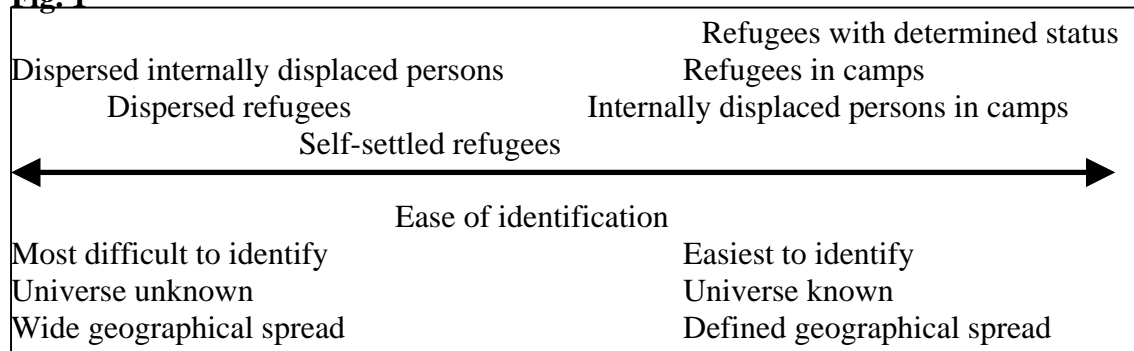


Coast, E. (2002)  
 “Marsh Arab Demography”  
 in  
 Nicholson, E. & P. Clark (Eds.)  
**The Iraqi Marshlands: a human and environmental study**  
 Politico: London

The Marsh Arabs have been in a situation of forced migration since the early-mid 1990s, a forced migrant being “defined roughly as someone who is forced to leave his or her home because of a real or perceived threat to life or well-being” (Reed *et al*, 1998: 2). Because of recent drainage of the Marshes, UNHCR has suggested that Marsh Arabs could now be defined as “environmental refugees” as “the main reason for their flight had been the drying of the marshes” (UNHCR, 1994).

The physically dangerous and politically complicated nature of forced migration “presents tremendous challenges for normal data collection processes and standards” (Reed *et al*, 1998: 2). The Marsh Arabs currently comprise a wide range of forced migrants, including internally displaced persons and dispersed refugees (with a variety of legal statuses). The variety in forced migrants in relation to their ease of identification are summarised in Figure 1; issues of definition are important for any demographic study, as different agencies use different classifications and sources of data about such groups of people. Globally, published statistics on refugees and forced migrants come from two main sources: UNHCR and USCR, using a variety of different sources (government, other agencies, site visits, camp registration).

**Fig. 1**



**Source: Hansch in Reed *et al*, 1998**

Estimates (both historical and contemporary) of the total number of Marsh Arabs are of poor validity and reliability. In 1988, at the end of the Iran-Iraq war, it was estimated that there were about half a million Marsh Arabs (UNHCR, 1996). Post-1988 there is very large variation in the estimates of Marsh Arabs, due to a combination of large scale population movement (both within and outside Iraq) and a history of poor data collection in the marsh area. Internally displaced persons are often more difficult to count than refugees who have crossed an international border (Figure 1). In 1997 it was estimated that 192,000 Marsh Arabs remained within southern Iraq (UN-ACC (SCN) RNIS 21 Table 1), with perhaps a total of 200,000 remaining in Iraq as a whole. The number of Marsh Arabs who have left Iraq (mainly

for Iran) are estimated to be between 80,000 and 120,000<sup>1</sup>. The situation with regard to population numbers is perhaps best summed up by a statement from USCR “Independent sources can not document either the number of newly displaced Marsh Arabs or the cumulative total since 1989. Estimates of the number of displaced and at-risk Maadan ranged from 40,000 to 1,000,000” (1988).

Because the Marsh Arabs traditionally inhabited an area that posed extreme logistical problems for any household data collection, data on their recent and historical demography (fertility, mortality and migration) are extremely rare. The next section will draw together all of the information on factors affecting the demography of those Marsh Arabs still resident within southern Iraq.

