

Hunger and Poverty in Iraq, 1991

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Summary. — This paper examines the impact of economic sanctions, war and internal conflicts on the well-being of the civilian population of Iraq during and after the Gulf war. Particular attention is paid to the issue of food entitlements and nutritional deprivation. The paper is based primarily on data collected by the authors in August/September 1991 through household surveys and related investigations carried out in different parts of Iraq. Economic reasoning and empirical analysis both point to very high levels of poverty, mortality and nutritional deprivation in 1991. Further, the sharp decline in living standards in this period clearly relates to the collapse of economic activity as a result of the war and economic sanctions.

1. INTRODUCTION†

(a) *Motivation and focus*

The Gulf war has caused much devastation — human, environmental and material. Bombings have been the most spectacular source of such devastation, and their impact has received much attention. But it is plausible that economic dislocation (partly a result of the bombings themselves) caused more widespread sufferings, especially among those who were more deprived and vulnerable to start with. As a poor woman told us in Basra after describing the torment of hunger during the war, “you can hide from the bombs, but you cannot hide from your stomach.”

Unlike the bombings, economic chaos in Iraq is far from over. The continuation of economic sanctions compound the delayed effects of the war in retarding the process of economic recovery. The current debate about the future course of these sanctions largely motivates this study of the impact of war and sanctions on economic activity and human well-being in Iraq. Aside from informing this debate, we hope that this study will complement other contributions to the International Study Team¹ report in providing a reliable overall picture of the human consequences of the Gulf war and the related embargo.

Our study concentrates primarily on the ability of the Iraqi population to satisfy its basic needs,

especially the need for adequate nutrition. This focus is quite natural, since (as we shall see) undernutrition and related deprivations have become quite widespread in recent months. Dealing with this problem of endemic poverty and hunger is surely the first priority in the immense task of economic reconstruction that Iraq has to face.

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(b) *Sources and methodology*

The research underlying this paper is largely based on independent field work carried out in Iraq during August 23 — September 7, 1991. During this period, we traveled without restriction throughout the country, and carried out diverse investigations with the help of an interpreter of our own choice.² Aside from a large number of interviews with household members, factory managers, UN personnel, relief workers, government officials and others, our field work included a food consumption survey covering 58 households (more than 500 individuals) dispersed through the country.

As far as secondary sources are concerned, we have made use of several statistical documents produced by the Government of Iraq *prior* to the crisis, and of some independent reports written since the end of the war (e.g., the Ahtisaari report and the Aga Khan report³). We have also used secondary data gathered in Iraq from nongovernment sources (e.g., factories and relief agencies). Statements and data obtained from government offices in the course of our visit have been used sparingly, and always with an explicit mention of the source. Our aim has been to rely as much as possible on sources that are relatively immune from manipulation, and to use other sources with great circumspection.

The analytical framework of this paper draws on notions that have been widely applied in recent research on hunger and poverty in developing countries.⁴ We consider that the ability of households or individuals to satisfy their basic needs (including adequate nutrition) depends on their "entitlements" to the relevant commodities (in the case of nutrition, these commodities would include food, drinking water, health care, sanitation, etc.). The entitlements of different households reflect what the system enables them to acquire through various channels such as production (e.g., growing food), market exchange (e.g., buying food), or public distribution (e.g., food rationing).

In Iraq, households derive their entitlements to food and other basic commodities from two crucial sources: private income, and public provisioning. For most households, private income is earned mainly through employment (either wage employment or self-employment); entitlements from this source depend quite crucially on variables such as production, labor demand, wages and prices. Important forms of public provisioning in this context include health services, educational facilities, epidemiological protection, water supply and food rationing. Given that other contributions to the International Study Team

report deal with these public services in some detail, we have decided to concentrate on what we regard as the most important form of public involvement in the provision of basic needs in Iraq: the system of public food distribution.

Employment and the *public distribution system*, are, thus, the two central themes of our analysis.

(c) *Outline of the paper*

The outline of the paper is as follows. Section 2 describes the main features of the Iraqi economy, and its evolution through war and sanctions since August 1990.⁵ The process of economic recession, and its impact on employment and wages, is examined more closely in section 3. We find that real labor earnings (deflated by a food price index) have dropped by a factor of at least 15 during the last 12 months. A large majority of workers in Iraq now earn real wages lower than those of, for example, agricultural laborers in rural India.

This finding leads us, in section 4, to consider the role of the public distribution system in protecting the population from starvation. Our assessment is that, contrary to popular belief, Iraq's public distribution system is an exemplary one in terms of coverage, equity, efficiency, and amount distributed. As things stand, however, it covers at best one half of the nutritional requirements of the population.

Section 5 discusses the living conditions of Iraqi people during and since the war. There is every indication that famine conditions prevailed during the war, when both market acquisition and public distribution of food were severely disrupted. After the war, the general nutritional situation improved somewhat, as food prices declined from their war-time peak and public distribution resumed. This momentary improvement, however, has not led to a sustained process of economic recovery. Poverty and nutritional deprivation remain endemic, and for the poorest sections of the population, life grows increasingly difficult.

Section 6 presents the conclusions, and relates them to current debates about the future course of economic sanctions.

2. BACKGROUND

(a) *The Iraqi economy*⁶

(i) *General features*

Oil has dominated all areas of the Iraqi economy at least since the 1960s. It made up over

90% of Iraq's exports until the imposition of sanctions one year ago. At its peak the production capacity has been over three million barrels a day, and Iraq has proven reserves of more than 100 billion barrels. Most oil-related activities take place within the public sector, and proceeds from oil exports are the most important source of government revenue. Despite its financial predominance, the oil sector provides direct employment to just over 1% of the workforce.

During the last 20 years, agricultural production and employment have respectively stagnated and declined. At the time of the last census in 1987, agriculture (together with forestry and fishing) employed only around 12% of the workforce.⁷ This decline reflects a rapid expansion of employment opportunities in the cities and high rates of urbanization. Iraq, which was until only 30 years ago a predominantly rural and agrarian society, now has over 70% of its population in urban areas.

Agricultural production has been plagued with instability, as the main food-growing areas lie in the rain-fed northern regions (nonfood production represents only a very small part of the agricultural sector). There is only one cropping season, and the harvest is almost totally dependent upon the timing and adequacy of rainfall. In the irrigated areas of the south, environmental problems such as water-logging and salinization have held back production.

In a good year like 1988, which saw a bumper harvest, cereal production in Iraq covers about 40% of total consumption (the corresponding proportion for wheat, the main staple, is about 25%). A poor harvest such as the one experienced in 1989 could barely cover 15%. In recent years, food imports have tended to hover around 25% of total merchandise imports.⁸

Early industrial development was largely in the public sector. This included both capital-intensive heavy industries, such as iron and steel, petrochemicals (centered around Basra which has Iraq's main sea port), and fertilizers, as well as consumer-goods industries — many of which are involved in processing and packaging imported raw materials. Much of the industrial activity around Basra was disrupted during the Iran-Iraq war with the destruction of the port. Another consequence of that war was the rapid development of industries related to military production.

The service sector (public and private combined) is by far the largest employer in Iraq. Almost half the total workforce was in this sector in 1987. Though disaggregated data are not available, it is fair to assume that quite a large number of the service-sector employees were, in

fact, army conscripts.⁹ Many others are in civilian public services including administration and the well-developed social services such as health and education. Social services in Iraq are acknowledged by most observers as among the best in the region, and doubtless employ large numbers of people.

Taking together employment in public-sector industries and in public services (excluding the army), the government is by far the most important employer. Its capacity to function as such ultimately depends upon oil revenues. These also indirectly support a great deal of private-sector activity, to the extent that foreign exchange earnings from oil sales are used to pay for imported raw materials and equipment. The public sector therefore provides a direct and critical link between oil production (and export) and the rest of the Iraqi economy.

(ii) *Recent developments*

The long war with Iran had a distorting impact on Iraq's economy, and slowed down its development. For a period of 10 years high levels of financial and human resources were diverted toward the war. Labor shortages were dealt with by large-scale immigration of workers from Egypt, Sudan and other countries (a majority of these foreign workers left Iraq soon after the invasion of Kuwait).

In the aftermath of the war with Iran, there was a brief period of reorganization and reconstruction before the events of last year undermined the development prospects of the country. During these two peaceful years, substantial changes were initiated in the economy. Ambitious privatization programs were implemented in both the agriculture and light manufacturing sectors.

Starting in 1988, nearly all industries producing consumer goods for the domestic market were handed over to private concerns (often with former managers retaining a key role). This should not be taken to mean that state involvement with consumer industries ended; the private industrial sector continues to rely on the government for foreign trade activities.

The economy was still in a process of transition at the beginning of the recent crisis in August 1990. The state sector remained the main engine of economic activity, and the main linkage between national oil revenues and private incomes, in spite of the beginnings of change toward greater market orientation.

(b) *The impact of war and sanctions*

(i) *Initial terms of the embargo*

The impact of war and sanctions on the

economy of Iraq goes back to early August 1990 when, following the invasion of Kuwait, Resolution 661 of the UN Security Council urged all member states to enforce a strict embargo on all imports to and exports from Iraq. The only items excluded from this embargo were "supplies intended *strictly* for medical purposes, and, *in humanitarian circumstances, foodstuffs*."¹⁰ The same resolution also set up a Committee of the Security Council (hereafter the Sanctions Committee), "consisting of all the members of the [Security] Council," to monitor the embargo and "to report on its work to the [Security] Council with its observations and recommendations."

