

CR 11/6.981

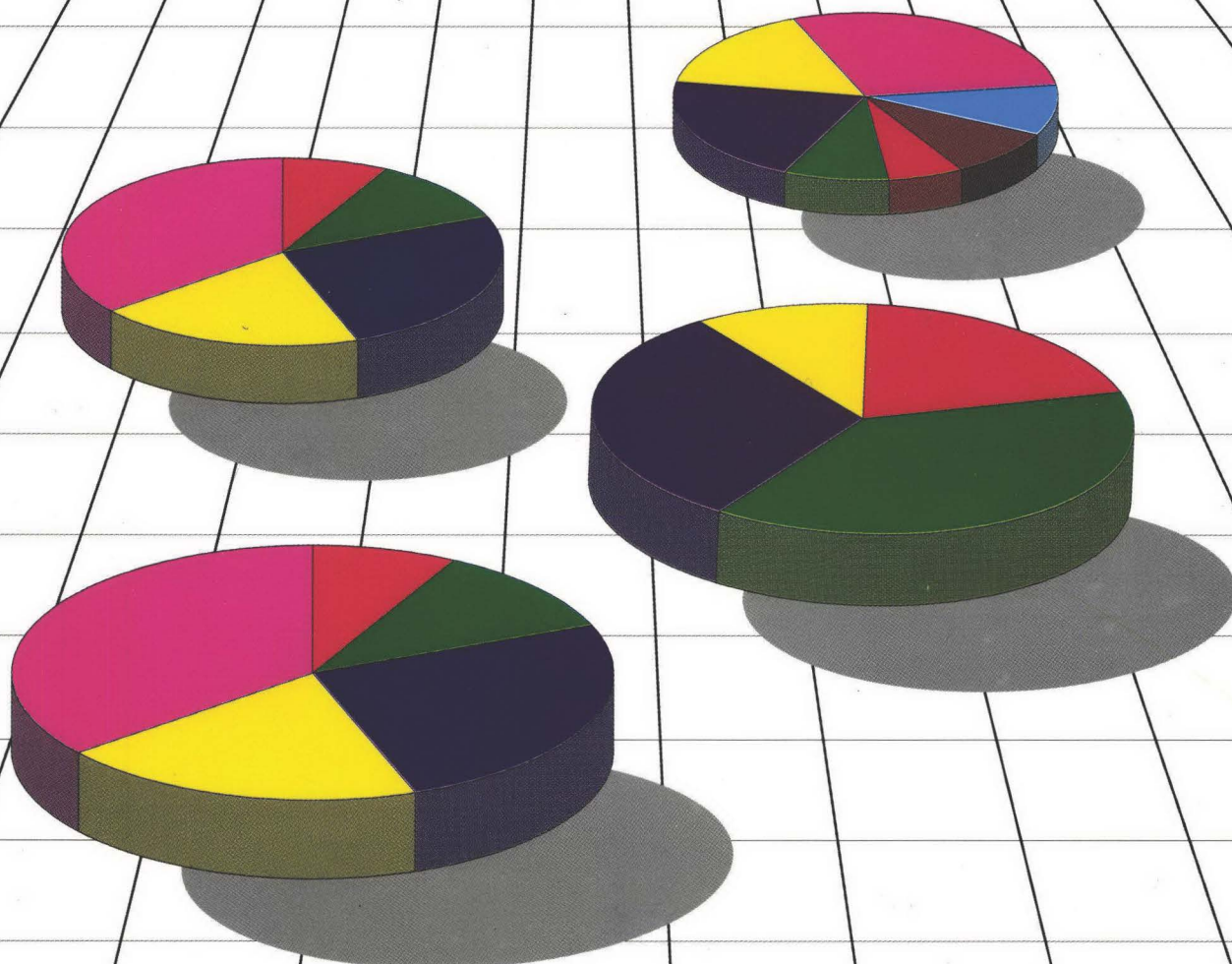


Syrian Arab Republic
Prime Minister's Council
Central Bureau of Statistics



United Nations
Children's Fund
(UNICEF)

Multiple Indicator Cluster Survey
in
The Syrian Arab Republic



Damascus
December 1996

CRING 98.

08/20.

Syrian Arab Republic
Prime Minister's Council
Central Bureau of Statistics

in cooperation
with

United Nations
Children's Fund
(UNICEF)

Multiple Indicator Cluster Survey
in
The Syrian Arab Republic

Damascus
December 1996

Multiple Indicator Cluster Survey

in the Syrian Arab Republic

Survey objectives	1
Survey methodology	1
Water and sanitation facilities results	3
Access to health services results	4
Salt iodization results	5
ORS availability results	6
Mother's knowledge of diarrhoea management results	7
Prevalence and management of diarrhoea results ..	9
Breast-feeding results	11
Nutrition results	12
Vaccination coverage results	13
Basic education results	15
Conclusion	16
Annex: Methodology in detail	18

Survey objectives

The Multiple Indicator Cluster Survey (MICS) was broadly aimed at providing information to policy-makers and other concerned parties for use in addressing the priority health concerns of women and children in Syria and improving the quality of health care. In more specific terms, it aimed at:

- augmenting baseline data made available by the 1993 PAPCHILD survey, particularly in the areas of water and sanitation, health facilities, salt iodization, oral rehydration therapy, diarrhoeal disease, breast-feeding and basic education;
- monitoring and assessing the changes in some basic child health indicators between 1993 and 1995; and
- obtaining more detailed information concerning health services and health conditions at the sub-national level, both by region and by settlement type.