### **Marsh Arabs in Iraq**

The demographic impact of the “Oil for Food” sanctions have been widely debated (Ali and Shah, 2000; Daponte and Garfield, 2000; Zaidi and Smith-Fawzi, 1995; Cortright and Lopez, 1997). Since 1990 more than 20 major studies have been conducted on the humanitarian impact of the Gulf War and the continuing economic sanctions. To date, however, none of these studies have included the southern marshes area within their samples, therefore only tentative statements may be made about current morbidity and mortality in the area. It must be remembered that assessment of the effect of sanctions on civilian morbidity status is extremely difficult for four main reasons: social disruption; the effect on health may be neither direct nor immediate; the chain of events from distal to proximate causes for increased mortality as a result of sanctions is not well known; and, it is difficult to document the health effects (from Daponte and Garfield, 2000). However, all of the available evidence suggests that “these adverse conditions are likely to adversely affect the Marsh Arabs in the south-east of the country even more profoundly since this group is traditionally neglected and marginalised by the government” (UN-ACC (1997) RNIS 21). A 1997 estimate of the effects of sanctions on nutritional status suggested “Those in Marshes [are] considered to be at high risk nutritionally since it is unclear to what extent the general improvement in food availability is having a positive impact [on] this group” (UN-ACC (SCN) RNIS 21). Indeed, this assessment concludes “As in the past, access to the Marsh Arabs is limiting the information available on their health and nutritional status. It was hoped the monitoring of food distributions under the “oil-for-food” plan would provide much needed information on this population. So far this has not been the case”. USCR, with special reference to the Marsh Arabs reported, “Repressive policies in 1999 included...denying food rations to thousands of people” (2000:188).

There are recent (post-1999) reports of cholera and chronic diarrhoea spreading among the remaining Marsh Arabs, who are now deprived of clean water by the draining of the Marshes<sup>2</sup>. Water availability (for drinking, washing, waste disposal) is a key determinant of population health, and even more so for a population such as the Marsh Arabs who are highly dependent on perennial surface water. The effect on early age (under 5 years) morbidity and mortality are likely to be great as a poor

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<sup>1</sup> Again, however, there is a great range in the total estimates, from 70,000 (USCR) to 150,000 (Cook, 1998).

<sup>2</sup> Inter-annual climatic variability further compounds this scenario, for example, in 1999 a regional drought was reported (<http://www.fao.org/news/2000/000904-e.htm>), with the region receiving between one half and one third of average annual rainfall.

(quantity and quality) water supply combined with inadequate sanitation are key causes of frequent and repeated infections. Although no information is available on breastfeeding patterns among the Marsh Arabs, the possible addition of contaminated water to milk formula and the dilution of milk formula in order to make supplies last longer will all place upward pressure on early age mortality. The poor water and health infrastructure in the marshes, combined with continued conflict in the area (causing both intentional and unintentional injury and homicide), must also place upward pressure on adult morbidity and mortality. Having reviewed the scanty data that are available on the current situation of Marsh Arabs still resident in Iraq, we now turn to the situation of those Marsh Arabs currently resident in refugee camps in Iran. Information from two main sources of data, camp registration and a sample survey, are presented separately here.

### **Camp data**

Camp registration (birth, death, total population) records exist for both camps where the survey was carried out. Because this study is concerned with the demography of the Marsh Arab population, camp data for Servestan Camp are presented here. Servestan Camp is almost totally comprised of Marsh Arab refugees, and is situated approximately 10km from the nearest town, making the camp population relatively “closed” compared to other camps. A preliminary analysis of the fertility and mortality data is presented here.

**Table 1: Crude Birth Rate<sup>3</sup> and Crude Death Rate<sup>4</sup>, from camp registration, Servestan Camp, 1995-2000**

<b>Year</b>	<b>Total Population</b>	<b>Number of deaths</b>	<b>Number of births</b>	<b>Crude Birth Rate</b>	<b>Crude Death Rate</b>
1995	1,950	2	93	47.7	1.03
1996	2,483	7	132	53.2	2.82
1997	2,321	18	96	41.4	7.76
1998	2,042	11	121	59.3	5.39
1999	2,270	8	133	58.6	3.52
2000	2,261	4	72	31.8	1.77

Higher numbers of male children are registered by the camps (112 male births per 100 female births), suggesting that there is selective under-reporting of female births, therefore the CBR might be even higher than suggested by the records. The CBR calculated for Servestan Camp are extremely high, and the reported young camp population structure (AMAR, 1997; AMAR, 2000) points to high fertility, but cannot be taken as proof<sup>5</sup>. It is impossible to determine whether the large (46%) drop in CBR 1999-2000 is reflecting a decline in fertility (although it is unlikely given the magnitude of the drop), or whether it is due to reporting errors<sup>6</sup>. One key feature of the birth data must be noted. Refugee camps are not “closed” populations, and it is possible that women who are non-camp residents are having babies within the camp in order to take advantage of the good medical facilities, thus inflating the total number of children born, and hence the CBR.