Oddly, *food supplies and medical supplies* are treated very differently in Resolution 661. Resolution 666, passed a few weeks later, clarified the circumstances and modalities under which food might be exempted from the embargo on exports to Iraq. After "emphasizing that it is for the Security Council, alone or acting through the [Sanctions] Committee, to determine whether humanitarian circumstances have arisen," Resolution 666 states:

if the [Sanctions] Committee, after receiving the reports from the Secretary-General, determines that circumstances have arisen in which there is an urgent need to supply foodstuffs to Iraq or Kuwait in order to relieve human suffering, it will report promptly to the Council its decision as to how such needs should be met; . . . in formulating its decisions [the Sanctions Committee] should bear in mind that *foodstuffs should be provided through the United Nations in co-operation with the International Committee of the Red Cross or other appropriate humanitarian agencies and distributed by them or under their supervision* in order to ensure that they reach the intended beneficiaries.¹¹

In the absence of a decision by the Sanctions Committee to recognize the existence of urgent humanitarian needs, it was impossible, before and during the war, to deliver any foodstuffs (even baby milk) to Iraq without violating the embargo. This embargo, it should be mentioned, was strictly applied by the neighboring countries (these countries were all hostile to Iraq, with the exception of Jordan, whose position in the conflict was far too delicate to allow any detectable violation of the sanctions). Illegal smuggling may well have taken place, but certainly not on the scale required to meet a substantial proportion of the enormous food needs of the Iraqi people — more than 10,000 tons *per day* for foodgrains alone.¹²

An *effective* embargo also applied to medical supplies until well after the end of the war. This was due to a number of factors including the blockade of the port of Aqaba, the difficulties

involved in obtaining formal exemptions from the Sanctions Committee, and the Committee's extremely narrow interpretation of the term "supplies intended *strictly* for medical purposes."¹³ The consequences were particularly tragic during the war, when disastrous living conditions prevailed inside Iraq and yet humanitarian supplies were almost entirely cut off (with a few exceptions including one UNICEF convoy) as a combined result of bombings and the embargo.

(ii) *The war and the ceasefire resolution*

The Gulf war gave the *coup de grace* to an economy already crippled by more than five months of rigorous sanctions. Bombings caused extensive damage to the economic infrastructure, including oil refineries, power plants, bridges and telecommunications. War damage and continued sanctions led to a virtual collapse not only of general economic activity and employment but also of basic public services such as health care, water supply, food distribution, sewage and sanitation.¹⁴

In March 1991, an official UN mission led by Under-Secretary-General Martti Ahtisaari visited Iraq and Kuwait, and submitted a report to the Secretary-General on the humanitarian needs of these countries (hereafter the "Ahtisaari report").¹⁵ This report, echoing earlier reports of WHO/UNICEF and the Gulf Peace Team, warned that "the Iraqi people may soon face a further imminent catastrophe, which could include epidemics and famine, if massive life-supporting needs are not rapidly met."¹⁶ After reviewing the damage caused by war and sanctions on essential civilian services, the report recommended that Iraq should be allowed to import food as well as a number of other items closely related to essential civilian needs (e.g., spare parts and equipment to restore water supply and sanitation systems).

Resolution 687 of the UN Security Council (the "ceasefire resolution" of early April) effectively endorsed these recommendations.¹⁷ It determined that foodstuffs could henceforth be imported by Iraq on simple notification of the Sanctions Committee, while "materials and supplies for essential civilian needs as identified in the [Ahtisaari] report" could be imported under a simplified "no-objection procedure." On the other hand, the same resolution also reaffirmed Resolutions 661 and 666. The general embargo on *imports* was to be reviewed every sixty days by the Security Council "in light of the policies and practices of the government of Iraq."¹⁸

As far as *exports* are concerned, Resolution 687 states that the embargo continues until the

Security Council is satisfied that Iraq has completed all actions demanded by the same resolution (these actions relate mainly to the destruction of weapons). It also, however, empowers the Sanctions Committee to approve exceptions to the prohibition against exports from Iraq "when required to assure adequate financial resources on the part of Iraq" to import essential commodities exempted from the embargo on humanitarian grounds.

(iii) *Further developments*

Since the end of the Gulf war, many assessment missions have visited Iraq and produced reports on the living conditions that now prevail in different parts of the country. These reports show an amazing degree of agreement on the basic facts: the economy is devastated; public services have severely deteriorated; people are ill, undernourished, unemployed, impoverished and demoralized.¹⁹ To cite only one study, the report of the Harvard Study Team (May 1991) estimated that the number of excess deaths among children aged under five in 1991 might turn out to be as high as 170,000.

The latest report, produced by an official UN mission led by Prince Sadruddin Aga Khan in mid-July 1991 (hereafter the "Aga Khan report"), provides sector-wise estimates of Iraq's financial needs "not only concerned with addressing immediate requirements of humanitarian scope and nature, but also with averting a crisis in the next six to twelve months."²⁰ A careful reading of the report suggests that the assessed "needs" include the resources required to repair war damage in essential sectors of the civilian economy such as power generation and telecommunications. These needs, calculated over a one-year period, add up to US\$22 billion (of which US\$3.6 billion for food, health care, water and sanitation). Under a more conservative scenario of "greatly reduced services," the report arrived at a total figure of US\$6.85 billion for a one-year period (of which US\$2.4 billion for food, health care, water and sanitation). The report recommends that Iraq should be allowed to use funds from limited oil sales (or from blocked accounts), under United Nations supervision, in order to import a range of commodities (specified in the report) required "to alleviate the priority needs identified by the Mission in the areas of food supply, health services, water and sanitation, and power generation, the oil sector and telecommunications."²¹

It is partly in response to these recommendations that the Security Council adopted Resolution 706 (August 15, 1991), allowing Iraq limited sales of oil and oil products over a period of six

months. The proceeds of these sales are to be spent on essential humanitarian imports under UN supervision, after deduction of an appropriate sum for war compensation, weapons destruction and related purposes. The resolution states that the size of the allowed sales should be "sufficient to produce a sum to be determined by the [Security] Council following receipt of the report of the Secretary-General requested in paragraph 5 of this resolution but not to exceed 1.6 billion United States dollars."²² The report requested in paragraph 5 is expected to describe the measures necessary to implement the resolution, as well as "estimates of the humanitarian requirements of Iraq."²³

The report in question was submitted in early September. As far as human requirements are concerned, this new report essentially reaffirms the findings of the Aga Khan report. Confining itself to the most basic humanitarian needs, it states:

In conclusion, taking into account food and agricultural input needs, as well as requirements for health, water, sanitation and supplemental feeding programmes, the total estimates of humanitarian requirements is \$1.73 billion net of deductions for the other purposes stipulated in resolution 706 (1991).²⁴

The needed "deductions" are estimated in the same report at US\$666.3 million. Bearing in mind the limit of 1.6 billion imposed by Resolution 706, the report concludes with implacable logic:

The amount of \$933.7 million estimated to be available for purchase of humanitarian assistance is approximately \$800 million below the revised estimates of \$1.73 billion (for essential humanitarian requirements).²⁵

Elsewhere, the Secretary-General's report adds:

In the light of these findings, the Security Council may wish to review its earlier decision to limit Iraq oil sales to \$US 1.6 billion.²⁶

In spite of this recommendation, the Security Council reaffirmed the limit of US\$1.6 billion when it reviewed and approved the procedures suggested in the same report for implementing Resolution 706. At the time of writing, these procedures remain a subject of disagreement between UN agencies and the government of Iraq.

3. EMPLOYMENT AND INCOMES

(a) *Overview*²⁷

As was explained in the introduction, the

poorer sections of the Iraqi population earn their income predominantly through employment: either wage employment (as in the industrial and tertiary sectors) or self-employment (as in the "informal" sector and much of the agricultural sector). Real earnings from employment depend on three variables: the employment rate, the level of money wages, and the price level.²⁸

At the risk of some simplification, and considering the workforce as a whole, one can say that, since August 1990, these three variables have evolved as follows: (i) the level of employment has more or less stagnated, (ii) money wages have also roughly stagnated, and (iii) prices have increased very sharply. The net result has been a dramatic reduction in real earnings.

While examining the diverse forces that have produced these overall trends, it is convenient to begin by considering wage employment in the secondary and tertiary sectors.²⁹

In the private industrial sector employment has considerably declined during the last 12 months due to shortages of raw materials, spare parts and power supply. Over the same period, money wages have risen only marginally. In both public sector industries and services, nominal wages and employment have been maintained at the pre-crisis levels, with the important exception of the armed forces, which have seen large-scale demobilization.

In the absence of comprehensive social security provisions for the unemployed, the decline of wage employment in the industrial and tertiary sectors has led to a roughly corresponding expansion of self-employment in the "informal" sector (especially street vending). Most of those who lost their jobs in the industrial and tertiary sectors have taken up an informal income-earning activity of some kind. Indeed, remaining idle is now a luxury that few can afford.

Information collected in the course of our field work indicates that average monthly earnings in the informal sector are now similar to those of unskilled workers in wage employment, and also quite close to what they were one year ago. In other words, the "replacement income" earned by those who shifted from wage employment to the informal sector is quite similar (in money terms) to their initial income. For those who have retained their initial occupation, incomes have also remained more or less constant.

Thus, whatever the precise extent of the recent shift toward informal occupations, employment and monthly earnings in the secondary, tertiary and informal sectors *combined* must have changed relatively little in the last 12 months.³⁰

During the same period, consumer prices have considerably risen. The food price index, in

particular, increased by 1,500 — 2,000% between August 1990 and August 1991. These sharp price increases have led to a corresponding collapse of real earnings in the secondary, tertiary and informal sectors.

In agriculture, a different scenario took place. With output prices rising more or less at the same rate as the consumer price index, real earnings must have been approximately proportional to the level of output.³¹ The latter was well below normal in most areas, due to poor rainfall and to other constraints directly related to the war and sanctions (lack of power, spare parts, seeds, fertilizers, pesticides, etc.). Available estimates suggest a decline in output of the order of 70–75% compared with the previous year. The implied decline in real earnings is not as large as for other sectors of the economy. Given the relatively minor importance of agriculture in the Iraqi economy, however, the difference in the rate of decline of real earnings between agriculture and other sectors could be ignored without great loss of precision for the purpose of the present argument.

To summarize, real private incomes from employment have been, as an approximation, inversely proportional to consumer prices during the last twelve months.³² In terms of purchasing power over food, private incomes have dropped by a factor of 15–20 (i.e., 5–7% of their initial levels) since August 1990.