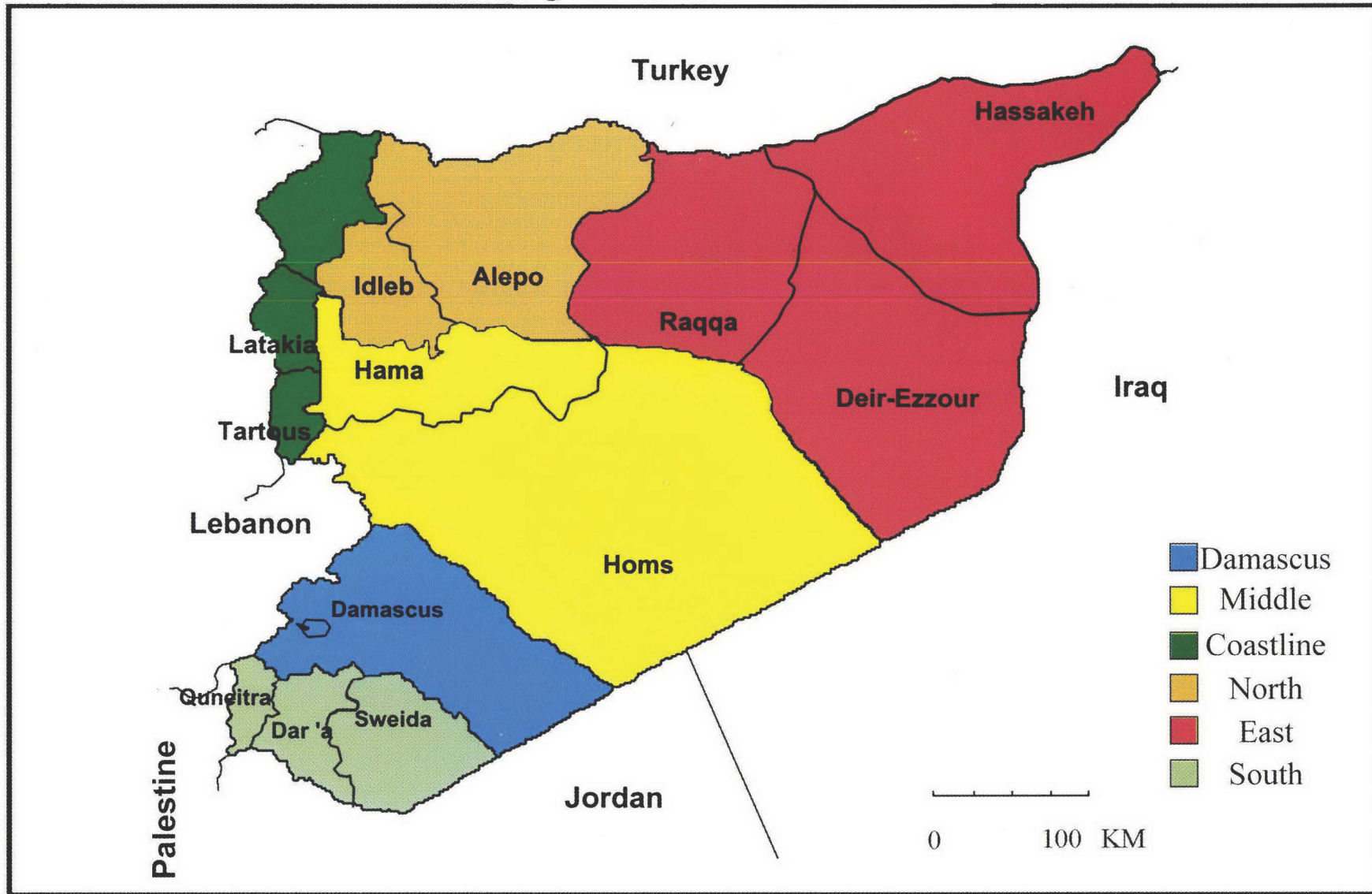
Survey methodology

The study covered a total of 2,200 families chosen through multi-stage cluster sampling, 1,230 from urban areas and 970 from rural areas. The 1994 population census provided a recent and reliable sample frame for the households. Data were collected on the following items, using a survey questionnaire that was administered by trained field workers:

- water and sanitation facilities;
- access to health services;
- salt iodization;
- availability of ORS in the health facilities;
- mothers' knowledge of diarrhoea management;
- prevalence and management of diarrhoea among under-fives;
- breast-feeding patterns;
- nutritional status;
- vaccination coverage; and
- basic education enrollment.

Each item was analyzed according to the country's six regions (Damascus, Middle, Coastline, North, East, and South) and according to different types of settlements (urban, peri-urban, and rural).

Fig.1/1 Administrative divisions



Water and sanitation facilities results

Tables 1(a) and (b) show household water and sanitation facilities by region and settlement type. The tables suggest that access to water supplies is generally good in Syria; almost three-quarters of households are connected to a water network and over 95 percent of households are connected to a water network or a well. Reliance on water tankers or other water sources is widespread only in the East (28 percent) and in rural locations (23.5 percent). Seventy-five percent of households connected to a water network and 85.8 percent of households dependent on well report receiving water continuously, with little variance by region or settlement type. Sixty-five percent of household dependent on wells had inside water connections, 34.3 percent received water less than 500 meters away, and only 0.7 percent of households depended on wells further than 1000 meters away.

The tables indicate, however, that substantial numbers of households remain without access to adequate facilities for excreta disposal. Only two-thirds of households nationally, and only 43.3 percent of East households and 31.2 percent of rural households, are connected to a piped sewerage system. One-quarter of East households and 17.2 percent of rural households are completely lacking sanitation facilities, posing an important environmental health concern.

Table 1(a). Water and sanitation facilities by region (%).

	Damascus	Middle	Coastline	North	East	South
Source of drinking water						
Network	76.7	73.8	73	74	58	94
Well	6.6	13.6	13.5	21.3	14	0
Water tanker	16.3	4.4	2.2	1	16	0.7
Other	0.4	8.2	11.3	3.7	12	5.3
Excreta Disposal						
Piped sewerage system	88.8	63.5	65.2	68.3	43.3	52
Pit latrines	7.3	34.3	24.8	16.4	31.2	47.3
Open drain	3.7	0.2	0.4	0.6	0.7	0.7
Nothing	0.2	2	9.6	14.7	24.8	0

Table 1(b). Water and sanitation facilities by settlement type (%).

	Urban	Peri-urban	Rural	All
Source of Drinking Water				
Water network	92.7	85.7	51.6	73.7
Well	2.5	4.4	24.9	12.7
Water tankers	4.1	7.8	11.3	7.7
Other	0.7	2.1	12.2	5.9
Excreta Disposal				
Piped sewerage system	96.4	96.1	31.2	67.3
Pit latrine	2	0.4	50.2	23.3
Open drain	1.3	0.4	1.4	1.3
Nothing	0.3	3.1	17.2	8.1

Fig.2/1 Percentage of households connected to the main water system or to the piped sewerage system