<sup>3</sup> Crude Birth Rate (CBR) = Total live births in preceding year / Total mid-year population

<sup>4</sup> Crude Death Rate (CDR) = Total deaths in preceding year/ Total mid-year population

<sup>5</sup> Age selective out migration can also cause a young population structure.

<sup>6</sup> Any forthcoming info about contraception from AMAR to be incorporated here.

Using longitudinal camp registration data, it is theoretically possible to examine changes in mortality over a six-year period (1995-2000). The “crude mortality rate most accurately represents the health status of emergency-affected populations” (Toole and Waldman, 1997). Unfortunately, the data do not extend back to the period immediately following the arrival of refugees in Iran. The camp data on deaths suggest a rapid decline in mortality over the period 1997-2000, to levels that are extremely low. Indeed, a CDR of less than 2 per 1,000 is so low as to invite suspicion, and imply the under-recording of deaths within the camp. The high level of medical care available within refugee camps combined with a selection effect for the residents<sup>7</sup> would imply relatively low CDRs, but not as low as reported.

Camp registration systems report deaths during the first year, allowing for calculation of the Infant Mortality Rate<sup>8</sup> (IMR) (Table 2). Levels of IMR are extremely (too) low, especially for 1996 and 2000, probably due to the under reporting of infant deaths. Infant deaths are often under-reported, especially if they occur in the neonatal period (Ewbank, 1981). This problem would be exacerbated if non-camp women are giving birth within the camp, and then leaving. Thus, their births would be incorporated into the numerator but removed from potential inclusion in the denominator.

**Table 2: Infant Mortality Rate, Servestan Camp, service statistics, 1995-2000**

Year	Deaths under age one	Live births	IMR / 1,000
1995	2	93	21.5
1996	1	132	7.6
1997	6	96	62.5
1998	5	121	41.3
1999	7	133	52.6
2000	1	72	13.9

One key feature of all of these camp data is that the total camp population might be incorrect. Indeed, the relatively static total camp population, especially in the context of high fertility and extremely low mortality, suggests either under-enumeration of camp populations, or emigration from the camp. The camp registration data, whilst imperfect, do provide some contextual demographic data within which to place the survey data. The young population age structure does point to high fertility, but mortality levels cannot be calculated with any certainty from the camp data.

### **Survey data**

Demographic data presented here were collected in May 2001 and were collected using a household-level survey in two refugee camps in Iran<sup>9</sup>. Questionnaires were addressed to household heads, and detailed information was collected on all individuals aged over 16 years<sup>10</sup>. The data are representative only of those

<sup>7</sup> The selection effect refers to the fact that those less able (physically) to make the migration from Iraq to Iran remained behind in Iraq.

<sup>8</sup> IMR = Total deaths of infants aged under one year / Total live births during year

<sup>9</sup> Jahrom Camp and Servestan Camp, both in Fars Province. As of December 2000 there were 4,560 residents in Jahrom and 2,211 in Servestan.

<sup>10</sup> Logistical considerations prevented individual-level data to be collected on all age groups, and it is acknowledged that this is a shortfall of the data presented here. For more detailed information on the questionnaire administration, see Appendix.

households that are currently resident within refugee camps. It is possible that this population is self-selecting, and differs from Marsh Arabs who have either left the refugee camps in order to live elsewhere or were never resident in a refugee camp. Further, the relatively good medical, water and nutrition services within the refugee camps mean that these data cannot be used to provide a proxy for Marsh Arabs still resident in Iraq. Four subsections are presented here: population characteristics; migration; fertility and mortality.

**Sample population characteristics**

A total of 400 household heads were interviewed, yielding detailed individual-level data on 1,099 adults aged 16 years and above. The majority of household heads originated from within the marsh area in Iraq (56.8%)<sup>11</sup>, and a wide variety of tribes (n=46) are represented in the sample. The relatively unchanged residence of Marsh Arabs over recent decades is illustrated using a comparison of the place of origin of household heads with that of their grandparents (Table 3).