(b) *Recent trends in food prices*

Price movements in Iraq since the introduction of sanctions have been primarily influenced by three factors: (i) short-term local shortages and speculation, (ii) quantity constraints on the supply of imported goods due to sanctions, and (iii) depreciation of the unofficial exchange rate of the Iraqi dinar.

The first factor was certainly at work during the war, when frequent air raids and extreme petrol shortages disrupted the transport system and prevented markets from functioning normally. Though no price surveys were conducted at that time, anecdotal evidence suggests that localized shortages and disruptions led to phenomenal increases in food and other prices. Wheat was reportedly sold at over seven dinars per kg (about 140 times the mid-1990 price).

These war-time price increases caused acute hardship. Prices did eventually come down in the aftermath of the war as markets started functioning again and transportation was restored. A factor that almost certainly helped in this direction was the removal of petrol rationing and a drastic reduction in the price of petrol (the

current level is similar to the precrisis one, which is extremely low by international standards).

Food prices nevertheless remained much above the presanctions levels. Some relevant results of our price surveys, which covered rural as well as urban areas in most Governorates, are reported in Table 1.³³ With the exception of some fresh vegetables, we did not find much variation in the prices of foodstuffs across the country. The lack of significant interregional price disparities is indicative of a relatively efficient internal food market.

Persistently high food prices after the war have been widely attributed to sanctions-induced limits on the quantum of imports, leading to supply constraints. This explanation is persuasive

for the period preceding the lifting of restrictions on food imports in April 1991. According to a market survey conducted by the World Food Program, the average price of wheat flour stood at around six dinars per kg in March. Since then there has been a decline to the present level of 2–2.5 dinars. This price nevertheless remains 45 times higher than one year ago, and since April there has not been much movement (see Figure 1). The persistence of high food prices beyond April relates to drastic changes in the organization of trade that followed the imposition of sanctions.

Prior to the crisis, the government exercised monopoly rights over imports of most foodstuffs. Officially it is claimed that the private sector was

Table 1. *Food price increases in Iraq since sanctions began*

Food Item	Price per unit* (Iraqi dinars)		Percentage increase over 1 year
	Aug 90	Aug 91	
Wheat flour	0.05	2.42	4,431%
Milk (powdered)	0.75	27.33	3,561%
Bread (per piece)	0.01	0.33	2,757%
Baby milk (tin of 450g)	0.45	10.00	2,122%
Sugar	0.20	4.42	2,108%
Cooking oil	0.48	10.33	2,038%
Rice	0.23	4.08	1,701%
Tea	1.70	23.67	1,292%
Tomato	0.27	1.25	369%
Chickpeas	0.65	2.92	349%
Potatoes	0.45	1.92	326%
Eggs (carton of 30)	3.83	12.50	250%
Onions	0.37	1.25	241%
Dates	0.52	1.75	239%
Meat (lamb)	7.00	16.33	133%
Meat (beef)	6.83	16.90	147%
All items† (high case)	—	—	1,904%
All items† (low case)	—	—	1,446%
Cost (at current prices) of the average 1990 food basket for a family of six ("low case" assumptions)	66.00	1,010.00	1,446%

Sources: Household and market surveys, August-September 1991; FAO, 1977; unpublished data from the Ministry of Trade, Government of Iraq. August 1990 prices were obtained by recall.

*The commodity unit is 1 kg unless stated otherwise. For each commodity, the stated price is an unweighted average of the prices reported in Mosul (northern Iraq), Baghdad (central Iraq) and Basra (southern Iraq).

†Food price indices are weighted averages of individual commodity prices; the weights are the corresponding shares of total food expenditure in 1990. Incomplete information on 1990 expenditure patterns was supplemented with more detailed information for 1971. The "high case" and "low case" correspond to different assumptions about the evolution of expenditure patterns between these two dates.

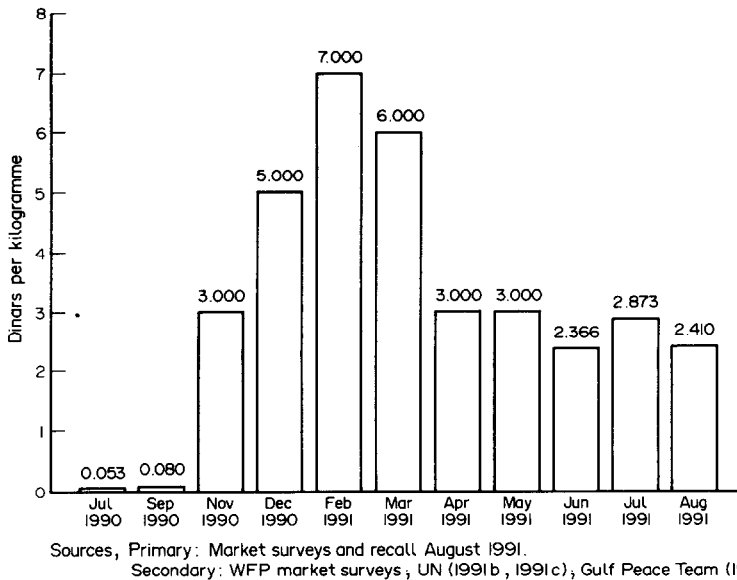


Figure 1. Market price for wheat flour.

allowed to compete directly with public-sector food marketing, but high government procurement prices and subsidized consumer prices made competition nearly impossible, at least in the case of the main staple items.

With the imposition of sanctions in August 1990, the private sector became a competitive food importer for the first time. Traders had to find their own sources of hard currency, and this was only possible at the unofficial rates. Even prior to the sanctions the unofficial rate was about 13 times higher than the official one (the price of the Iraqi dinar was fixed at US\$3.2, while in the black market four dinars would exchange for one dollar). With the onset of the sanctions the dinar further lost value, and the present rate is around one dollar for eight dinars. For imported goods that were previously priced using the official exchange rate, market prices can be expected to have risen about 25 times since August 1990 as a result of exchange rate movements alone. Observed increases for some such items (e.g., wheat flour) were in fact much higher. This is due to the loss of government subsidy, which compounds the effect of exchange rate movements.

It is worth noting that the present price of wheat flour is in fact close to the price that prevails in Jordan, which is Iraq's main trading partner. This "arbitrage" suggests that quantity constraints on import (and hence supply) are no longer binding. Comparing market prices of

other staple foods between Jordan and Iraq, we also find almost complete arbitrage at the unofficial exchange rate. This is a significant point, implying that nutritional deprivation in Iraq is not a question of deficient food supply, but one of inadequate purchasing power.

The fact that food prices in Iraq are now quite close to competitive import prices has another important implication. It suggests that, in the future, food prices will come down only if the exchange rate rises, or if the government resumes its system of comprehensive subsidies. Neither development seems likely as long as sanctions remain in place in their present form.

The price-index calculations presented in Table 1 indicate that food prices as a whole have risen by a factor of 15–20 since August 1990.³⁴ The implications of these price increases for households can be easily seen from the last row of this table. Whereas the average monthly food basket for a family of six persons with one infant cost 66 dinars in August 1990, the same purchases cost over 1,000 dinars in August 1991. Even after taking into account the provision of low-price food rations through the public distribution system (on which see section 4), this figure remains as high as 800 dinars per month. This estimated cost of maintaining precrisis nutritional standards compares with monthly wages of 120–250 dinars for most unskilled and semi-skilled occupations.³⁵

In the next section we examine the other

important source of food acquisition, the public distribution system, before summing up the implications of these economic changes for nutritional well-being and other basic needs.

4. THE PUBLIC DISTRIBUTION SYSTEM

This section discusses the functioning of Iraq's public distribution system, and its contribution to the basic needs of the population. We shall concentrate primarily on the distribution of *food*, partly because of the importance attached to nutritional issues throughout this report, and partly because food accounts for the lion's share of commodities delivered through the public distribution system.³⁶ The analysis is partly based on a "food consumption survey" involving detailed interviews with 58 households dispersed throughout the country (this survey is further discussed in Section 5).

Our main findings are that Iraq's public distribution system is remarkably comprehensive, equitable, efficient and reliable. The suspicions and criticisms it has attracted in public debates are not well founded.

These findings, in fact, will not seem terribly surprising to those acquainted with the recent history of public provisioning in Iraq. Indeed, the government of Iraq has a long record of active involvement in health care, education, food distribution, social security and related fields. Notable achievements in these fields include free public health care for all, free education at all levels, food distribution at highly subsidized prices, and income support to "destitute" households falling below a prespecified poverty line. The efficient management of food rationing since August 1990 is a predictable extension of these earlier achievements.³⁷

(a) *Organizational and administrative features*

Iraq's rationing system, in its present form, was introduced in August 1990 — a few weeks after the inception of sanctions.³⁸ The crucial actors of this system are the government, the consumers, and the private "agents" who act as retail sellers on behalf of the government.

The role of the government is to store adequate amounts of food (either imported from abroad or procured within the country), distribute "ration cards" to the population, and supply the agents. Food is supplied to the agents every month according to the number of "coupons" which they are able to produce. These coupons

are collected by the agents from their customers, who detach them from the ration cards.

The agents, most of whom are ordinary grocers with a small clientele, collect coupons every month from their customers, pass them to the government in exchange for food supplies, and then supply the food to the customers. They charge the official ration prices and collect a commission of 10% on sales (the remainder of the proceeds belong to the government). In August 1991, there were (according to the Ministry of Trade) 48,023 agents serving local customers throughout the country.

The task of consumers is simply to present themselves every month at the local ration shop with their ration card, give the required coupons to the agent (one for each commodity), pay for their ration and take it home.

A few other features of the system deserve immediate mention. First *every* resident household in Iraq is entitled to a ration card. The rations are identical for everyone throughout the country, irrespective of age, sex, region, nationality or any other criterion.³⁹ The prices charged for the rations, which are fixed by the government, are also uniform.