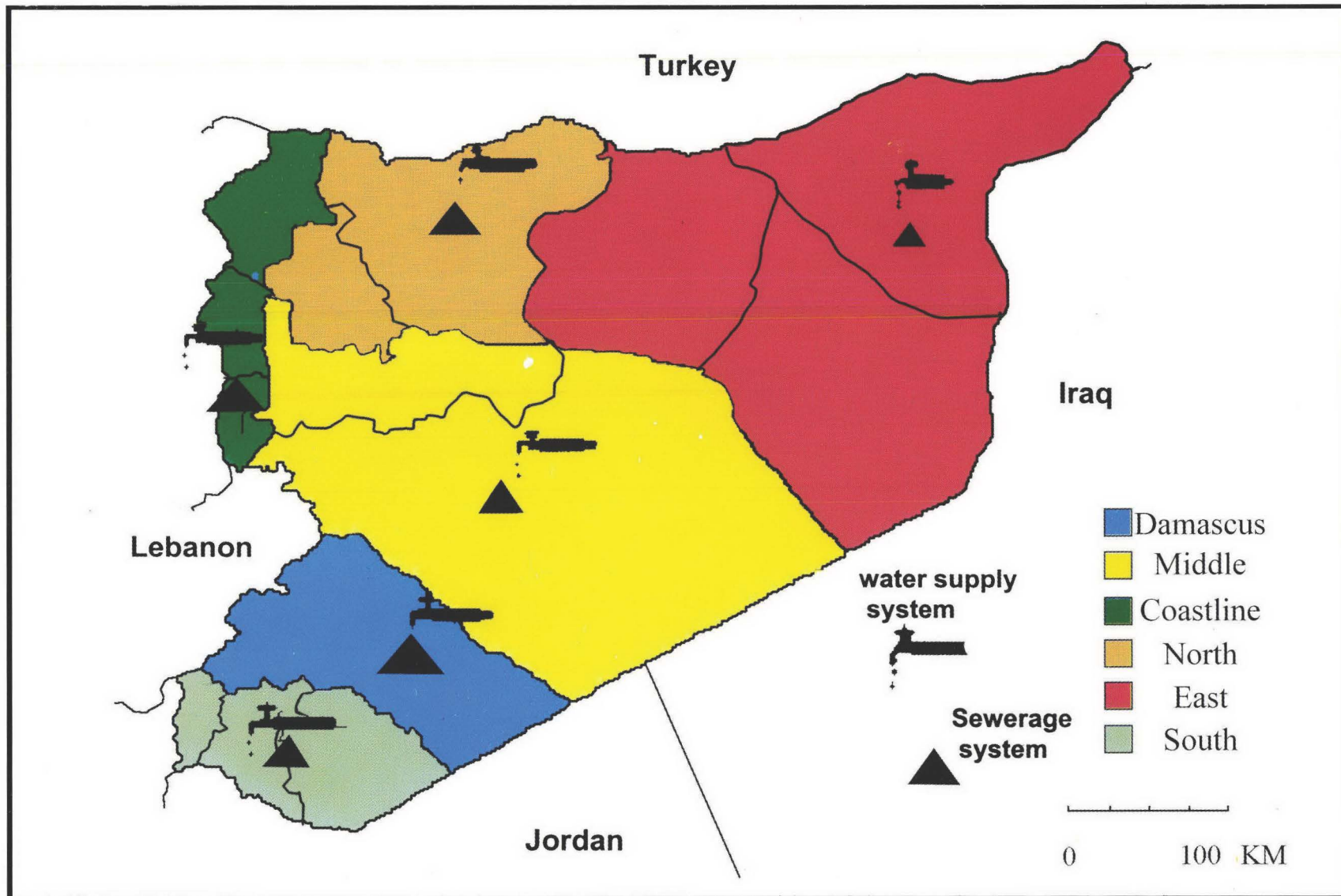


Fig 2/2 A : Distribution of families according to the source of drinking water

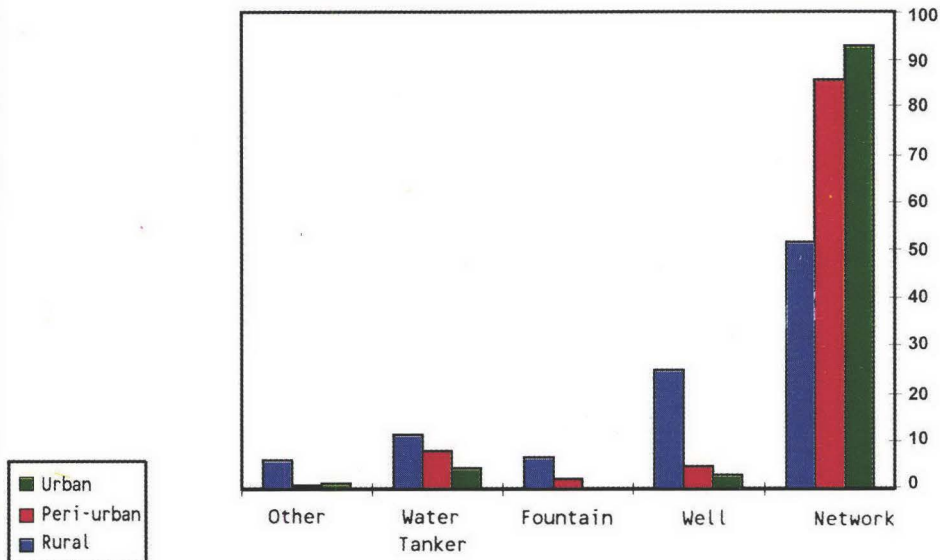


Fig 2/2 B : Distribution of families according to the source of drinking water

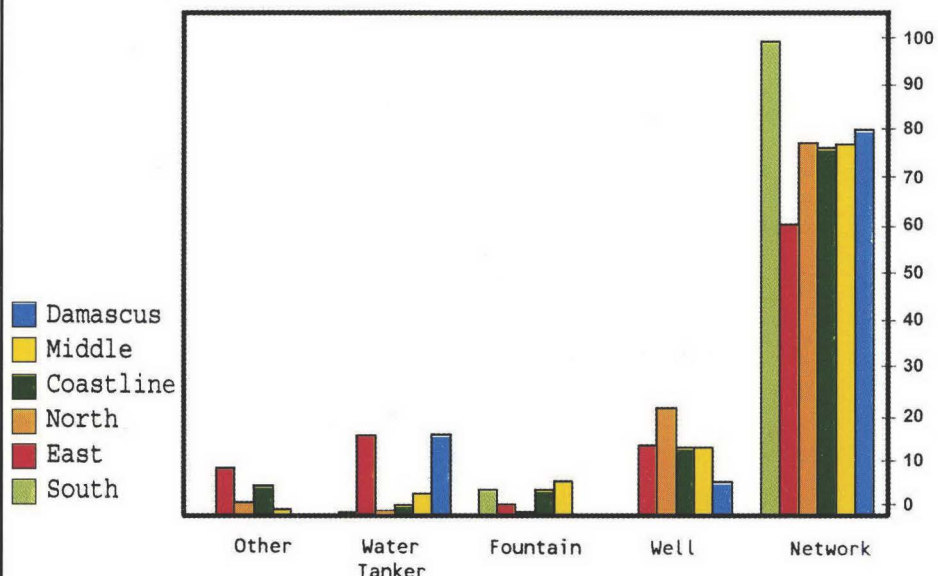


Fig. 2/3 A : Distribution of families according to sanitation facilities

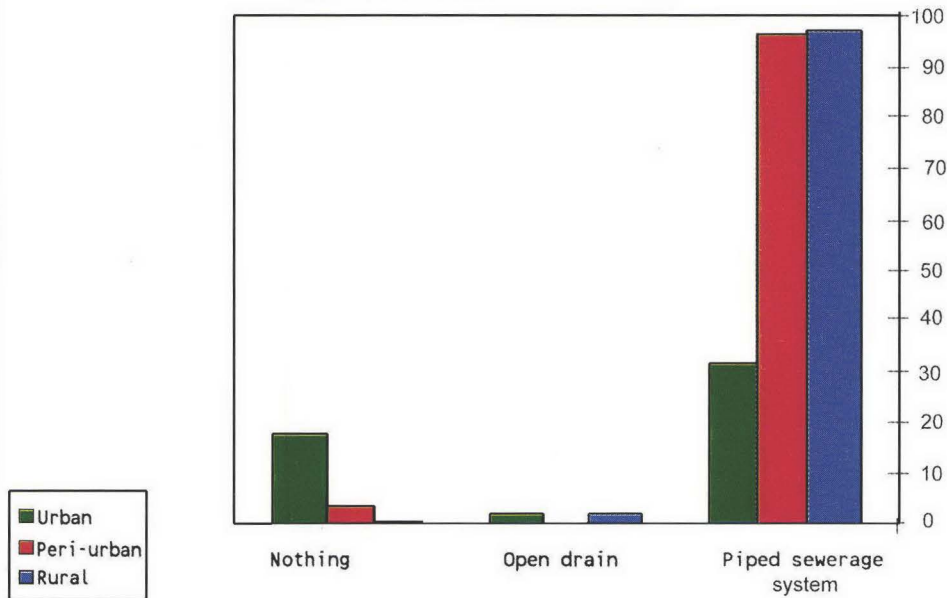
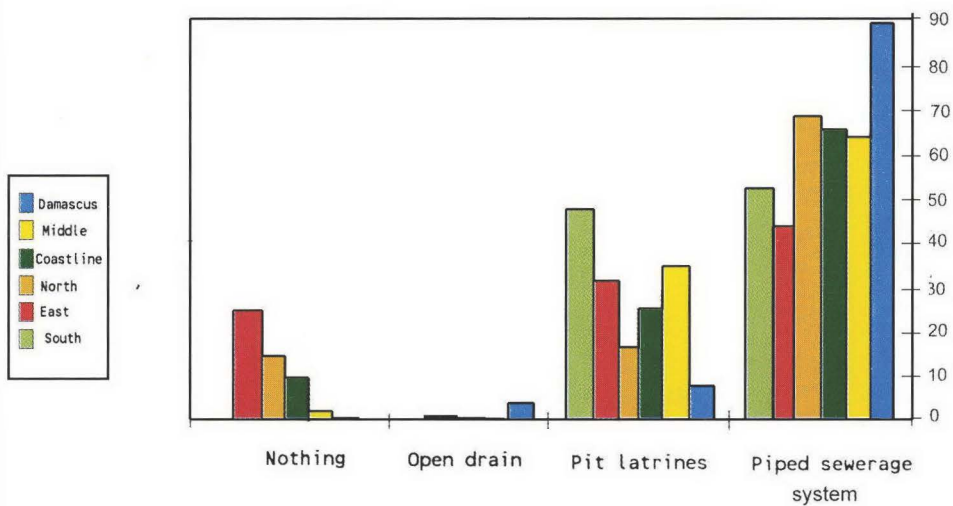


Fig. 2/3 B : Distribution of families according to sanitation facilities



Access to health services results

Tables 2 (a) and (b) indicate that almost all households have relatively easy physical access to non-tertiary health facilities. Only 3.2 of total households have to travel more than 30 minutes to reach a health centre, although this proportion rises to 11.4 percent for East households and 6.6 percent for rural households. Seventy-nine percent of total households have a health centre within five kilometers. Tertiary care facilities are fewer in number and therefore more spread out, but still almost three-quarters of households have a Government hospital within 30 minutes' travel time.

Table 2(a). Percentage of households normally travelling over 30 minutes to reach a health facility, by region .

Type of facility	Damascu s	Middle	Coastline	Northern	Eastern	Southern
Health centre	0.6	0.6	4.3	3.8	11.4	2.7
Private doctor	0.4	0	4.3	3.8	12.1	2.7
Governmental Hospital	12.3	39.2	33	29.2	42.8	42.5
Private Hospital	12.5	15.6	30.9	21.3	44.5	45.4
Pharmacy	0	2.2	8.7	3.3	15.4	1.4

Table 2(b). Percentage of households normally travelling for more than 30 minutes to reach a health facility, by settlement type.