**Table 3: Percentage distribution of household heads (n=400) by place of origin with place of residence of grandparents**

		Respondent lived		
		Inside marshes	Marsh edge	Outside marsh
Respondent's grandparents lived	Inside marshes	55.7	4.4	1.3
	Marsh edge	0.3	31.9	0.3
	Outside marsh	0.8	0.3	5.0

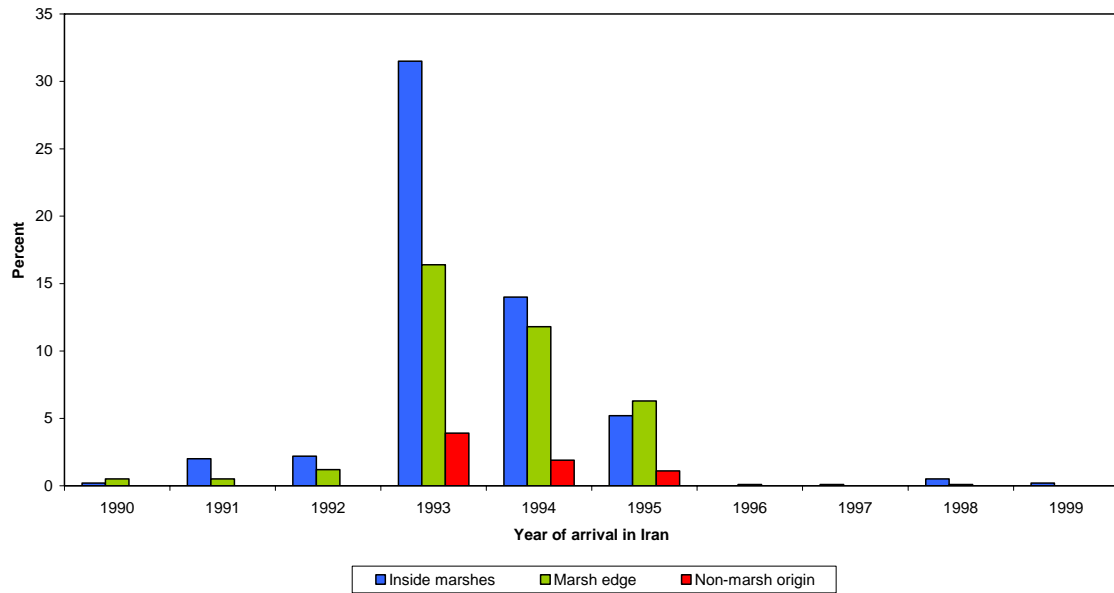
The date of arrival in Iran of individuals from Iraq is clearly shown in Graph 1. Migration began in 1990 and reached a peak in 1993, with refugees originating from both within and outside the marsh area. Refugees originating from outside the marshes did not begin to arrive until 1993, indicating that conditions outside the marshes were relatively better than those within the marshes. The arrival of new refugees has declined sharply since 1996.

**Graph 1**

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<sup>11</sup> 36.6% of household heads reported originating from the edge of the marshes and 6.6% from outside the marsh area.

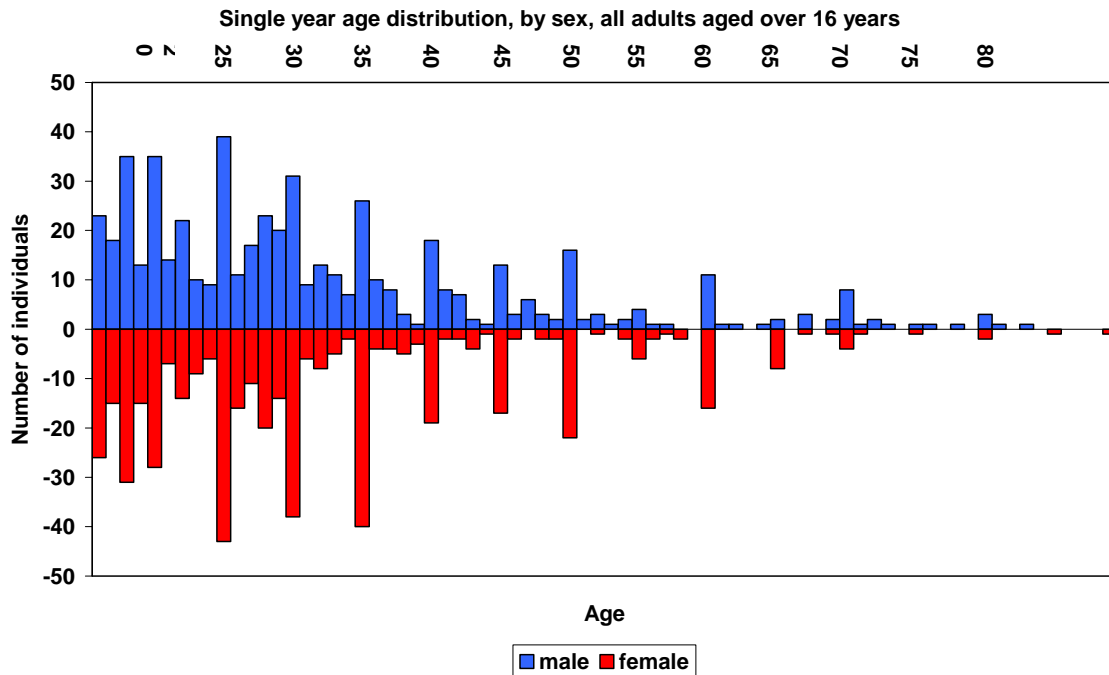
Percentage distribution of individuals aged over 16 by place of residence in Iraq and year of departure from Iraq