Second, it is not so easy for agents to cheat their customers. They cannot claim food supplies from the government unless they can present coupons, and cannot obtain coupons from the customers unless they give them a satisfactory deal. Since prices and rations are uniform throughout the country, households tend to be well informed about their entitlements, and complaints are severely dealt with.

Third, the customers themselves also have a strong interest in participating vigilantly in the system. Indeed, as will be shown shortly, food rations are a virtually indispensable means of sustenance for a majority of Iraqi households.

In conclusion, it is worth noting that Iraq's food distribution system relies on an effective combination of public initiative and private activity. The strong arm of the state allied with the invisible hand of private incentives succeed (as we shall see) in averting both the inequities of market exchange and the inefficiencies of bureaucratic control.

(b) *Size and implicit value of rations*

What do food rations represent for the recipient households? A common way of approaching this question is to compare the quantities distributed with overall nutritional needs. In Iraq, public distribution accounts for quite a large share of food consumption (Table 2

Table 2. *Composition, cost and implicit value of food rations, August 1991*

Commodity	Quantity Supplies* (kg)	Ration price (in dinars)	Market price (ID)	Implicit value (ID)
Wheat flour	8.00	0.115	2.417	18.416
Rice	1.50	0.325	4.083	5.637
Sugar	1.50	0.225	4.417	6.288
Cooking oil	0.25	0.410	10.333	2.481
Tea	0.05	2.000	23.667	1.083
Baby milk	1.80	0.750	22.222	38.650
Full ration basket for a family of six (one child under 1 year)	—	11.088	219.263	208.175

Source: Household survey, August-September 1991; Ministry of Trade, Government of Iraq. Data from these two sources on the composition and cost of food rations are in close agreement.

*Per person per month.

shows the quantities of different items included in the monthly rations). For instance, rations of wheat flour (the main staple foodgrain) represent about a half of average precrisis consumption. Considering all food items together, individual food rations provide about 1,400 calories per day, or a little less than one half of average precrisis calorie intake.⁴⁰

Since rations are not distributed free of charge, however, a more economically meaningful measure of the implicit value of food rations can be obtained by subtracting their value at official prices from their value at market prices.⁴¹ The relevant calculations appear in Table 2. From this angle, too, we find that food distribution represents a major addition to the purchasing power of Iraqi households. The monthly income-in-kind from food rations for a household of size six (208 dinars) is considerably larger than the monthly salary of, for example, a soldier or unskilled worker.⁴² The role of Iraq's public distribution system in protecting the most vulnerable households from destitution is evidently crucial.

(c) *Coverage and equity*

As was mentioned earlier, all households in Iraq are entitled to equal per capita food rations. This *principle* is undisputed, but how it applies in practice is a different matter.

Addressing this issue was one of the principal aims of our field work. In the course of this work, we interviewed as many households as possible throughout the country (the formal consumption

survey alone covered 58 households), making it a point to visit remote villages, impoverished neighborhoods, displaced households, ethnic minorities and areas where tensions between the local population and the government were known to be rife. Not only did we fail to find a single household without a ration card, we also failed to find a single person who knew a household without a ration card.

An important exception needs to be made, however, for Kurdish areas outside government control.⁴³ In these areas, the government simply does not have the authority required to administer a public distribution system. At the moment, food distribution in these areas is carried out on an *ad hoc* basis by UN agencies, often in cooperation or consultation with *pehmerga* relief organizations. The transition from these temporary provisions to a system that is compatible with sustainable administrative arrangements for this territory requires close attention. This is especially so in view of the intensity of humanitarian needs in these areas, and of the possible departure of UN agencies at the end of the year. This particular problem, however, is already the object of a great deal of expert scrutiny, and in this general report we can do little more than mention it and stress its importance.

Closely related to the question of coverage is that of equity between different sections of the population (distinguished by residence, occupation, ethnicity, ideology or similar criteria). A good test, in this respect, would be to check whether everyone receives the same quantity of wheat flour (the main component of food rations), or whether some receive more than

others.⁴⁴ As Table 3 indicates, out of 41 households for which we have information on this, 36 reported receiving the official rations of eight kg per person per month. Four households reported slightly smaller rations (6–8 kg); one household reported receiving larger rations (about 9 kg).⁴⁵ Thus, all our respondents did receive food rations that are very close (in most cases, equal) to the official norm.

This is not to say that irregularities of distribution are completely absent. We cannot exclude, for instance, some regional discrimination based on the *quality* of food distributed. Moreover, it would be surprising if private agents invariably gave their customers their exact due and charged them the exact price (in fact, a number of respondents mentioned the possibility of some petty cheating and admitted that they did not always check the weight of each item in their rations). We could not, however, find any evidence of systematic discrimination against particular sections of the population on a significant scale.

It may seem surprising that a regime as

repressive and intolerant as that of Saddam Hussein should turn out to be so considerate and impartial in matters of food distribution. There is, however, nothing new in this observation. Authoritarian rulers over the world, from Pinochet in Chile to Ershad in Bangladesh (not to forget the al-Sabah family in Kuwait), have not hesitated to utilize food hand-outs as a way of defusing tensions and containing dissent. Nor has the potential of food as a political weapon been lost sight of by either side in the Gulf conflict.

(d) *Efficiency and reliability*

Our food consumption survey included questions about the perceptions of respondents regarding the functioning of the public distribution system. These questions, and the discussions that surrounded them, gave us an opportunity to probe into a number of possible shortcomings of the system, including delivery failures, delays, queues, red tape, deficient food quality and corruption.

Table 3. *Survey of the public distribution system: Summary results*

Households' experience of the PDS	Number	Proportion
(1) Delivery failures:		
No delivery failures since August 1990	38	70%
Failures during the war and civil conflicts*	15	28%
Failures at other times	1	2%
(2) Delays in supply:		
No delays	24	50%
Short delays (1–7 days)	18	38%
Long delays (8–30 days)	5	12%
(3) Queues:		
Queues develop from time to time	7	12%
No queues	50	82%
(4) Reported size of wheat flour rations in August 1991:		
8 kg per person (official amount)	36	88%
Less than 8 kg	4	10%
More than 8 kg	1	2%
Sample mean : 7.93 kg		
Ration price of wheat flour, August 1991 (ID/kg)	Price	Standard deviation
Official	0.115	—
Sample mean	0.141	(0.026)
Sample mean, urban	0.139	(0.025)
Sample mean, rural	0.148	(0.028)

*Out of these 15 households, 6 reported that they were compensated during the month that followed delivery failure.

Source: Household survey, August–September 1991. Since information was not obtained on each topic from each respondent, the total number of responses for particular topics is usually smaller than the sample size (58).

A very positive aspect of the public distribution system is that *delivery failures* (in the sense of a discontinuation of food rationing in a particular locality in a particular month) appear to be extremely rare. As Table 3 indicates, only one of the 58 respondent households stated that it had ever failed to obtain monthly food rations after the period corresponding to the war and the internal conflicts that followed. During the latter period, delivery failures did occur quite frequently, chiefly due to the collapse of transport and communications (in some cases, but not all, losing households were compensated for these delivery failures the following month). For all months following this troubled period, 57 out of 58 households report regular deliveries.

A related question is that of *delays*. In this respect, the record is not completely unblemished. Occasional delays in delivery were reported by 50% of the respondents (see Table 3). The length of these delays, however, rarely exceeded a few days.

Queues were reported to be rare. Most households emphasized that there was no need to queue, or that queues were quite short, as they were entitled to collect their rations from the local agent at any time. Some respondents pointed out that the absence of queues depends critically on the efficiency of the local agent. Many agents prepare parcels for their customers, containing the whole bundle of rationed items in the prescribed quantities, and hand these parcels to the recipients whenever they visit the shop.

Few allegations of *corruption* came up in the course of our survey. A number of households stated that an unscrupulous agent can always manage some cheating on the quantities. There is also some evidence that the prices charged by agents are slightly higher than the official prices (see Table 3).⁴⁶ The sums involved, however, are quite tiny as a proportion of the total value of food rations. Harsh penalties seem to provide effective deterrents against the more serious forms of corruption.⁴⁷

When they were asked to state what they perceived as the shortcomings of the public distribution system, and the scope for improvements, most of our respondents had remarkably little to say.⁴⁸ The answers reflected general satisfaction with the system, and an appreciation of its relatively efficient functioning. The only complaint we frequently heard related to the poor quality of the food distributed (e.g. wheat flour that needs to be mixed with higher quality flour purchased on the market in order to make decent bread). Aside from this, there was a general demand for larger rations, as existing rations were deemed insufficient to meet food

needs while market purchases were prohibitively expensive.

To conclude, the subjective assessments of households provided further indications of the high standards of public distribution in Iraq.

(e) *Public distribution and the army*

It is sometimes asserted that the army is the chief beneficiary of food distribution in Iraq, and that supporting the public distribution system would amount to supporting the armed forces. On this question, a few observations are due.

There may well be some truth in the notion that soldiers and their families get a somewhat disproportionate share of government-provided food. This happens in two ways. First, families with a member in the army can continue to claim food rations from the public distribution system in the name of this member, even though he is also fed directly by the army. In other words, these families get somewhat higher food rations *per resident member* than other families.

This bias, however, may or may not be a seriously objectionable one. While it does appear to introduce an element of inequity in the system, families with members in the armed forces may well deserve some special support, in so far as they experience some important economic and social handicaps (e.g., as female-headed households with high dependency ratios).⁴⁹ The issue may not be a momentous one, given the relatively small size of the inequalities involved.

Second, interviews with demobilized members of the armed forces suggest that, aside from receiving their modest monthly pay, soldiers are allowed to eat as much as they like (this is not surprising, since hungry soldiers can hardly make a strong army). In this respect, soldiers certainly enjoy individual privileges. But this is not all bad news from the point of view of international food aid policy. Indeed, the very fact that the Iraqi army is (in all likelihood) *already* well-fed also implies that any *additional* food aid channelled through the public distribution system would be consumed almost entirely by the *civilian* Iraqi population. Here again, the danger that the Iraqi army might be eating up food sent through international efforts to help hungry children seems to have been much overrated.