Type of facility	Urban	Peri-urban	Rural	All
Health Centre	0.6	0.4	6.6	3.2
Private Doctor	0.7	-	6.4	3.2
Government Hospital	10.9	1.3	51	27.8
Private Hospital	12.3	-	40.6	23.6
Pharmacy	0.7	-	9.1	4.4

**Fig.3/1 Percentage of households with access to any health facility
within 5 km distance**

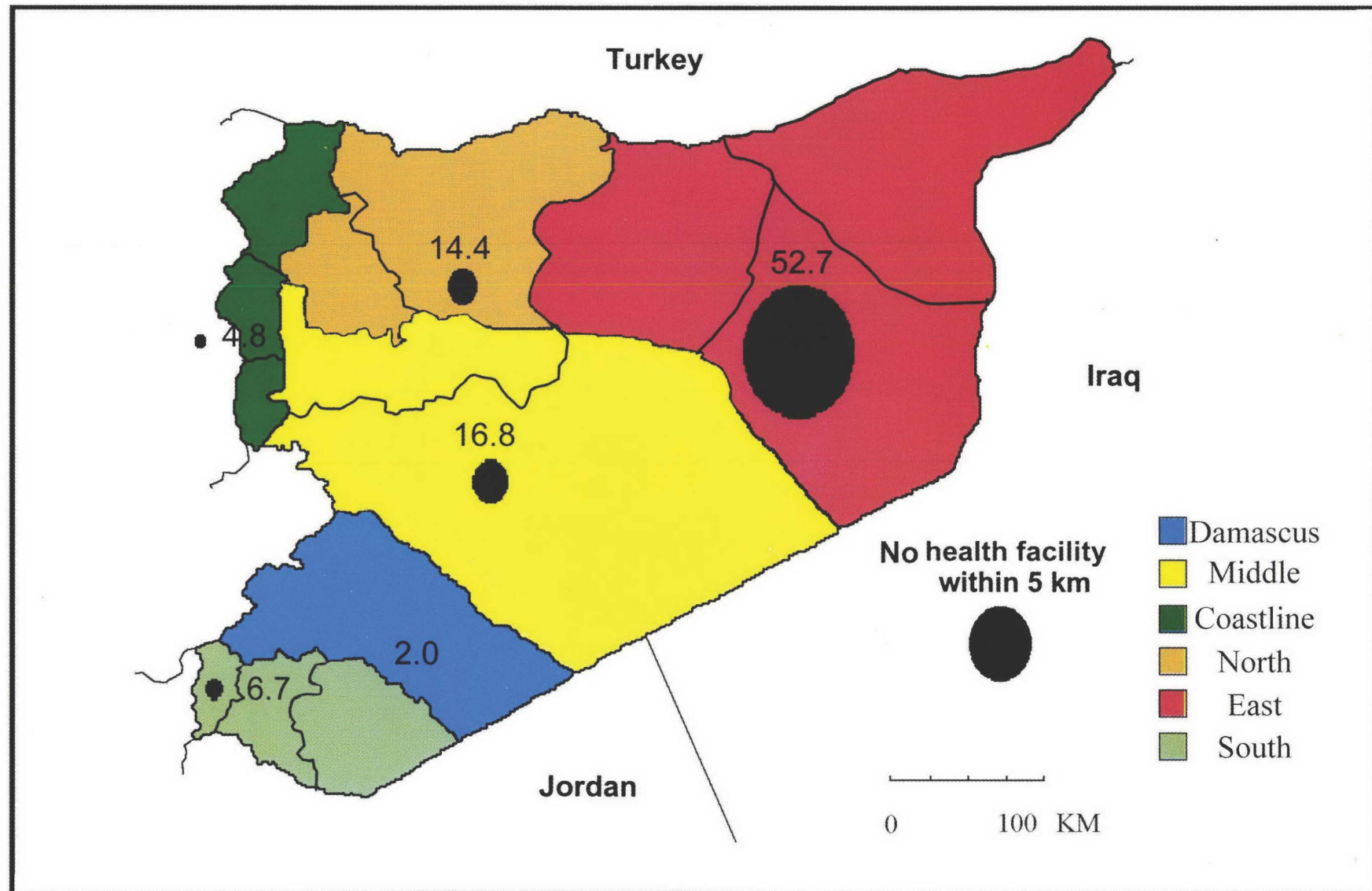


Fig 3/2 A : Availability of health facilities within less than 5 Kms distance

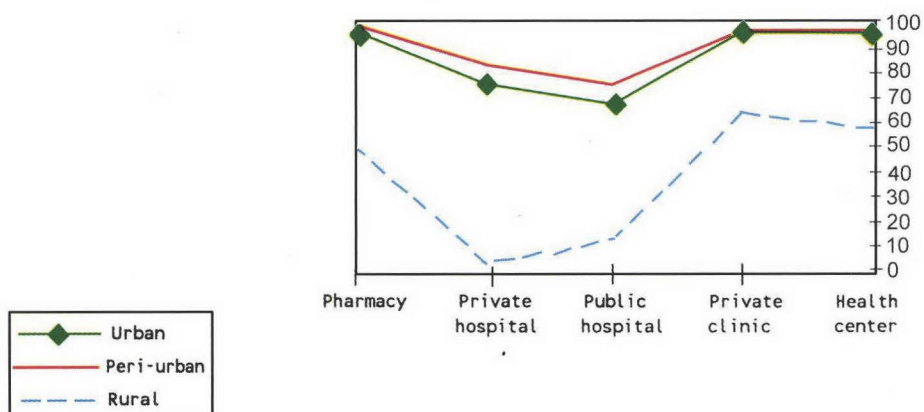


Fig 3/2 B : Availability of health facilities less than 5 Kms distance

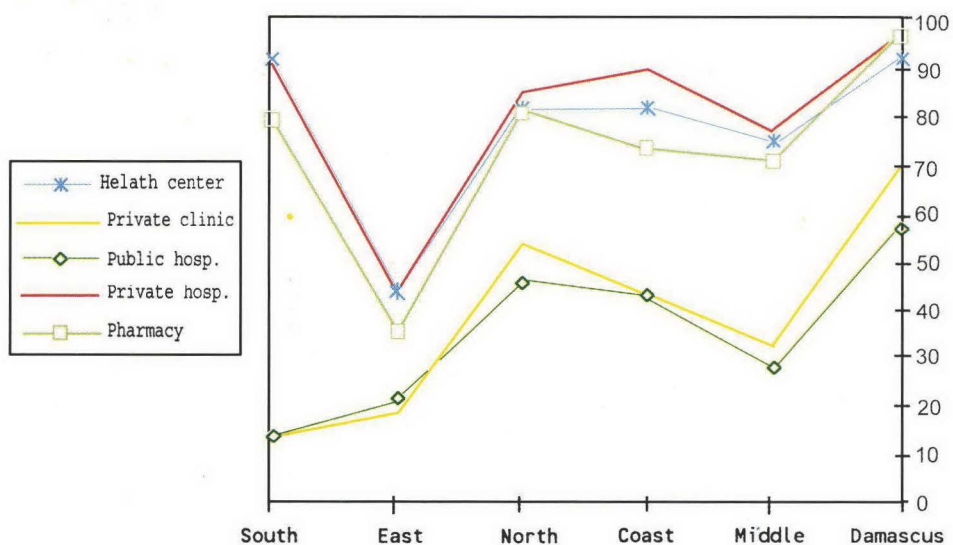


Fig 3/3 A : Distribution of families according to the number of health facilities within less than 5 Kms.