Household and residential arrangements within a refugee camp are, by and large, defined by the accommodation provided. The modal household size in both camps included in the survey was 6 people. Households within the sample ranged in size from single person households (1.5% of the sample) to households with more than 10 residents (10.0% of the sample), and are normally composed of a husband and wife and dependent children. Only 6.7% (n=14) of households were headed by women, 78.5% of whom were either divorced or widowed, reinforcing ethnographic evidence on the patriarchal nature of Marsh Arab culture. Levels of reported adoption/fostering of children were extremely low, with only 8% of households reporting a “non-own” child currently resident in the household.

As the individual-level data were only collected on all individuals aged 16 and over, a detailed assessment of the total population age-sex structure cannot be made here. Previous surveys (AMAR, 1997; AMAR, 2000) have confirmed the very young age structure of the camp populations, with over 60 per cent of camp populations composed of children under the age of 16. The age structure of the adult population (Graph 2) demonstrates high levels of digit preference (ages ending in 0 or 5), especially for women, typical of a population with low levels of education.

**Graph 2**



There appears to be some under-reporting of women, as the sex ratio for all adults indicates more men enumerated than women (110 men per 100 women). Overall, there are very few elderly people reported in the sample survey, reflecting the age-selective nature of forced migration. Marriage is virtually universal for both men and women in the camps, suggesting that forced migration has not disrupted traditional patterns of nuptiality. There are marked differences in the age of entry into marriage, by sex ; by age 25, only 6.3% of women remain unmarried, compared with 37.8% of men. Levels of widowhood for women are high, reflecting both differences in spousal age at marriage and potentially higher mortality risks for Marsh Arab men prior to leaving Iraq. That these widowed women are not heads of households demonstrates that they are absorbed into other households, possibly that of a married child, and supported there.

**Migration**

Data were collected on the current place of residence for all adult siblings of each respondent (Table 4). Such data provide a descriptive overview of current patterns of migration, and three key features are of note. Firstly, there is an age effect on the current residence of siblings, demonstrating age selective migration. Namely, the siblings of older respondents are more likely to still be resident in Iraq, relative to younger respondents. This result is unsurprising, given that the majority of individuals left Iraq at least seven years before the survey. Thus, an individual currently aged 20 would have only been 13 years old at the time of departure, and is therefore much more likely to have travelled to Iran as part of a family group with their siblings. An older individual is much less likely to have travelled to Iran as part of a sibling group. Further, given the age selectivity of migration, his/her siblings are more likely to have remained in Iraq.

**Table 4: Percentage distribution, by five-year age group, of current place of residence for adult siblings or respondents aged above 20 years<sup>12</sup>**

Respondent's age	Adult siblings alive						Adult siblings dead	
	In Iran		In Iraq		Elsewhere		Male	Female
	Male	Female	Male	Female	Male	Female		
20-24	47	38	3	6	0	0	4	4
25-29	35	24	11	20	0	0	7	2
30-34	35	20	18	18	0	0	6	2
35-39	26	22	15	21	2	1	8	4
40-44	23	13	17	27	0	2	12	6
45-49	20	16	16	20	0	0	18	9
50-54	12	9	8	24	0	0	9	9
55-59	14	7	21	29	0	0	21	7
60+	14	10	22	26	0	0	22	5

Secondly, given the current situation in southern Iraq, it is important to remember that reports of siblings still resident in Iraq may be based upon imperfect knowledge. That is, they may reflect the situation at the time of the respondent's departure from Iraq, in some cases nine years earlier. Thirdly, there are very low levels of migration of siblings to destinations other than Iraq, although this may reflect the fact that entire family groups have migrated overseas, and will therefore not be reported upon. No detailed estimates of mortality can be made based upon the reports of dead adult siblings. The only point to note is the considerably higher proportion of dead adult male siblings relative to adult female siblings. This may reflect higher mortality rates as a result of conflict (unintentional and intentional injury and homicide) in Iraq.