The possibility remains that influential military or political leaders succeed in appropriating food aid or food imports intended for the public distribution system (presumably to sell them at a high price on the open market). "Leakages" of this kind, however, are relatively easy to detect, by maintaining precise accounts of the aggregate

quantities of food that are absorbed in the system, and comparing these quantities with survey information on the rations actually obtained by Iraqi households. A strong case can be made for improved monitoring, but not for dispensing with the system altogether.

(f) *Concluding comments*

Iraq's public distribution system is quite an exemplary one in terms of coverage, equity, efficiency, and contribution to the nutritional needs of the population.⁵⁰ Whatever the motives that underlie its long-standing commitment to the provision of cheap food, the government of Iraq is very unlikely to take the risk of withdrawing or even reducing food rationing in the near future (unless it runs out of resources); at a time of much-eroded public support for the regime, the political value of this widely appreciated program is greater than ever.

Iraq's public distribution system is therefore an asset that can and should be reckoned with in the planning of humanitarian assistance. It is not a perfect system, but its weaknesses are easy to monitor and correct, and despite some imperfections it can achieve enormously more than any hastily built system of alternative distribution under international auspices. The crucially needed contribution of the international community is not to feed the Iraqi population directly, or even to act as a watchdog of the government's efforts, but to ensure that the government has the means to sustain, even expand, its own public distribution system. This, surely, is the most viable way of relieving nutritional deprivation in Iraq.

5. HUNGER AND POVERTY IN IRAQ

The ability of households to satisfy their basic needs depends on what they can acquire both through private purchases and through public provisioning. In the case of nutritional needs, the relevant commodities would include not only food but also health care, clean water, epidemiological protection, etc. Indeed, the nutritional status of a person is not just a question of food, but also of these complementary inputs enabling him or her to achieve the efficient transformation of food intake into physical well-being. For instance, contaminated water can cause diarrhea, which substantially increases a person's vulnerability to undernutrition even without any change in food intake.

War and sanctions in Iraq have threatened

both private and public channels of acquisition for a whole range of nutrition-related commodities, leading to greatly enhanced levels of undernutrition. In this section, we examine this process with reference to food itself. This is partly because food is the most basic ingredient of adequate nutrition, and partly because other ingredients (especially health care and related public services) are dealt with in great detail in other contributions to the International Study Team report.

(a) *War and famine*

During the war, both private and public channels of food acquisition were comprehensively disrupted. As a result, a large majority of the population went hungry.⁵¹

As far as market acquisition is concerned, one consideration is that economic activity came to a virtual standstill during the war as fuel, transport, communications, power, raw materials and spare parts were found wanting. Deprived of their ordinary sources of income, households could only buy food from their savings, or by selling their assets (this they did on a massive scale). At the same time, however, exorbitant food prices greatly restricted the scope and viability of such transactions. As the continued bombing of roads (including that linking Baghdad with Amman) made transport and trade highly perilous activities, local shortages quickly developed, and food prices reached extremely high levels, with wide disparities emerging between different regions.

The situation was considerably aggravated by the temporary disruption of the rationing system. With the breakdown of normal channels of transport, communication and administration, food distribution failed in many areas (including, at times, Baghdad).⁵²

These "entitlement failures" led to widespread hunger. Very few of the households we interviewed reported eating normally during the war. Food deprivation ranged from eating a single daily meal of dates and tomatoes, or of barley and wild spinach, to giving up meat and other "superior" foods. Our survey of 58 households dispersed through the country strongly suggests that the average Iraqi household had a highly inadequate diet during the war.⁵³

The same survey clearly brings out that most of the "indicators" that are now recognized in the economic literature as being commonly associated with famine situations were discernible in Iraq during the war: drastic reduction of food intake; exorbitant food prices; consumption of wild plants and other "famine foods"; large-scale

depletion of household assets; and even the emergence of open conflicts between family members (sometimes leading to physical fights) over the allocation of food. The only related indicator of which we have no evidence is mass migration in search of food. Most households, however, could not have expected to gain much from migrating, since no public relief was available anywhere. Their best bet was to remain in place and hope for a prompt resumption of public distribution through normal channels.

Mortality data provide further indications of the intensity of food deprivation during the war. The International Study Team's mortality survey (which covered about 9,000 households) indicates that infant mortality rates for the period January-August 1991 were nearly *three times* as high as during the precrisis period.⁵⁴ Monthly mortality rates are not available, but it is likely that mortality rates were particularly high during the war. Indeed, most of the respondents of our survey stated that the war (and, in some areas, the internal conflicts that followed) had been the period of greatest hardship in the last 12 months.

This is not to say that these excess infant deaths occurred mainly as a direct result of bombings. In fact, civilian casualties from bombings were reported to be very low in all the areas we visited. Most of the babies who lost their lives during the war period must have died from diseases related to poor nutrition, lack of clean water and related deprivations.

It is, in sum, not an exaggeration to say that famine conditions prevailed during the war.⁵⁵ People did not migrate *en masse*, or die of starvation on the side of the road, as one often witnesses in more spectacular famines. But millions experienced the quiet pangs of hunger inside their homes, and food deprivation contributed to the sharp increase of mortality.

The links between war and famine are familiar to students of the grisly history of hunger in the world. Most famines in the recent past have been associated with war, and few wars have failed to threaten the ability of the affected populations to feed themselves. The Gulf war was no exception.

(b) *Recent developments*

The period that immediately followed the war witnessed some easing of the constraints that had made food acquisition so problematic during the war itself. Some wage employment opportunities reemerged, even though they remained much below precrisis levels. Food prices climbed down from their war-time peak, though they stayed

much higher than the corresponding mid-1990 prices. And, most importantly, the public distribution of food quickly resumed.

This momentary improvement, however, did not lead to a process of sustained economic recovery. In fact, it is far from clear that the economic situation in Iraq has significantly improved in recent months. Food prices have not changed very much since April, when food sanctions were lifted (see section 3). Lay-offs in the private sector have continued (as the prospect of continued sanctions made it increasingly costly to "hoard" labor), while public-sector employment has stagnated. Money wages have remained fairly constant (although increases of the order of 30% in the public sector were announced in early September). Increasing competition has also kept the lid on individual earnings in the "informal sector." Some expansion of public distribution has taken place, but not on the scale required to compensate for these adverse trends.

Living conditions in Iraq therefore remain extremely precarious. Although the threat of famine has subsided (and is not likely to reemerge as long as the public distribution system functions), poverty and nutritional deprivation persist on an endemic scale.

Telling indications of the extent of poverty and hunger in Iraq today can be obtained by considering the current levels of real wages and incomes. Tables 4 presents some relevant data, and some tentative comparisons of labor earnings with various benchmarks. These calculations suggest that real monthly earnings for unskilled labor as well as in most other occupations are:⁵⁶

- (i) less than 7% of what they were in August 1990;
- (ii) lower than the benchmark used by the government of Iraq before August 1990 to identify "destitute households" eligible for social security payments;
- (iii) much lower than the cost of purchasing the average 1990 food basket for Iraq;
- (iv) lower than the monthly earnings of unskilled agricultural laborers in India (one of the poorest countries in the world);
- (v) lower than the "poverty line" used by the government of India (calculated for Iraq in terms of calorie-purchasing-power equivalence at current prices).⁵⁷

If, instead of considering monthly earnings in the usual sense, we consider "effective" monthly earnings, in the sense of earnings *inclusive* of the implicit value of food rations, these conclusions remain broadly applicable (although the observed decline of earnings is somewhat less pronounced in that case).

The individual calculations presented in Tables 4a and 4b are, inevitably, somewhat tentative, and in the absence of reliable information on the occupational distribution of the population they do not enable us to determine precisely how many households in Iraq fall under particular income thresholds. The overall picture, however, of endemic poverty that emerges is certainly quite robust, and some broad inferences can be made with some confidence. For instance, these tables very strongly suggest that, in terms of current income, a majority of Iraqi households are now below the *Indian* "poverty line." This is quite striking, especially if one remembers that the corresponding proportion in India itself is now well below 50%.

As will be seen shortly, these drastically reduced incomes have two consequences. First, *consumption standards* have greatly deteriorated in 1991. Many households now spend virtually all their income on food, and even then they cannot afford diets comparable to those they enjoyed before August 1990. Second, households have to *sell their assets* (jewelry, furniture, consumer

durables, etc.) in order to maintain minimum consumption standards.⁵⁸

The fact that many poor households in Iraq do own assets, which they can sell in order to buy food, is superficially comforting, to the extent that it enables them to spend a little more than what they earn in the short run. But it also means that they are vulnerable to running out of assets to sell. In the course of our survey, we encountered many households who reported having reached that stage. The same respondents often stated that, for them, things had got worse rather than better in the last few months. There is a serious danger that more and more households will face this predicament during the next few months.

As assets gradually run out, it will become more and more difficult for Iraqi households to "live above their means" (i.e., to maintain consumption standards that bear little relation to their current incomes). Correspondingly, well-being indicators are likely to deteriorate toward levels that reflect much-reduced entitlements. Unless some regeneration of incomes and public

Table 4a. *Nominal and "effective" earnings by occupation, August 1991*

Occupation	Monthly earnings (ID) for 6-member households with 2 earning adults	
	Nominal earnings	"Effective" earnings
Conscript, starting	170	378
Clerk, government	240	448
Casual street vending	240	448
Unskilled worker, public sector	260	468
Medical assistant	260	468
Conscript, experienced	330	538
Unskilled worker, private sector	350	558
Postman	360	568
Daily-wage labor (unskilled)	360	568
Primary teacher, public sector	360	568
Civil service official (middle ranking)	400	608
Professional soldier	440	648
Electrician, public sector	550	658
Semi-skilled worker, private sector	550	658
Skilled technician, private sector	1,200	1,408
Blacksmith	1,250	1,458
Bus driver, self-employed	2,000	2,208
Taxi driver, self-employed	2,750	2,958
Engineer, private sector	4,000	4,208

*Effective earnings are obtained by adding the implicit value of food rations (see Table 2) to nominal earnings.