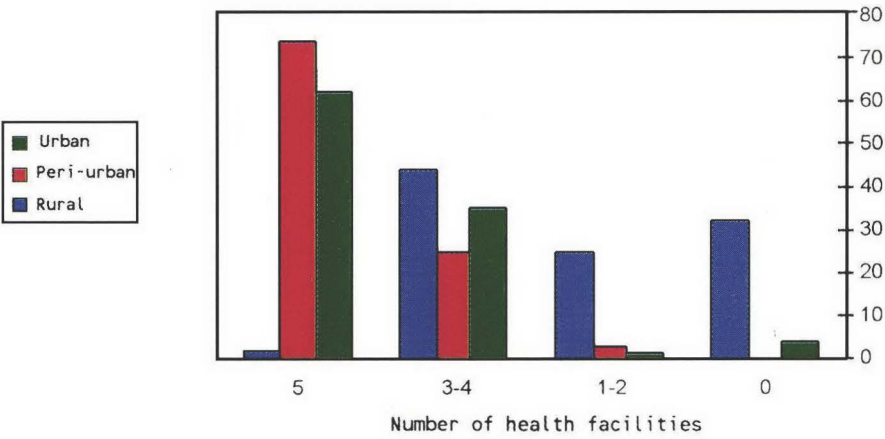
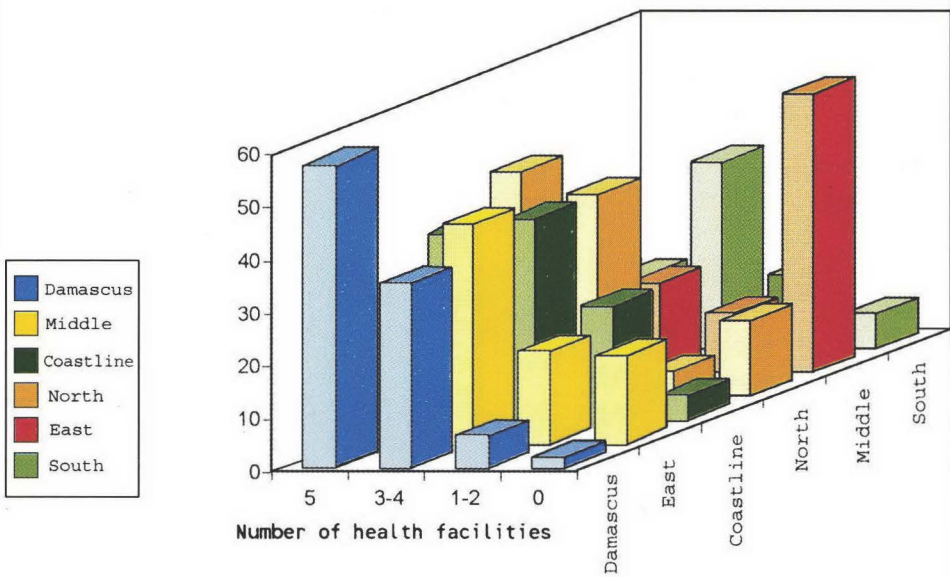


Fig 3/3 B : Distribution of families according to the number of health facilities within less than 5 Kms.



Salt iodization results

Tables 3 (a) and (b) suggest that actual usage of iodized salt lags somewhat behind awareness of its importance. Almost three-quarters of households nationally are aware of iodized salt, but only 58 percent of aware households, and 35.6 percent of total households, actually use iodized salt. Awareness and usage are lowest in North, peri-urban and rural households.

Table 3(a). Salt iodization by region .

	Damascus	Middle	Coastline	North	East	South
% of families aware of iodized salt	83.7	73.4	86.2	56.2	66.4	74
% of aware families using iodized salt	72.9	48.1	70.8	39.1	48.7	71.2
% of families with +ve iodized salt test	57.7	23.5	58.6	11.4	26.3	58.4

Table 3(b). Salt iodization by settlement type.

	Urban	Peri-urban	Rural	All
% of families aware of iodized salt	82.9	69.1	63	72.6
% of aware families using iodized	63.6	49.4	52.6	58
% of families with +ve iodized salt test	45.9	27.1	27.4	35.6

Fig.4/1 Percentage of families with positive results of the testing for iodized salt

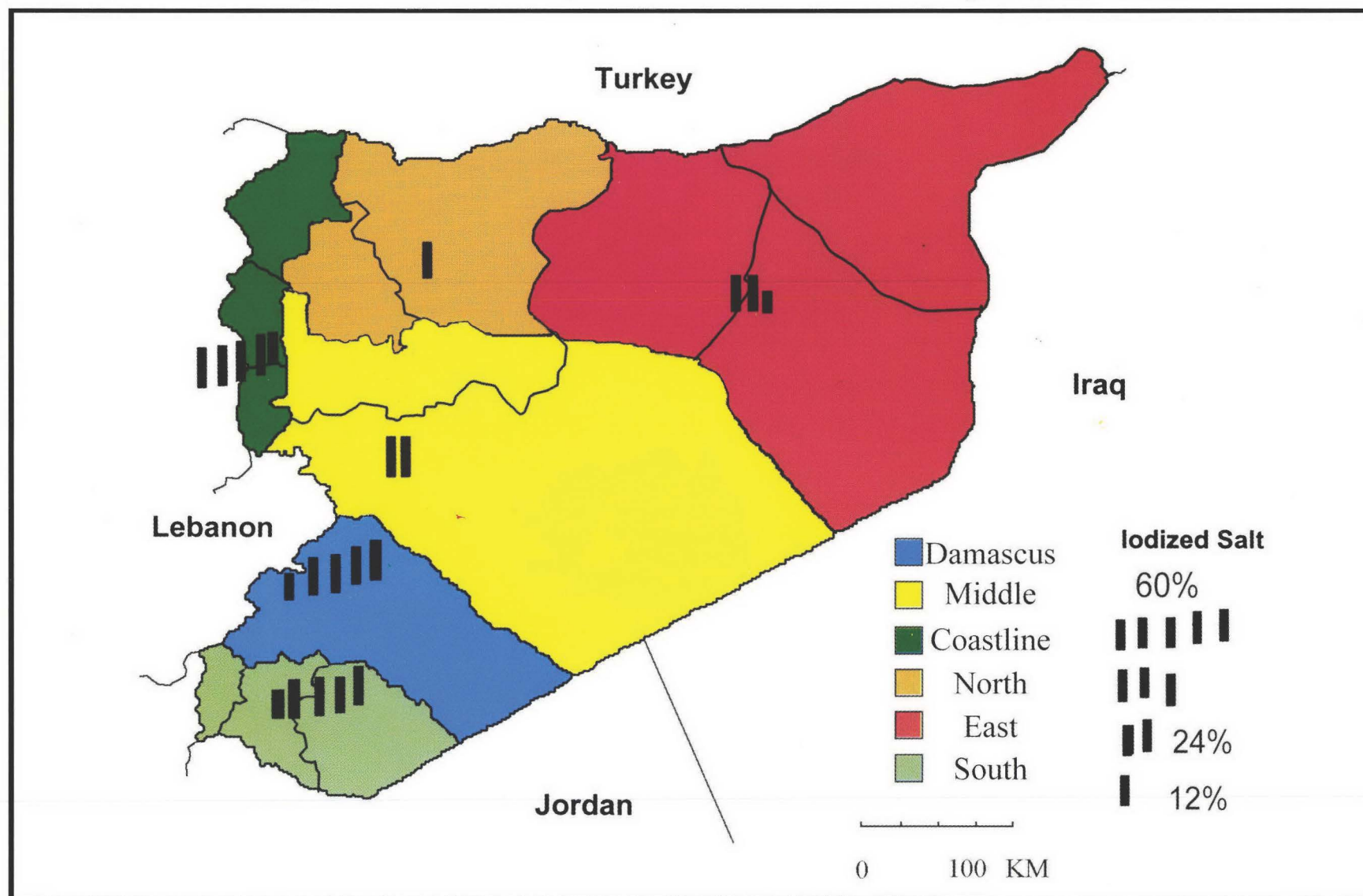


Fig 4/2 A : Distribution of families according to the results of iodized salt test