### **Fertility**

The fertility of forced migrants is poorly described and understood, due to a dearth of data, although "There seems to be little doubt that women in many refugee settings are having large numbers of children" (Wulf, 1994: 7, quoted from Reed *et al*: 1998:18). It is, however, unwise to generalise about the fertility behaviour of refugee populations because of great differences in context and culture. Within the logistical confines of the current study, detailed birth histories could not be collected therefore explanatory factors relating to fertility (proximate determinants including breastfeeding, contraception, etc.) are absent here. Circumstantial evidence for prolonged breastfeeding is provided by a 1997 survey of Jahrom Camp, where 54.6% of children (n=119) were exclusively breastfed for the first six months and 53% of children were still being breastfed at 24 months. In a comparable survey conducted in 2000, these figures had risen slightly, to 59% and 62%, respectively (n=113), possibly at the result of safe motherhood educational programmes run in the camps (AMAR, 1997; AMAR 2000).

In the household survey, data on children ever born and surviving were collected using "Brass-style" questions, permitting indirect estimation of fertility and early age mortality<sup>13</sup>. The number of children ever born to a woman is an aggregate measure of

<sup>12</sup> Sibling data weighted by the inverse of the total size of sibling group.

<sup>13</sup> The completed fertility of women aged over 49 years by the time they left Iraq could provide a very crude proxy for Marsh Arab fertility, but high levels (22%) of non-reporting for this age group combined with the highly selective nature of this group of women and small overall sample size (n=41), prevents any robust estimate from being made.



lifetime fertility prior to the survey, and therefore provides no information on the timing of the birth. Slightly higher numbers of male children were reported relative to female (112 males and 100 females), reflecting the male bias in camp registration of births (or possibly representing a misreporting of the sex of the reported children). Based upon reports of children ever born, a Total Fertility Rate (TFR) of 6.4 children per woman is estimated<sup>14</sup>. Average parity by age was calculated (Table 5)<sup>15</sup>, a measure of the average lifetime fertility experience of the survivors of the particular birth cohort (represented by age group).

**Table 5: Mean reported parity, by five-year age group, all ever-married women (n=433)**

Age group	Mean parity	n (Ever-married women)
15-19	1.2	65
20-24	2.8	57
25-29	3.9	101
30-34	4.6	58
35-39	5.6	54
40-44	5.5	26
45-49	5.0	21
50-70	4.3	51

Lower reported parity for older women may represent either increased under-reporting of children by older women, or may tentatively imply a recent increase in fertility. It is extremely difficult to determine whether fertility has changed or is changing among Marsh Arab women (either upwards or downwards), and what the possible causes of this change may be. For example, a woman aged over 45 years will have completed most of her childbearing before arriving at the camp, whereas a woman aged under 20 will have only borne children whilst a refugee, and camp residence may plausibly affect fertility in either direction.

It is possible that fertility has changed among refugee Marsh Arab women over the past decade, although the direction of change is speculative. Given the increasingly difficult conditions in Iraq prior to departure, it is possible that fertility since arrival in Iran has risen due to a combination of factors including improved medical care (including antenatal and postnatal care) and nutritional status of women (with a

<sup>14</sup> Using FERTCB procedure in MORTPAK-Lite. The asfrs estimated by this procedure show a very unusual age pattern, with the highest fertility occurring in age group 15-19.

Age group	Age specific fertility rate (asfr)
15-19	0.4734
20-24	0.1956
25-29	0.1951
30-34	0.1281
35-39	0.2085
40-44	0.0565
45-49	0.0208

It is possible that never-married girls aged 15-19 were reported as children, thus biasing the reports from this age group to include only those who have ever-married. As women involved in early marriages tend to have relatively high levels of fertility, with childbearing often occurring soon after marriage.

<sup>15</sup> Anecdotal evidence suggests some very early marriage and childbearing of Marsh Arab girls, but the inclusion of only adults aged over 16 in the survey precludes an assessment of this. It must be noted

possible impact in fecundity). In addition, a consequence of becoming a refugee might be to place upward pressure on fertility as a result of increased politicisation (Pedersen *et al*, 2000; Randall, 2001). On the other hand, the experience of being a refugee (of whatever status), might lead to voluntary birth control and hence a decline in fertility, especially among younger, better educated women.

### **Mortality data**

Given the traumatic and physically dangerous nature of forced migration, heightened mortality is to be expected during the period immediately before and after the migration (see, for example, Waldman in Reed *et al*, 1998: 16). It must be remembered, that population subgroups will be affected differently, for example, the very young and the elderly might experience the highest excess mortality. Ideally, it would be useful to make distinctions between mortality in the area of origin, mortality during forced migration and mortality during resettlement (after Carballo, 2001).

