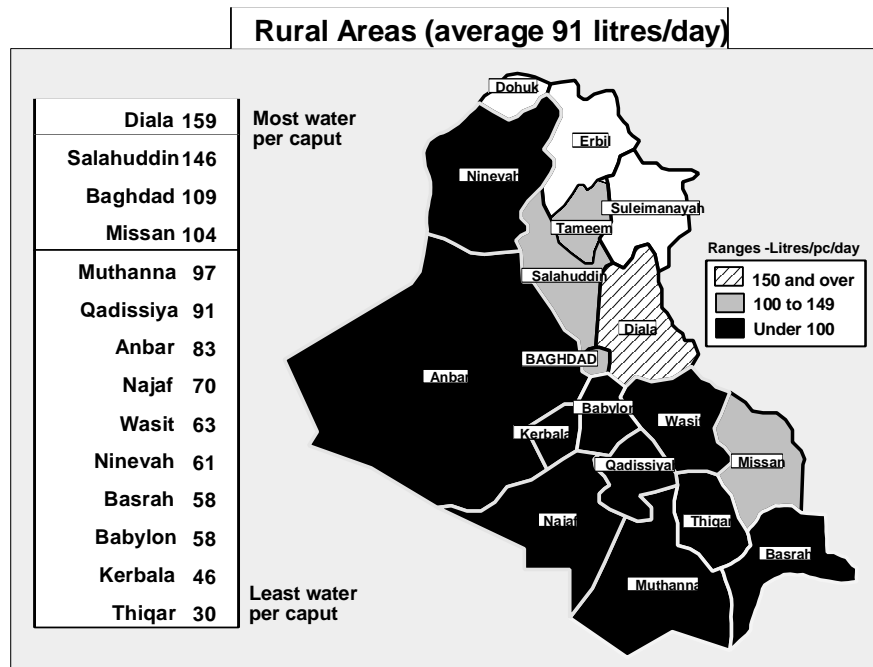
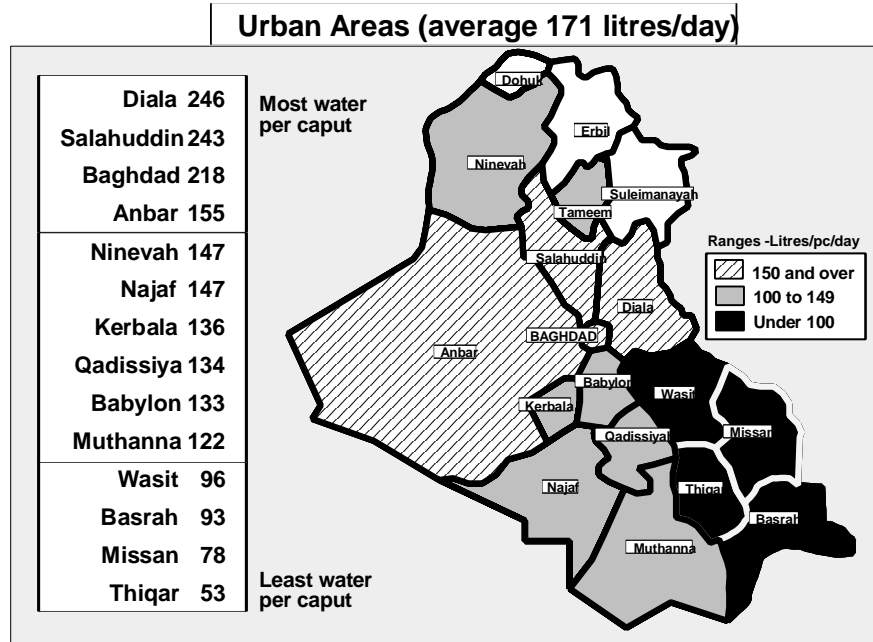
In rural areas, this was done on a village basis. In all methods, the number of people with no access was calculated by deducting the number of beneficiaries from the population for each given area.

The quantity of water supplied (**limited to served areas**) was estimated by multiplying the design capabilities of the local installations and pipe networks by reasonable efficiency factors (estimated loss from 40 to 65%), such as equipment function and power cuts. For sewage disposal (urban areas), the number of people served was estimated by the number of houses linked to the urban sewage system in the sub-district.

⁸⁰ A similar sub-district mapping system has been set up in the Northern governorates for a range of conditions and intervention.

Figure 2.13 shows the distribution by governorate of the quantity of water supplied in served areas, by capita for urban and rural areas. For urban, four of the governorates reach 150 litres/day; about half the rural are less than 80 litres/day.

Figure 2.13
Litres of water supplied per capita per day supplied only to populations covered (served by a network)
- by governorate (October, 1997)



Water and Sanitation Coverage Survey in South/Centre Iraq.
 UNICEF/CARE, 1997

Recent action: The basic strategy adopted in the sector was improving the quality and quantity of clean water. Chlorine is now being provided to the water treatment plants through the Oil for Food programme beginning 1997. Recent testing by WHO at treatment plants (up to February, 1998) show some governorates still have high bacteriological levels. UNICEF regular programme provided spare parts and essential materials for the water supply network to keep the sophisticated water treatment plants in operating condition.