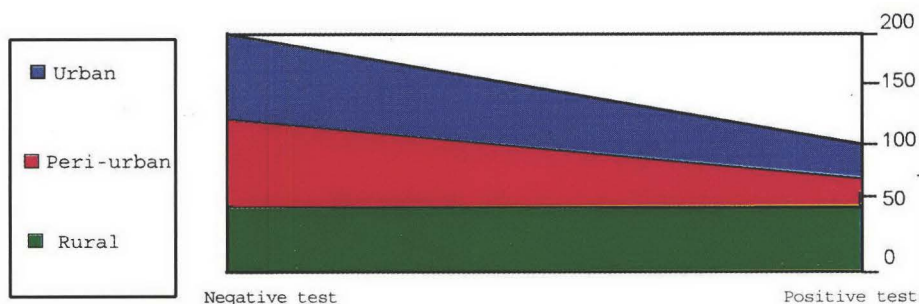
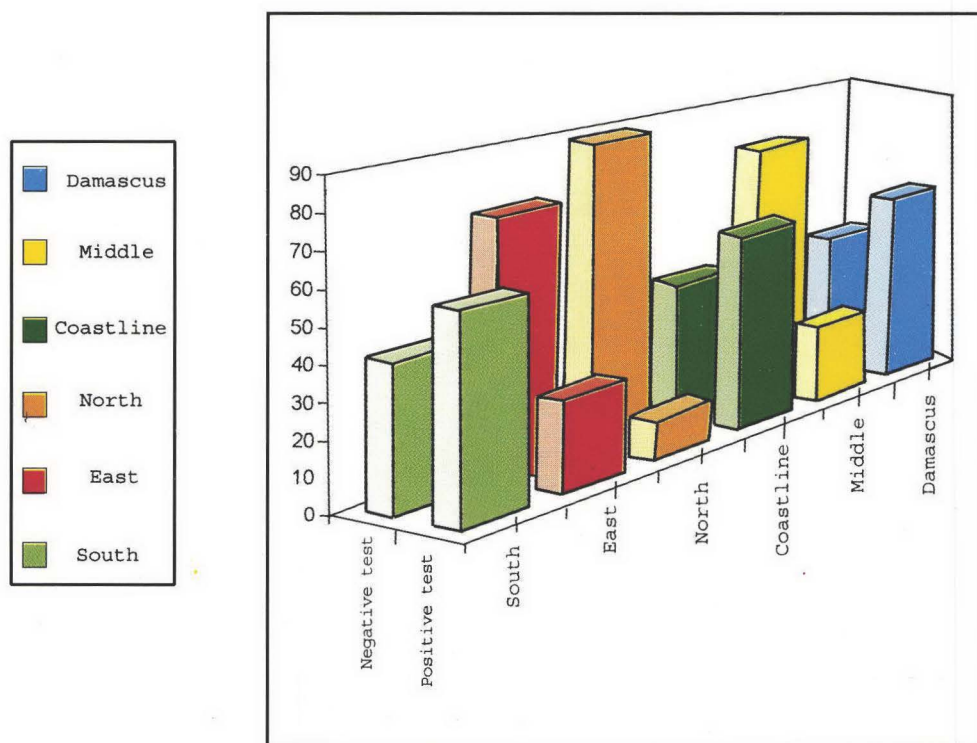


Fig 4/2 B : Distribution of families according to the results of iodized salt test



Availability of oral rehydration salts (ORS) results

Tables 4 (a) and (b) indicate that oral rehydration salts still are not universally available in Syrian health care facilities. One-quarter of total public health centres and 22 percent of total government hospitals did not have ORS supplies at the time of the survey, despite the central importance of ORS to the Ministry of Health's national control of diarrhoeal diseases programme. ORS supplies in public health care facilities also appear to vary widely from region to region ; 91.7 percent of East public health centres reported having ORS compared to only 43.5 percent of Coastline public health centres. Eight percent of households, most situated in rural areas, report having no access to a health facility providing ORS.

Availability of ORS is particularly low in the private sector - less than one-third of private doctors and private hospitals report usual availability of oral rehydration salts, with little variance by region or settlement type. Rates of reported ORS wastage were also highest among private sector doctors and hospitals, at 75.7 percent and 72.5 percent respectively.

Table 4(a). Availability of ORS in health facilities by region (%).

	Damascus	Middle	Coastline	Northern	Eastern	Southern
Availability of ORS						
Health centre	83.7	76.5	43.5	64.2	91.7	99.3
Private doctor	21.6	20.2	8.3	19.2	71.3	59.1
Governmental hospital	80.9	99.5	46.1	64.2	85.7	99.3
Private hospital	19.2	16.2	4.3	16.8	85	99.3
Pharmacy	94	100	100	98.1	99.6	99.3
ORS wastage*						
Health centre	31.4	62.3	87	85.2	12.9	0.7
Private doctor	90.5	78.3	88.8	93.4	29.2	40.3
Governmental hospital	21.1	45.2	53.9	54.7	16.2	0
Private hospital	89.3	79.8	92.7	99.7	15.5	0
Pharmacy	16.1	5.6	0	7.3	7	0

• Wastage for the period lasting from January 1995 to December 1995

Table 4(b). Availability of ORS in health facilities by settlement type (%).

	Urban	Peri-urban	Rural	All
Availability of ORS				
Health centre	80.4	73.9	69.2	75.1
Private doctor	30.8	17.8	27	27.8
Governmental hospital	76.4	86.5	77.9	78.1
Private Hospital	30.4	26.2	27.8	28.9
Pharmacy	97.8	100	97.4	97.9
ORS wastage*				
Health centre	44	66.8	51.2	49.4
Private doctor	78	89.5	69.3	75.7
Governmental hospital	37.9	31.6	30.8	34.4
Private hospital	75.1	84.1	65.3	72.5
Pharmacy	7.9	1.6	9.5	7.9