Source: Estimates based on household and factory surveys, August–September 1991. The assumed labor-force participation rate of 33% is based on the optimistic hypothesis a substantial increase compared to the precrisis value of 25%.

provisioning takes place, it is quite possible that a large part of the population in Iraq will soon experience rates of undernutrition, morbidity and mortality comparable to those that prevail in countries such as India.

(c) *Insights from a household survey*

A survey of 58 households scattered in different parts of Iraq was conducted in late August and early September. The aim of the survey was to gather information on food consumption behavior during and since the war, as well as on the public distribution system (our findings on the latter subject are reported in section 4).

No systematic sampling procedure was followed. Our concern was not with formal statistical inference, and we simply adopted the undemanding method of picking a household at random from time to time (by knocking on the nearest door) in the areas we visited. These areas were characterized by great diversity, as we wished to see the country in all its aspects (affluent neighborhoods were somewhat neglected, but they account for a small part of the total population). While the sample cannot claim to be representative, it is also unlikely to suffer from some devastating bias.

To the question, what was the most difficult period for the fulfillment of food needs, we received a clear set of responses: 15 respondents said it was during the war, 22 mentioned the war and the "troubles" (as the postwar internal conflicts were referred to), and another 15

reported that every month since the beginning of the war had been hard, and that things had not improved much. A regional pattern is evident in the first two replies — households in the south overwhelmingly found it difficult from January until March, while those away from the "troubles" had most serious problems in January and February only. What is worth noting is that similar proportions of households in the south and elsewhere stated that hardship continued or was increasing.

It is also significant that, on the whole, the households for which hardship continued beyond March were also the poorer ones to start with (many of them had run out of assets to sell). For convenience, we shall refer to these households as "most vulnerable."

As Table 5 indicates, only 16% of the sample households consumed any meat during the hardest period. By August 63% had resumed some consumption, but in most cases at very modest levels by precrisis standards. Among "most vulnerable" households, only 17% were eating any meat in August 1991.

A majority of the households (58%) skipped meals during their difficult period. Among the remaining households, many reported that they had to prepare three meals a day for the sake of children, but that the size of meals had been much reduced during that period.

Only 14% of sample households maintained their normal dietary patterns during the hard period, while another 8% consumed close to their usual diets. One in 10 volunteered the information that they had resorted to some form

Table 4b. *Estimates of labor earnings in Iraq (August 1991), compared with various benchmarks**

Description of the estimated variable	Estimate† (ID/month)	Index
Nominal monthly earnings, unskilled labor (public sector)	260	100
"Effective" monthly earnings, unskilled labor (public sector)	468	180
Monthly earnings of unskilled labor in India (in calorie-purchasing-power equivalent)	482	185
Value of the Indian poverty line in terms of "calorie-purchasing-power equivalence"	667	257
Value of the "destitution line" which the government of Iraq used before August 1990 to identify households eligible for social security payments‡	835	321
Value of the average 1990 food basket‡	1,010	388
Value of <i>precrisis</i> real earnings of unskilled labor (public sector)‡	4,022	1,547

Sources: Calculated from Government of India (1985) and (1990), Acharya (1988), Minhas, Jain and Tendulkar (1991), and data on Iraq presented elsewhere in this paper.

*Notes: The calculations for India are based on 1987 data for rural Uttar Pradesh (a slightly poorer-than-average state). "Calorie-purchasing-power equivalence" is defined with reference to the local staple (wheat for both Iraq and Uttar Pradesh). The Indian poverty line is defined as the level of income (more precisely, expenditure) at which minimum caloric requirements are satisfied, taking into account *observed* expenditure patterns.

†All figures are at August 1991 prices, in monthly terms, for a household of size six with two earning adults.

‡The lower estimate of the food price index (see Table 1) has been used as deflator.

Table 5. *Food consumption survey: Percentage of households in different groups with particular characteristics*

	Households for which Jan-March was the hardest period	Households for which hardship continues or increases	All households
Main diet during hardest period			
Famine foods	6%	20%	10%
Bread, dates, tea	21%	27%	23%
Bread, rice, vegetables	48%	47%	48%
Near normal diet	9%	0%	6%
Normal diet	15%	7%	13%
Whether missed meals during hardest period			
Missed	51%	73%	58%
Did not miss	49%	27%	42%
Meat consumption			
Hardest period	20%	7%	16%
August 1991	79%	17%	63%
Asset sales			
No sales reported	40%	0%	31%
Sales to buy food	50%	33%	46%
No assets to sell	10%	67%	23%

Source: Household survey (58 households), August-September 1991.

of "famine food" or other; for the most vulnerable households the ratio was as high as 20%. A common famine food in the south was a spinach-like wild plant called *khabaas* or *tula*. People also ate coarser cereals, and one household reported having to extract edible matter from reed stalks. Another one (in the south) mentioned being totally deprived of food for seven days, during the "troubles" — even the children had nothing to eat for a whole week. During the hard period, the vast majority survived on low-cost foods such as bread and dates, or bread and tea.

During the informal discussions with several respondents, we learned of open quarrels within the family (and even physical fights) over the allocation of food. In one household we were told that when the children cried of hunger, they were simply sent out to look for anything they could find.

Asset sales for the purpose of buying food were also common among our respondents. Among the most vulnerable households, many said that they had run out of assets to sell. A number of them survived almost exclusively from the food rations they obtained from the public distribution system, and had severely restricted their open-market purchases of most food items.

These results broadly confirm the existence of famine conditions during and soon after the war for the majority of households. A number of

them have seen some improvement since then. It is a matter of great concern, however, that a substantial number see their conditions as deteriorating, and do not see much prospect for improvement in the near future.

6. OVERVIEW AND DISCUSSION

(a) *Overview of findings*

(i) More than a year of sanctions, war and internal conflicts have had a disastrous impact on the economy of Iraq. The termination of oil revenues has undermined the extensive involvement of the government in the economy through public employment, public subsidies, public infrastructure and public services. Private economic activity is greatly reduced by the lack of raw materials, spare parts, power supply, and infrastructural services. A bloated "informal sector," providing extremely low real earnings, has become the main source of livelihood for millions of persons. The sustainability of this informal sector in the near future is threatened by the general erosion of purchasing power.

(ii) As a result of this economic crisis, real wages and private incomes in Iraq have fallen dramatically since August 1990. In terms of

purchasing power over food, they have declined by a factor of 15–20 on average (i.e. 5–7% of their initial levels). The driving force behind this decline has been the increase of prices, combined with the stagnation of employment and money wages. Real wages in Iraq are now among the lowest in the world.

(iii) Food rationing plays an invaluable role in supplementing private incomes. The public distribution system is comprehensive, equitable, efficient and (as far as we can tell) relatively free from corruption.⁵⁹ It provides a very effective “safety net” protecting the vulnerable sections of the population from total destitution. The public distribution system on its own, however, falls far short of guaranteeing adequate food intakes.

(iv) The sharp decline of real incomes, inadequately compensated by the expansion of food distribution, has greatly reduced the ability of Iraqi households to nourish themselves adequately (and to satisfy their other basic needs). Inadequate diets, along with the deterioration of basic public services other than food distribution (e.g., health care, water supply, sewage, and sanitation), have led *inter alia* to sharp increases in mortality rates. Child mortality during the January–August 1991 period was 3–4 times higher than during the corresponding eight-month period in 1990.

(v) The period of most intense deprivation since August 1990 was that of the war (and, in some areas, of the ensuing internal conflicts). During that period, famine conditions prevailed. The comprehensive disruption of transport, communications, power supply and administration paralyzed economic activity and employment. In the absence of income generation, and with food prices reaching their peak, market acquisition became extremely difficult. The public distribution system also ceased to function in many areas. As a result, millions of people saw their food intake reduced to unsustainably low levels (e.g., a single daily meal of dates and tomatoes, or of barley and wild spinach). Famine conditions would have developed even further had the war not promptly come to an end.

(vi) Immediately after the war, some improvement did take place, as the public distribution system resumed its normal functioning, food prices declined a little and some wage employment opportunities reemerged. The continuation of sanctions, however, has prevented this momentary improvement from leading to sustained economic recovery. As a result, the purchasing power of wages remains negligible, and endemic poverty persists. Food deprivation is still widespread, in the form of both insufficient intake (for the poorer sections of the population) and

reduced diet quality (for the majority of the population).

(vii) Even after taking into account the implicit value of food rations, a majority of households in Iraq now earn real incomes below the Indian “poverty line” (in terms of calorie purchasing-power). In that sense, the incidence of poverty in Iraq today is greater than in India. The average household subsists largely by dissavings and selling assets (gold, consumer durables, animals, etc.). There is a serious danger that, if economic recovery fails to take place in the next few months, more and more households will be driven to extreme poverty as their assets run out.

(b) *Concluding comments*

It is not our intention to defend a particular position in the current debate on economic sanctions against Iraq.⁶⁰ Our enquiry, however, would be incomplete if we failed to take note of the implications of our findings for some important aspects of this debate.

Before entering this discussion, one general point deserves emphasis. The “effects of the sanctions” have often been analyzed in terms of what these sanctions do to aggregate commodity supplies — how far food supplies, or medical supplies, or the supply of cement fall short of ordinary levels. What really matters, however, is how the sanctions affect the ability of households (or enterprises, in the case of raw materials and intermediate inputs) to acquire the commodities in question. “Effective sanctions” in that sense can be quite different from what sanctions look like, based on supply-centered analysis.

For instance, now that the embargo on food imports has been lifted, it is tempting to assume that there is no need to worry about the food situation in Iraq. Indeed, food seems to be readily available from neighboring countries and in that sense “food supply” is no longer a problem. As we saw in this report, however, nutritional deprivation remains endemic, and may even be increasing. Effective sanctions on food remain, due to the crippling effects of general sanctions on economic activity and employment, despite the formal exemption spelled out in Resolution 687 and the ready availability of food from neighboring countries.