In 1997, the repair and maintenance of the major sedimentation tanks of the Karkh water treatment plant in Baghdad improved the provision of safe drinking water to 3.5 million people. Other water treatment plants have been rehabilitated in Baghdad, Muthana Governorate and Amara Governorate; the total serving a further 0.5 million inhabitants. Another 150 water and sanitation systems serving 4.5 million people underwent simple repairs and maintenance. A computerized database was developed jointly by UNICEF and CARE Australia to monitor the conditions of the plants.

In the North, spare parts were made available to 545 water systems benefitting 2.5 million people, up to 1997.

2.4 Health Services

Article 24 of the CRC/Iraq decrees children's rights to the highest attainable standards of health and to facilities for the prevention, treatment and rehabilitation of illness. Services for children must be complemented with those for mothers. These rights imply appropriate measures to:

1. Diminish infant and child mortality.
2. Ensure the provision of necessary medical assistance and health care to all children with emphasis on the development of primary health care
3. Combat disease and malnutrition.
4. Ensure appropriate pre-natal and post-natal health care for mothers.
5. Develop preventive health care, guidance for participants and family planning education and services.

The country's free health care system is administered centrally by the Ministry of Health in Baghdad. It comprises the Directorates of Planning and Health Education, Health Inspection and Monitoring, Preventive Medicine, Environmental Protection, Administration and Legal Affairs, and the General Organization for Marketing Medicine and Medical Equipment. Medicines and supplies are stored in and distributed from a central focus in Baghdad - Kimadia.

Governorates are administered by the Directorate of Health for some 200 General Hospitals, Consultive Medical Centres and Public Health Clinics (serving 200,000+ people), Primary (serving about 40,000) and Secondary Health Centres (for about 10,000) and smaller Units, such as dispensaries.

Prior to the Gulf War, Iraq's health system upheld its CRC commitment. The network of primary, secondary and tertiary facilities were linked between themselves and the community with an extensive fleet of ambulances and service vehicles, and a good communication system. During the 70's, a large number of foreign physicians and nurses were employed. Most of the country's hospitals were built since then, in a modern style. Public hospitals were free and attracted patients through the Arab world.

The ratio of health staff to population (eg one doctor per less than 2,000) and of hospital beds (one per 560) adequately serviced the people. Although curative services were emphasized, with reliance on high technology and specialization, the public health system was expanding. The 1985-1990 National Plan preparation started serious attention to social mobilization campaigns, the mass media, non-health sectors and popular organizations. Primary medical care reached about 97% of the urban population, and 78% of rural residents. Child health indicators of the 1980's reflected the improved health conditions, for example the reduction of infant and under five mortality rates.

The Iraq-Iran war did affect health services, especially in those parts of the country bordering Iran. There was significant damage to institutions, although still able to cope with emergent needs. The functional capacity of the system was greatly diminished by the shortage of water and power, lack of vehicles and an inadequate communication system, shortage of specialized equipment, supplies and parts.

The combined effects of the destructive Gulf war, the subsequent domestic fighting and the economic and the prolonged trade ban have further compromised health care resources and services. Although the sanctions did not directly preclude health commodities, the indirect effects of the trade embargo and reduced government revenues greatly constrained production and importation.

The health system is affected by lack of even basic hospital and health centre equipment and supplies for medical, surgical and diagnostic services. Major surgical operations decreased from 15,125 in 1989 to 4,417 in 1996; laboratory tests from 1.49 million to 0.50 million over the same time. The exodus of certain key staff, such as nurses, due to low salaries has compounded the problems. In 1989, the Ministry of Health spent more than US\$500 million for drugs and supplies; the budget is reduced by 90-95%. Although SCR986/1111/1143 is meant to provide US\$210 million for each six month period of Phase I and II, only US\$80 million (i.e., 20%) had been received as of November 15, 1997.

A recent report adds a numerical dimension to the effect of the economic embargo on the health services.⁸¹ They conclude: "Several leading physicians comment that the conditions in hospitals and the types of pathologies are far worse than when they originally trained in the 1960's; those older recall similar situations in the 30's and 40's..... Health leaders have taken on the overwhelming task of carefully rationing an ever-dwindling supply of medicines... The government has responded by facilitating conditions for private practice... increasing user fees and private services in public facilities, substitution of nursing services with family care, encouraging health workers to innovate... Patients have responded by making greater use of private facilities and/or not using the public services... few other clinical options exist....."

Box 2, on the next page, lists their main findings.

Private, physician-owned hospitals in Iraq have a total of about 2009 beds, some 7-8% of those for public hospitals. The demand has increased since the embargo, but the cost is far beyond most patients, some ID20,000 per stay.