Based on reports of children ever born and surviving, average life expectancy is estimated at 64.9 years<sup>16</sup>. It is certain that the overall mortality levels among the refugee Marsh Arab population are considerably lower than mortality levels among internally displaced Marsh Arabs remaining in Iraq. That Marsh Arabs had poor levels of early age mortality before their forced migration is very probable. The only circumstantial evidence is provided by a 1987 study by the Iraqi Central Statistical Office, which estimated an IMR of 60 /1,000 for residents of reed houses, relative to 40/1,000 for residents of concrete hoses (quoted from Saadi, 1996). The proportions of children ever born who have died are indicators of childhood mortality and can yield robust estimates of childhood mortality (United Nations, 1983). Using reports of children ever born and survived from the survey it is possible to indirectly estimate levels of early age (under five) mortality. Estimates<sup>17</sup> of infant (age under one year) and child (age between and five years) mortality, are calculated at 63 per 1,000 and 25 per 1,000, respectively.

Overall, although the proximate determinants of child health for the refugee population are good. For example a sample survey in Jahrom Camp in 2000, reported 98% of children (n=113) as fully immunised (BCG, DPT, Measles) and 99% of children were given ORS following a diarrhoeal episode (AMAR, 2000). Given the robust nature of techniques for the indirect estimation of early age mortality, more confidence should be placed in the figures derived from these techniques than those from the camp statistics.

### **Future**

The future demography of the Marsh Arabs currently resident in Iran is intuitively better than that of those Marsh Arabs still resident within Iraq. The lack of water, healthcare and food within the marshes, combined with heightened mortality risks from conflict, all point towards extremely poor future morbidity and mortality within the marsh area. By way of contrast, the Marsh Arab refugee population currently resident in camps in Iran is receiving healthcare, shelter, water and food. The

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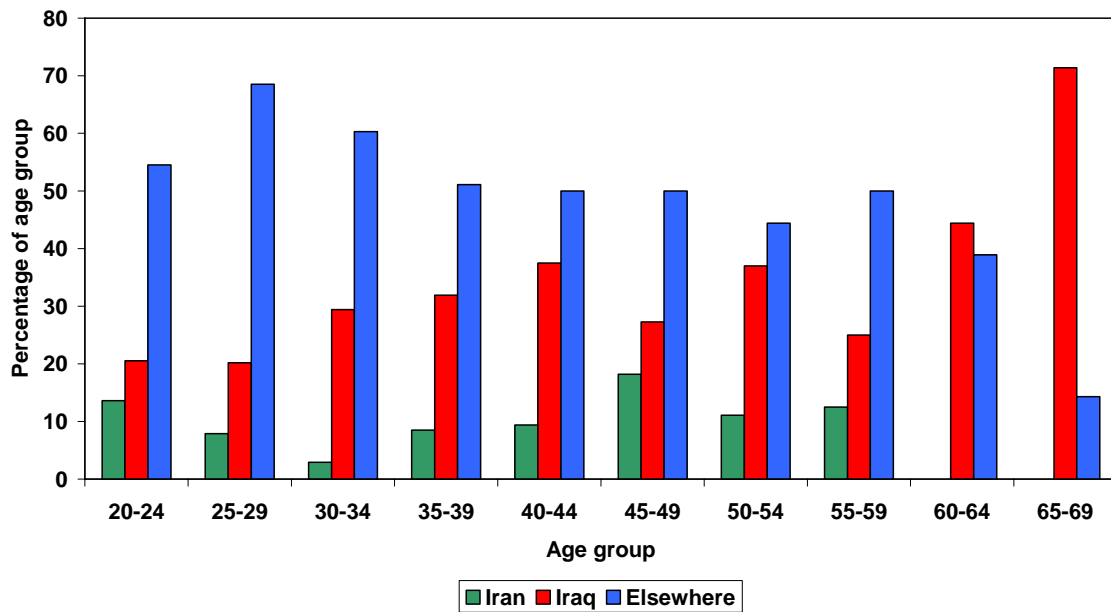
<sup>16</sup> Calculated using MORTPAK-Lite, using the United Nations General Life Table, and based on reports of children ever born and surviving from women aged 20-29.

<sup>17</sup> Using MORTPAK-Lite and assumption of mean age at childbearing calculated at 23.89 years. Estimates of early age mortality are based on estimates for women aged 20-24, based on the age distribution of reported dead children and using the United Nations General model life table.

implications for the return of Marsh Arabs to their original area of residence, are extremely negative. As time goes on, increasing numbers of people of Marsh Arab descent will be born in refugee camps, or will at least have spent a large proportion of their life in a camp. This will (has) undoubtedly affect their future aspirations in terms of place of residence, a feature shown clearly in Graph 3.