The notion of effective sanctions is also relevant to the much-discussed issue of “evasion.” The extent to which Iraq is able to evade the sanctions through smuggling and covert imports has been the object of a good deal of speculation. From the point of view of the “entitlement” approach followed in this report, however, these

speculations are quite irrelevant. Indeed, our findings on the decline of real wages and purchasing power implicitly *incorporate* any easing of economic hardship that might be attributable to smuggling and other covert operations.

With this background, we offer three concluding remarks on the issue of the future course of economic sanctions.

(i) *Food rationing and the role of the state*

Sustaining the public distribution system in Iraq is clearly the key to famine prevention in the short run. If the public distribution system runs out of supplies or breaks down for some other reason, widespread starvation is almost certain to result. The system works well, and it would be senseless to attempt to supplant it with a parallel distribution system administered by the United Nations or other international bodies, as has been suggested from time to time in public debates.⁶¹ Rather, the crucial need is to ensure that the government of Iraq has the financial means to sustain (or, even better, expand) the existing system of public distribution.⁶²

At a more general level, the pervasive involvement of the state in different aspects of the economy in Iraq is a fact that cannot be ignored. Whether one looks at food distribution, or employment generation, or prices and wages, or international trade, the government is the crucial actor. The cooperation of the government in the planning and implementation of relief efforts is essential.

(ii) *Public provisioning and export restrictions*

It is difficult to understand why a narrow limit should be imposed on Iraq's *exports* of oil, if — as specified in Resolution 706 — the proceeds from oil sales are earmarked for the provision of essential "humanitarian" needs under close UN supervision. The government of Iraq has a proven ability, and strong political incentives, to expand public provisioning on a large scale — not only in the domain of food rationing but also in those of health care, education, water supply, sewage, sanitation, and power supply, among others. Allowing this process to take place would not conflict with the current directives and stated aims of the embargo.⁶³

Indeed, Resolution 687 clearly empowers the Sanctions Committee (in effect, the Security Council) to authorize "exceptions to the prohibition against the import of commodities and products originating in Iraq" when these are "required to assure adequate financial resources on the part of Iraq to carry out the activities under paragraph 20"; these activities refer not only to *unrestricted* purchases of food and medi-

cines, but also to imports (under the "accelerated no-objection procedure") of "*materials and supplies for essential civilian needs as identified in the [Ahtisaari report] and in any further findings of humanitarian need by the [Sanctions] committee.*"⁶⁴ It may be recalled that both the Ahtisaari report of March 1991 and the Aga Khan report of July 1991 (which, as an official UN report to the Secretary-General, surely counts as "further findings of humanitarian needs") provided lists of materials and supplies for essential civilian needs covering a wide range of commodities. These included food, drugs, vaccines, medical equipment, fertilizers, pesticides, agricultural machinery and spare parts, generators, water treatment equipment, sewage disposal equipment, means of alternative communication, and the inputs required to regenerate essential domestic power supply, fuel production and telecommunications.⁶⁵

It is, therefore, hard to reconcile the stringent limit of US\$1.6 billion on oil exports imposed by Resolution 706 (of which less than US\$1 billion will be actually available for humanitarian purposes) with the stated principles of the embargo and the conclusions of recent reports submitted to the Secretary-General at the request of the Security Council. As was discussed in section 2 this limit falls far short of even the most conservative of all the estimates of Iraq's humanitarian needs contained in these reports.

Resolution 706 explicitly mentions that the limit on oil exports is "subject to review concurrently by the [Security] Council on the basis of its ongoing assessment of the needs and requirements."⁶⁶ The matter should not be considered closed.

(iii) *Sanctions and economic recovery*

While public provisioning can avert famine, epidemics, and other confined catastrophes, it cannot — on its own — form the basis of the economic transformation that is required to enable the population to satisfy its basic needs. Achieving that objective crucially depends on the regeneration of general economic activity and employment.

Indeed, even in the unlikely event where further export exemptions allowed the government to expand public provisioning much beyond current levels, widespread deprivation would persist. Such exemptions might make it possible, for instance, to increase food rations to levels that cover minimum calorie requirements (or even to restore the precrisis system of food subsidies). However, adequate nutrition, good health and decent human living are not just a question of staple-food intake, but also one of

adequate health care, clothing, fuel, shelter, etc.

Economic activity and employment are indispensable means of generating the ability to acquire these complementary ingredients of basic living. This is so not only because many of the commodities concerned are typically acquired through the market, but also because effective public provisioning itself often depends crucially on the availability of inputs that are the product of general economic activity. A hospital full of imported drugs, for instance, is of little use without electricity, water supply, telephones, vehicles, air conditioning, stationery, typewriters, and many other items. Public provisioning without economic regeneration can only transform Iraq into a vast refugee camp.

The private sector, despite its relatively small size by international standards, has an inescapable role to play in the process of economic regeneration. Given the current structure of Iraq's economy (including its system of property rights), many commodities are most efficiently supplied through market mechanisms. Also, public-sector production and private-sector production are inextricably linked through the economy's input-output system. One sector cannot operate without the other.

The regeneration of the economy would also be impossible in the absence of some resumption of international trade. Indeed, as we saw earlier, pervasive linkages connect almost every part of the Iraqi economy with international trade. Imported raw materials and spare parts are crucial inputs in many sectors (from agriculture to most types of manufacturing). The supply of consumer goods, which give money wages their real value, depends overwhelmingly either on the processing of imported products (food, textiles, construction materials, etc.), or on direct imports. Even earnings from domestic labor services in the "informal sector" largely derive from the purchasing power generated in sectors more closely linked with international trade. In the absence of international trade, economic activity stagnates at extremely low levels — especially when the effects of sanctions are compounded by war-related destruction.

War and prolonged sanctions have caused such comprehensive damage to the Iraqi economy that it is impossible to maintain these sanctions in their present form without perpetuating, and perhaps even accentuating, the state of acute poverty in which a large part of the population is now plunged. The debate about sanctions cannot ignore this simple truth.

(iv) *Concluding comments*

Perhaps the issue of sanctions goes beyond the basic considerations of this final section. The force of that view, however, depends on what one accepts as the "humanitarian needs" of the people of Iraq. If their essential needs are deemed to consist only of staple food, as with farm animals, then it may be possible to argue that these needs can be met through *ad hoc* relief measures financed by a small exemption from the ban on oil exports (as proposed in Resolution 706), while the general paralysis of the economy continues to deprive millions of their ordinary means of living. But if the Iraqi people are considered to have an inalienable right to the necessities of life in a broader sense — including not only food but also clean water, health care, shelter, education, clothing, etc. — then it would be hard to reconcile the protection of this right with the continuation of the embargo in its present form. If humanitarian needs are those defined by our basic rights as human beings, they do go much beyond what the Iraqi economy can deliver as things stand.

The implementation of the ceasefire resolution, which officially motivates the continuation of sanctions against Iraq, is a serious issue. The safe disposal of Iraq's weapons of mass destructions, demanded by this resolution, is a particularly legitimate concern (as is, indeed, the safe disposal of weapons of mass destruction everywhere). But it would be tragic if this concern unleashed the destructive power of another weapon of mass destruction — the effective withdrawal of food and other necessities from the Iraqi people.

7. POSTSCRIPT (FEBRUARY 1992)

As this paper goes to press, there is little sign of any improvement in living conditions in Iraq, or of any easing of the political tensions that sustain the continuation of the embargo. The Iraqi government has shown great reluctance to cooperate with the implementation of the ceasefire resolution, or even with Resolution 706 relating to the limited sale of oil for humanitarian purposes. The US administration, for its part, is committed to the enforcement of strict sanctions as long as Saddam Hussein is in power; an unfortunate consequence of this policy is that the Iraqi leader has little incentive to change his ways, since the sanctions are likely to continue no matter what he does. The Iraqi population remains hostage to this shared intransigence.

NOTES

1. See International Study Team (1991).
2. We personally collected information in 11 of Iraq's 18 governorates, and visited each of the main regions. We have also made use of information on the other seven governorates collected with our guidance by other members of the International Study Team during the same period.
3. See United Nations (1991a), (1991b).
4. See Drèze and Sen (1989, 1990), and the literature cited there.
5. No attempt is made in this report to distinguish precisely between the effects of the Gulf war and those of the internal conflicts that followed. While these conflicts may have had deep roots, their outburst was not unconnected with the war itself. Further, the lasting effects of these internal conflicts on the economy were dwarfed by those of the Gulf war and the sanctions. This is not to deny that internal conflicts may well have taken a comparable or even greater toll in terms of direct casualties and immediate human misery.
6. This section draws *inter alia* on Ockerman and Samano (1985), Economist Intelligence Unit (1990), Farouk-Sluglett (1987), Food and Agriculture Organization (1990a, 1990b), Hussain (1990), Government of Iraq (various years), and various contributions in Niblock (1982).
7. Government of Iraq (1990).
8. According to FAO data for 1988, the most important components of these food imports are food grains (36%) meat products (16%) and sugar (10%).
9. In the course of our extensive contacts with households and individuals in Iraq, we found that a large proportion of them either had a male member in military service, or included someone recently released from service.
10. UN Security Council, Resolution 661 (August 6), paragraph 3; italics added.
11. UN Security Council, Resolution 666 (September 13, 1990), paragraph 5 and 6; italics added.
12. This figure is based on Food and Agriculture Organization (1990a, 1990b) data on precrisis food consumption in Iraq.
13. On the effective embargo on medical supplies before and during the war, see Hoskins (1991a, 1991b), and the wide-ranging professional testimonies contained in the documentary *The Other War* (produced by Tessa Shaw and Christina Pearce). According to Dr. Hoskins, imports of medical supplies between August 1990 and the end of the war were only about 3% of the normal levels.
14. On this, see United Nations (1991a, 1991b) and Harvard Study Team (1991), among others.
15. United Nations (1991c).
16. United Nations (1991c), p. 13.
17. In fact, a "letter dated 22 March 1991 from the President of the Security Council addressed to the Secretary-General" (Security Council Document S/22400) had already indicated that these recommendations were accepted by the Security Council.
18. UN Security Council, Resolution 687, para 21.
19. See, for instance, Bhatia, Kavar and Shahin (1991), Bloem, Farook and Kuttab (1991), Cankar (1991a, 1991b), Dammers (1991), Dobson (1991), Doheny (1991a, 1991b), Drèze (1991), Field and Russell (1991), Gottstein (1991), Grace (1991), Gulf Peace Team (1991), Harvard Study Team (1991), Hoskins (1991a, 1991b), Kandela (1991), Lee and Haines (1991), Medical Education Trust (1991), OXFAM/Save the Children Fund (1991), Rice (1991), Save the Children Fund (1991a, 1991b), United Nations (1991b, 1991c), Zurbrigg (1991), among others.
20. United Nations (1991b), p. 8.
21. United Nations (1991b), p. 9.
22. UN Security Council, Resolution 706, paragraph 1. The rationale of the 1.6 billion limit is not explained in the resolution.
23. UN Security Council, Resolution 706, paragraph 5.
24. United Nations (1991c), Annex I, paragraph 22; emphasis added.
25. United Nations (1991a), paragraph 42; emphasis added.
26. United Nations (1991a), Annex I, paragraph 15; emphasis added.
27. For a detailed sector-wise, analysis of economic activity in Iraq in 1991, as well as for case studies of selected industrial units, see Drèze and Gazdar (1991).
28. For convenience of exposition, we refer to earnings in self-employment as "wages." The "employment rate" is defined here in terms of *persons*, rather than *person-days*. Correspondingly, "money wages" refer to wages per person, rather than per day of work.
29. For analytical purposes, the army can be considered, at this stage in the argument, as part of the "tertiary sector." The large-scale demobilization of soldiers since the end of the war can be seen as one part