The autonomous northern region is equally affected as the South/Centre. Previously, there was universal access to health services in urban areas, and to most (78%) of the rural population. Of the 381 primary care centers, it is reported that only about 1/3rd now have the capability to provide maternal and child health services.⁸² The three major maternity hospitals have a combined capacity of only 450 beds, providing care to just 20% of the estimated 140,000 pregnant women annually. It is estimated that about 2/3rds of all deliveries are home-based, where the services of TBA's are required. The northern governorates increasingly depend on donor funding for essential medical supplies and medicines; however in 1996 this covered only 30-40% of needs.⁸³

The situation throughout Iraq continues to be one in which Child's Right to Survival and for the health care decreed by the CRC remains subject to overwhelming risks to life and health generated by the economic hardship.

⁸¹ Richard Garfield, Sarah Zaidi, and Jean Lennox "Medical Care in Iraq Following Six Years of Economic Sanctions." Unpublished report, September, 1996, p.3. The authors visited 11 general, 7 paediatric, 4 specialized and 2 private hospitals; and 4 public health clinics in 7 South/Centre Governorates of Iraq, from April 4-20, 1996.

⁸² UNOCHI, Baghdad "Humanitarian Requirements of the Iraqi Governorates of Dohuk, Erbil and Suleimaniyah." Baghdad, 1996, p.8.

⁸³ UNICEF/Iraq 1996 Annual Report, December 1996.

Box 2: Situation in the Health System - April 1996- (Garfield et al, 1996)

Institutional capacity:

- About one-third of all hospital beds were closed
- Average length of stay declined by more than one-half; many stay just overnight until they realize no treatment is available.
- More than half of all diagnostic and therapeutic equipment was not working
- All hospitals lacked proper illumination, hygiene, water supply or waste disposal
- Basic supplies for cleaning, linen, gloves and syringes were in very short supply or completely absent
- A 95% drop in disposable syringes (each costing ID150), resulting in epidemics of viral hepatitis, muscle abscesses and other infections, due to inadequate boiling or inoperative sterilizers

Environment

- Only one of the 24 hospitals had sheets for some patients
- Only one had a working central air conditioning
- The monthly budget for cleaning (ID1500 = \$2) is totally inadequate; the absence of soap creates a hazard for infection and parasites, such as amoebiasis
- Cleaning staff are few (in one hospital reduced from 20 to 2)
- Most hospitals had no repair or maintenance of their plumbing systems for years

Surgical care

- The number and resources for operations have reduced greatly (in Mosul, for example from 15 to 2 weekly).
- Lack of basic materials (e.g. for suturing) has forced adaptations, such as no internal closure for some abdominal surgery
- Anaesthetics are in short supply and those available are of poor quality
- Post-operative care and pain management in some hospitals is limited to aspirin
- Surgical appliances are in very short supply (e.g. plaster and plates for fractures, catheters, naso-gastric tubes for infants)
- Critic shortage of blood bags (market cost ID30,000) resulting in preventable deaths due to haemorrhage

Emergency medicine

- Preventable deaths from conditions such as asthma, fits or poisoning resulting due to lack of supplies; and an increase of life-threatening conditions such as heart attacks in hypertensives, of amputations/coma in diabetics, in severity of untreated burns.
- Those with chronic diseases must vie with those having acute conditions, risking serious complications.

Maternity care

- Decrease in maternity visits to public hospitals by about one-half.
- Those attending are more likely to have risk factors, such as poor nutrition, lack of adequate ante-natal care and conditions such as hypertension
- This high risk group has contributed to an increase in neo-natal mortality, in some hospitals this has doubled

Support services

- Only 10-20% of that required for X-ray film
- Previously record keeping was computerized; now all is done on paper, in grossly limited supply
- Ambulances are in short supply. In Baghdad, 21 are operating (compared to 350 in 1990). The major problem is shortage of tyres.

Health personnel

- Many young graduates from the 10 medical schools have left the country due to lack of opportunity for remunerative private practice
- Experienced nursing staff has reduced by more than one-half in many hospitals, due to financial difficulties
- In many wards, there is only one nurse per shift

Health centre care

- Shortage of antibiotics, pain and emergency medicines limit the number of patients treated and those treated, incomplete courses.
- Dental care limited to emergency extractions
- In the centre assessee, only half the prescribed medicines were available
- Afternoon 'private' session visits, allowed by the government since 1994, cost ID50 for a generalist and ID75 for a specialist, with the physician keeping 75% of this added income. This is much less than earned by a 'regular' private practitioner

Rural Hospitals

- Small and rural hospitals are relatively better off than major ones, being less sensitive to the lack of heating, cooling and power
- The major new limitation is the lack of ambulances for major surgical, emergency and specialist care
- Post-operative infection rate for clean wounds rose from 5% to 25% as well as the post-partum infections