**Graph 3**

**Percentage distribution of preferred future residence, household heads (n=396)**



Older age groups are more likely to want to return to Iraq (71.4% of 65-69 year olds) relative to younger age groups (20.5% of 20-24 year olds). Relatively low levels of individuals at all ages want to remain in Iran, reflecting a desire to be independent that will be found in most refugee populations.

More generally, what this study has shown, is that in order to assist both specific groups of forced migrants and forced migrants as a whole, good demographic data are needed. Recently, there has been an increasing recognition that there is a need for good evidence in order to be able to both understand and deal with complex emergency situations (NRC, 2001). Of course there are many other outcomes of forced migration other than those of demography ,including “changes in family and household structures, broader societal changes, psychological effects, and potential cultural shifts” (Keely *et al*, 2001: 2). To date there s a relatively small (but growing) corpus of data on the demography of forced migration populations, and this study provides a small contribution to that corpus.

## **Bibliography**

Ali, M. M. and I. H. Shah (2000) "Sanctions and childhood mortality in Iraq." The Lancet 355: 1851-1857

AMAR (1997). A visit to the Iraqi refugee camps, assisted by AMAR ICF in South of Iran. Tehran: AMAR

AMAR (2000). Health and sanitation survey in Iraqi refugee camps assisted by AMAR I.C.F. in South of Iran. Tehran AMAR

Carballo, M (2001) "Reflections" in NRC Forced migration and mortality: roundtable on the demography of forced migration National Research Council National Academy Press: Washington pp.130-135

Cook, R. (1998). Transcript of press conference given by the Foreign Secretary 19/12/1998.

Cortright, D. and G. A. Lopez (1997). Sanctions against Iraq: facts and analysis, Fourth Freedom Forum.

Daponte, B. O. and R. Garfield (2000). "The effect of economic sanctions on the mortality of Iraqi children prior to the 1991 Persian Gulf War." American Journal of Public Health 90(4): 546-552.

Ewbank, D. (1981) Age misreporting and age-selective under-enumeration: sources, patterns and consequences for demographic analysis National Academy Press: Washington

FAO (1995). Evaluation of food and nutrition situation in Iraq. Rome, FAO.

FAO/WFP (1997). FAO/WFP Food supply and nutrition assessment mission to Iraq. Rome, FAO/WFP.

Fell, N. (1996). "Outcasts from Eden." New Scientist 151(2045): 24-27 ,31.

Keely, C B *et al* (2001) "Understanding mortality patterns in complex humanitarian emergencies" in NRC Forced migration and mortality: roundtable on the demography of forced migration National Research Council National Academy Press: Washington pp.1-37

NRC (2001) Forced migration and mortality: roundtable on the demography of forced migration National Research Council National Academy Press: Washington

Pedersen, J *et al* (Eds.) (2000) Growing fast: The Palestinian population in the West Bank and Gaza Strip Fafu Institute for Applied Social Science FAFO Report 353, Oslo

Randall, S C (2001) Demographic consequences of being refugees: Malian Kel Tamasheq Paper to be presented at IUSSP Conference, San Salvador, Brazil 18<sup>th</sup>-25<sup>th</sup> August

UNACC (SCN) (United Nations Administrative Committee on Coordination – Subcommittee on Nutrition) (1997) Marsh Arabs in southern Iraq Refugee Nutrition Information System Vol. 21

Reed, H., J. Haaga, *et al.*, Eds. (1998). The demography of forced migration: summary of a workshop. Washington, National Academy Press.

Saadi, A. F. A. (1996). “Infant mortality and the economic embargo in Iraq.” Population Bulletin of ESCWA 44: 45-65.

Toole, M. J. and R. Waldman (1997). “The public health aspects of complex emergencies and refugee situations.” Annual review of Public Health 18: 283-312.

UNHCR (1994). Report of the special rapporteur of the Commission of Human Rights on the situation of human rights in Iraq. Geneva, United Nations General Assembly.

UNHCR (1996). Background paper on Iraqi refugees and asylum seekers. Geneva, Centre of Documentation and Research, UNHCR.

UNICEF (1997). A situation analysis of children and women in Iraq.

UCSR. (1999). “Iraqi refugees in Iran.” Refugee Reports 20(6).

USCR (2000). Country Report: Iraq, US Committee for Refugees.

Zaidi, S. and M. C. Smith-Fawzi (1995). “Health of Baghdad's children.” The Lancet 346(8988): 1485.