of the overall picture of reduced employment in that sector in recent months.

30. Two considerations somewhat qualify this general argument in opposite directions: (a) *skilled* laborers who have shifted from formal to informal employment may have experienced some decline in money earnings (however, skilled laborers have been relatively successful in retaining their formal sector jobs); (b) labor force participation rates may have increased a little, as a number of women and children joined the informal sector to supplement household earnings. Note that the departure of many foreign workers from Iraq since August 1990 does not affect the reasoning pursued in this section.

31. This statement applies to the combined real earnings of cultivators and laborers. We have no reliable information on possible changes in the distribution of income between these two groups.

32. It is worth noting that this statement also applies to the recipients of pensions and other social security payments, since these payments have not increased in money terms since August 1990.

33. The findings of these market surveys are in broad agreement with those reported in earlier studies, e.g., the Ahtisaari and Aga Khan reports (United Nations, 1991b, 1991c).

34. The food price indices presented in Table 1 are based on *presanctions* consumer expenditure patterns, and it may be argued that they would, for that reason, tend to overestimate the increase of food prices (since the scope for "substitution" in response to price changes is ignored). The bias is, however, likely to be small, since compensated demands for essential food commodities are typically quite "inelastic." Note also that food price indices for *poor* households specifically would have risen to higher levels than those indicated in Table 1, since these households tend to spend a relatively large proportion of their income on staple foods, which are precisely the items that have seen the highest price rises since August 1990.

35. See Table 4a for more detailed information on wage levels in different occupations.

36. Other commodities that have been distributed from time to time since August 1990 include soap, razor blades and tobacco. The rations distributed, however — and the implicit income transfers they represent — are small and of marginal relevance to the concerns of this report.

37. The extensive involvement of the state in public provisioning fits with the "socialist" ideology of the Ba'ath party, but may also derive from other political or ideological motives.

38. Before August 1990, food was not rationed, but the Ministry of Trade already had a long record of involvement in the importation of food and its distribu-

tion at subsidized prices. The public distribution system as it exists today builds partly on that earlier experience.

39. Children below the age of one do not receive the standard rations. Instead, they are entitled to monthly rations of milk-based "infant formula" (currently four tins of 450 gm each), *if* the mother can produce a certificate stating that she is unable to breast-feed properly.

40. This statement is based on our own calculations, based on information for precrisis consumption from United Nations (1991c, Annex I) and United Nations (1991b, Annex 2). The latter study (and WHO/UNICEF, 1991) suggests that the calorie content of food rations has risen quite substantially since the war, when it stood at 750–1,000 calories per day.

41. Indeed, when a household acquires food rations, it has to surrender a sum of money equal to the value of these rations at official prices, but it also acquires income-in-kind equal to their value at market prices (i.e., it economizes the income that would have been needed to purchase these rations at market prices). The difference is the net (implicit) income transfer.

42. For a comparison with wages see Table 4a.

43. We did not visit these areas ourselves, but we have benefited from observations made in these areas by other members of the International Study Team.

44. The test is more difficult to carry out (and also less significant) for other commodities, because respondents are not always clear about the precise quantities they receive for the secondary items, especially when these quantities cannot be expressed in round numbers. In the case of wheat, the norm of 8 kg per person per month is generally understood.

45. The plausibility of these reported deviations from the norm is somewhat questionable. In a number of cases, per capita rations had to be inferred by dividing the reported *total* quantity obtained by the reported number of household members. This is not an entirely reliable procedure, as it compounds two possible sources of error.

46. According to the survey results reported in Table 3, agents charge slightly higher prices in rural areas than in urban areas (although the difference is not statistically significant). This may reflect the greatest awareness of official prices, and lesser vulnerability to cheating, of urban residents.

47. We were told, for instance, that attempts to obtain a second ration card are punished with immediate exclusion from the public distribution system. Aside from the deterrent effects of penalties, it is worth noting that the *incentives* to cheat are, in some respects, quite low. For instance, under the coupons system, agents have no incentive to sell the rations on the open market (as often happens under different administra-

tive arrangements), since the implicit value of a coupon is the same as the market value of the amount of food it gives access to.

48. This cannot be attributed to some general fear of criticizing the establishment. Indeed, many of the respondents had a demonstrated ability for frankness. One of them was as eloquent in his tirades against Saddam Hussein as in praising the public distribution system.

49. In this connection, it should be remembered that the monthly salaries of ordinary soldiers are, in comparative terms, *very low* — even lower than the monthly salaries of unskilled laborers in public sector industries (see Table 4).

50. For a useful review of public distribution systems in other parts of the world, see Pinstrup-Andersen (1988).

51. The following account of economic conditions during the war is based partly on first-hand observations by the first author of this report (who was in Iraq with the Gulf Peace Team from mid-November until the end of January), and partly on extensive household interviews conducted in the course of our field work in August and September 1991. See also Bhatia, Kawar and Shahin (1991).

52. It should also be remembered that, during the war, food rations only amounted to about 1,000 calories per person per day, when they were at all distributed.

53. For first-hand accounts of war-time food deprivation by Iraqi women, see Bhatia, Kawar and Shahin (1991). It might be mentioned that very few households had substantial food stocks during the war, which followed six months of food scarcity and high prices.

54. According to this survey, the infant mortality rate rose from 32.5 per 1,000 live births during 1985–90 to 90.9 per 1,000 live births in January–August 1991. Data indicate little seasonality in births or deaths, so that the sharp increase of mortality during the January–August 1991 period cannot be interpreted as a seasonal effect. While the direct recall method used in this survey may have led to some underestimation of infant mortality during the precrisis period, the Gulf Child Health Survey provides an independent estimate of 29 per 1,000 live births (also based on the direct method), which is very close to the International Study Team's own figure of 32.5 per 1,000. The UNICEF estimate of precrisis infant mortality, based on an "indirect" method, is somewhat higher (41 per 1,000 live births), but still implies an increase of well over 100% in January–August 1991. (Sarah Zaidi, International Study Team and Center for Population and Development Studies at Harvard University, personal communication, February 12, 1991).

55. It should be emphasized that it is the *combination* of implacable war and prolonged sanctions (imposed on

a country highly dependent on food imports) which proved fatal. Many of our respondents commented that, during the Iran-Iraq war, they had not experienced anything like the decline of living standards which they suffered during the recent Gulf war.

56. Statements (i) and (ii) in the list are based on the food price index ("low case") derived in Table 1. The other statements are *independent* of any particular choice of price index.

57. In India, this poverty line is calculated as the level of income (more precisely, expenditure) at which calorie requirements are met, *given* observed expenditure patterns.

58. It should not be thought that households typically cut down their consumption only *after* their assets are exhausted. In fact, empirical evidence strongly suggests that, in times of famine and pronounced economic decline, affected households often chose to endure quite drastic cuts in consumption — including that of food — in order to contain the loss of assets (see Drèze and Sen, 1989).

59. As was discussed in section 4 the public distribution system does not function in Kurdish areas outside the control of the government.

60. On the background of this debate, see section 2.

61. A recent editorial in the London-based *Independent*, for instance, suggests (after commenting on Saddam Hussein's reluctance to accept Resolution 706) that "aid workers distributing food and medicines . . . could be sent in against his [Saddam Hussein's] wishes, backed by the threat of military action if he interferes" (*Independent*, September 13, 1991, p. 18).

62. The Aga Khan report (United Nations, 1991b) reached a similar conclusion. Analogous remarks are likely to apply for other areas of public provisioning such as health care.

63. We need not concern ourselves, in this discussion, with the argument that the unstated aim of the embargo is to drive the Iraqi people to desperation and, ultimately, revolt. Such a strategy would be both immoral and undependable, and cannot count among reasoned arguments for the continuation of sanctions. This is not to deny that the veto-holding members of the Security Council have the power to pursue such a strategy if they wish (by obstructing any relaxation of the sanctions).

64. UN Security Council, Resolution 687, paragraph 23; emphasis added.

65. See United Nations (1991c), pp. 7–12, and United Nations (1991b), pp. 9–10.

66. UN Security Council Resolution 706, paragraph 1(d).

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