• Wastage for the period lasting from January 1995 to December 1995

**Fig.5/1 Percentage of health centers with ORS available
at the time of the survey**

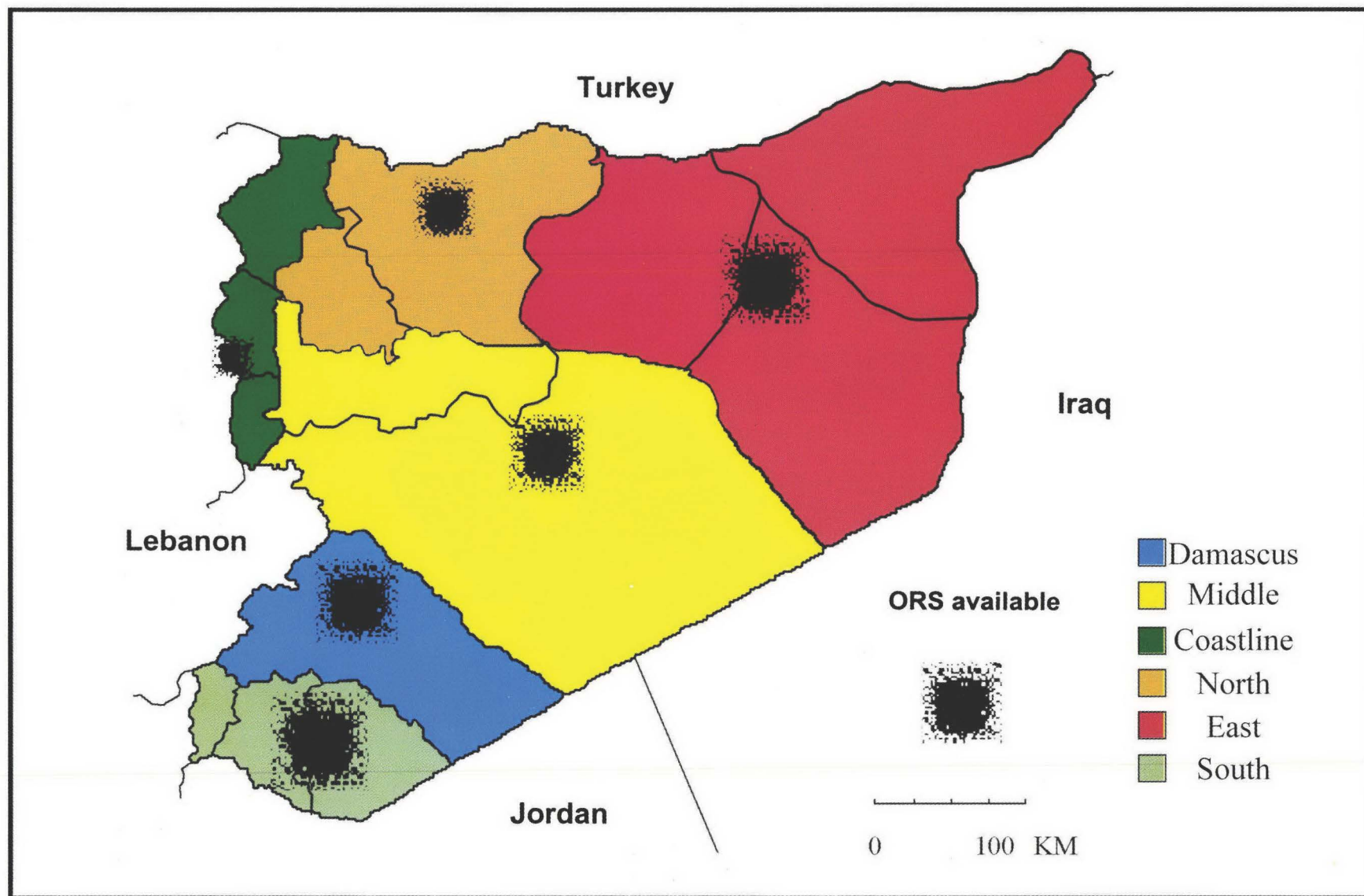


Fig 5/2 A : Availability of ORS at the time of the survey

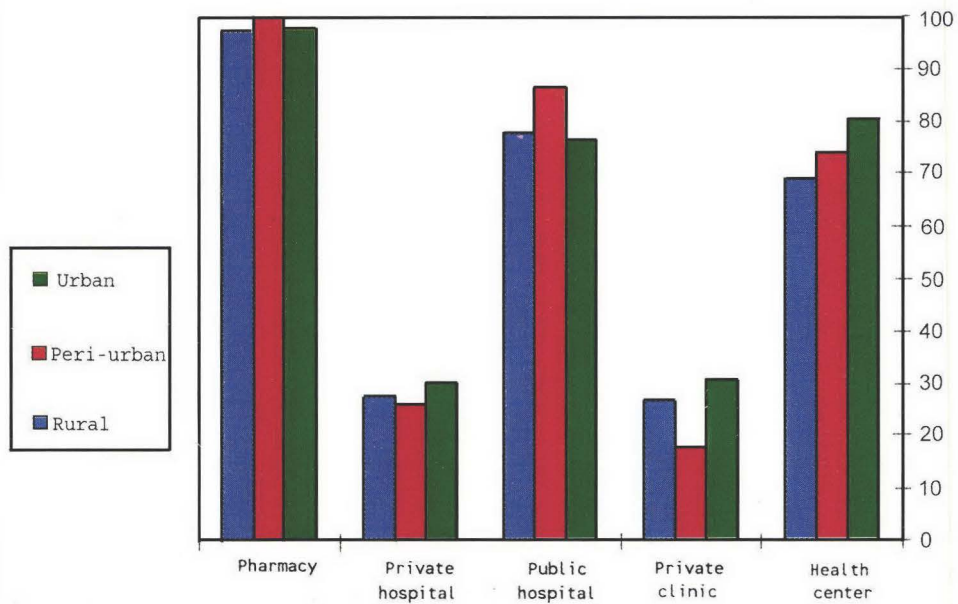
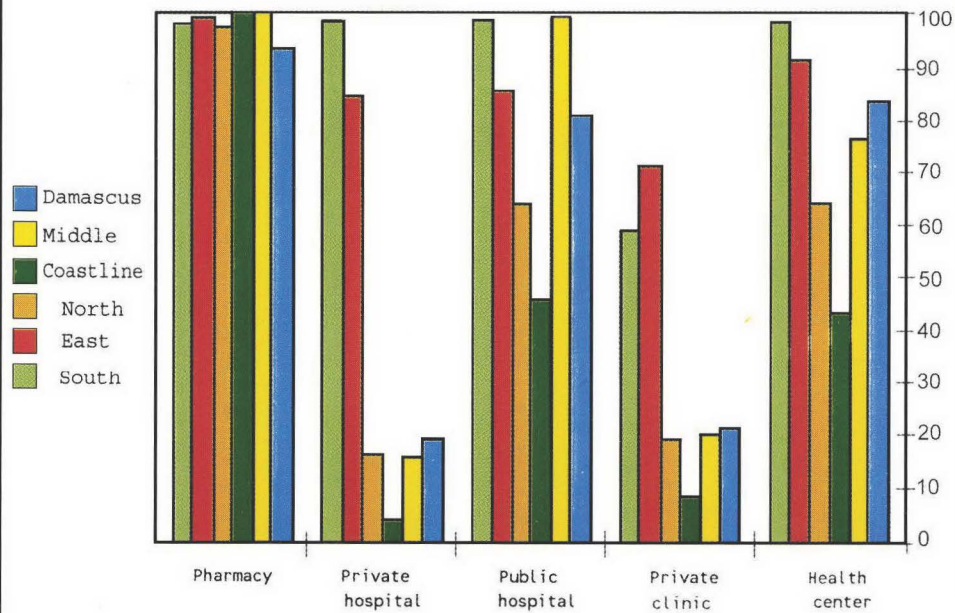


Fig 5/2 B : Availability of ORS at the time of the survey



Mothers' knowledge of diarrhoea management results

Tables 5 (a) and (b) indicate that there is still room for improvement in terms of mothers' knowledge of proper diarrhoea case management, particularly in the North region, underscoring the continued importance of the communications component of the national control of diarrhoeal diseases programme. Thirty-eight percent of total mothers, and 53.5 percent of North mothers, report stopping or reducing food during diarrhoea. Seven percent of total mothers, and 14.4 percent of North mothers, report decreasing their child's fluid intake diarrhoea. However, more than 95 percent of all mothers sought medical care if their children got an episode of diarrhoea, 77.1 percent as soon as possible, and 92.9 percent of mothers report a knowledge of ORS.

Table 5 (a). Mothers' reported management of childhood diarrhoea cases by region (%).

	Damascus	Middle	Coastline	North	East	South
Feeding practices						
Stop or reduce food	34.8	32.7	29	53.5	38.1	23.6
No change	61.7	56.2	60.9	37.6	58.9	73.9
Unknown	3.5	11.1	10.1	8.9	3	2.5
Fluid intake						
No change	20.9	11.3	26.4	20.8	26.9	19.5
Increased	69.9	78.4	63.5	57.9	55.8	74.8
Reduced	5.2	1.3	4.1	14.4	10	3.3
Unknown	4	9	6	6.9	7.3	2.4
Seeking medical care						
Yes	91	86.3	92.6	93.9	86.2	95.9
No	5.5	9	2	4.7	12.3	1.6
Unknown	3.5	4.7	5.4	1.4	1.5	2.5
Timing of medical care						
As soon as possible	57.4	66.9	49.6	54.9	48.7	77.1
If symptoms persisted 3 days	35.2	29.7	43.1	34.2	44.6	22.9
If danger signs appeared	7.4	3.4	7.3	10.6	6.3	0
Unknown	0	0	0	0.3	0.4	0
Knowledge of ORS	89.1	91.8	93.2	95.6	95	96.7

Table 5(b). Mothers' reported management of childhood diarrhoea cases by settlement.

	Urban	Peri-urban	Rural	All
Feeding practices				
Stop or reduce food	43.5	42.0	30.8	37.5
No change	49.8	51.7	62.1	55.7
Unknown	6.7	6.3	7.1	6.8
Fluid intake				
No change	16.5	21.8	23.0	20.0
Increased	72.7	65.5	61.5	66.8
Reduced	4.9	8.6	8.2	6.8
Unknown	5.9	4.1	7.3	6.4
Seeking medical care				
Yes	89.5	89.7	91.3	90.3
No	6.8	6.9	6.3	6.6
Unknown	3.7	3.4	2.4	3.1
Timing of medical care seeking				
As soon as possible	62.2	55.1	55.6	58.4
If symptoms persisted 3 days	31.9	37.8	37.2	34.9
If danger signs appeared	5.9	7.1	6.9	6.5
Unknown	0.3	0.2	0.3	0.2
Knowledge of ORS	93.6	92.5	92.4	92.9

6/1 Percentage of mothers who reduce fluids or foods when the child has diarrhoea.

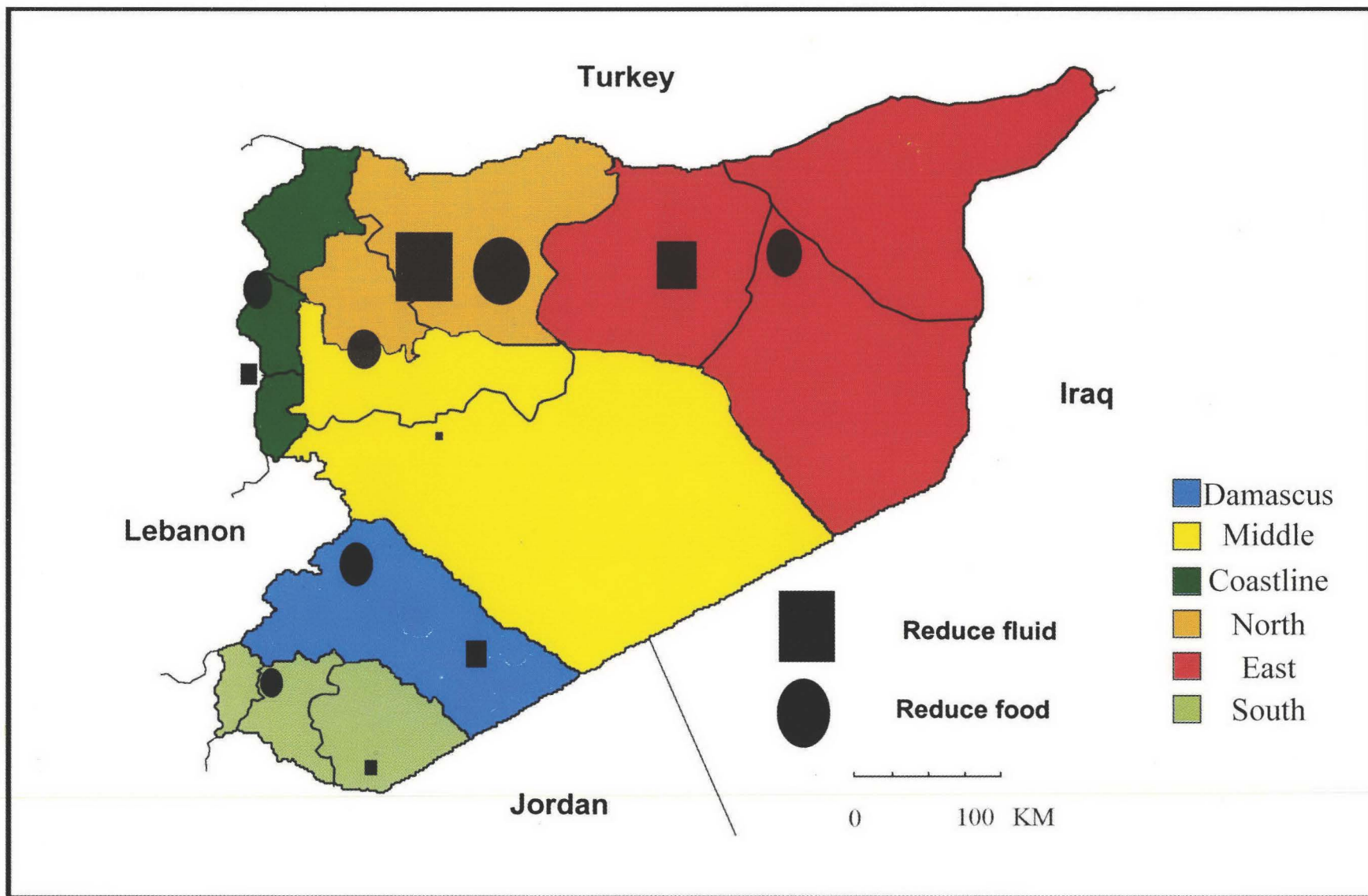


Fig 6/2 A: Distribution of mothers who seek medical care when their child has diarrhoea

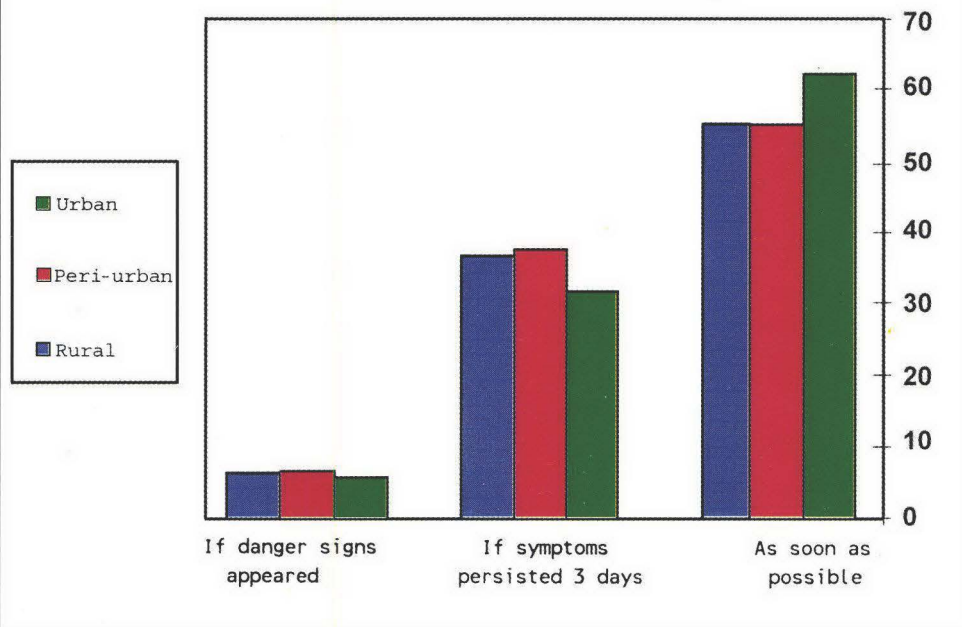
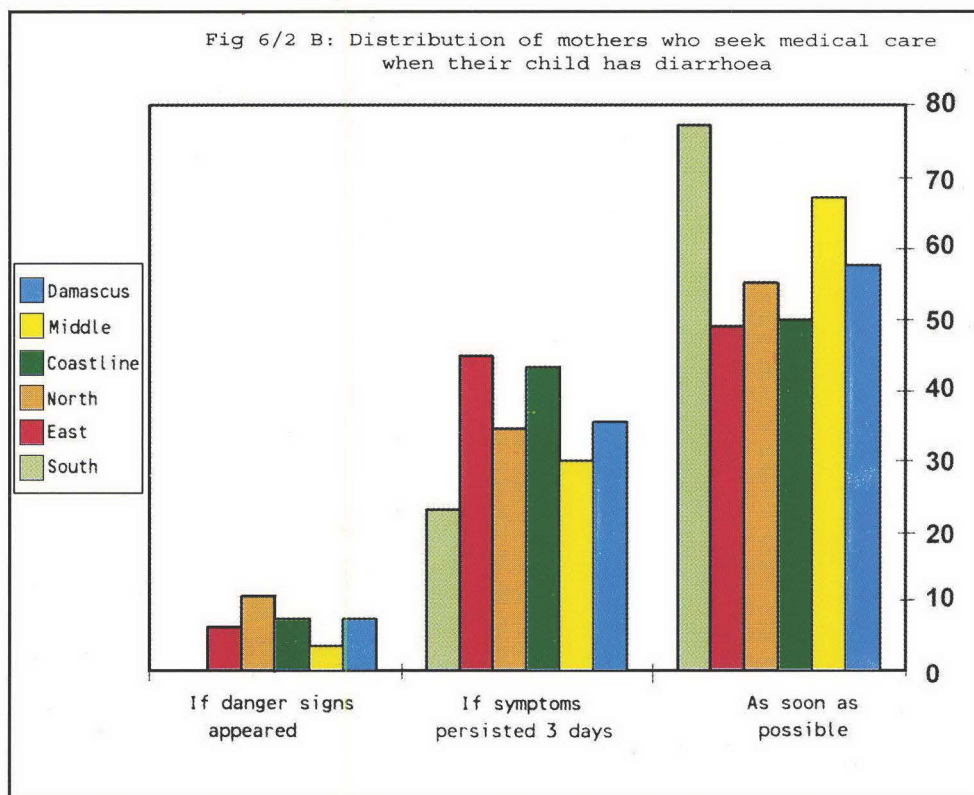


Fig 6/2 B: Distribution of mothers who seek medical care when their child has diarrhoea



Prevalence and management of diarrhoea results

A total of 263 cases of diarrhoea were reported among the 3,065 under-fives covered during the two weeks preceding the survey, for a prevalence rate of 8.6 percent. Prevalence was highest in the East region, at 21.1 percent. Just under 62 percent of diarrhoea cases occurred among children under two years of age. By comparison, the diarrhoea prevalence rate estimated in the 1993 PAPCHILD survey was 15.8 percent, but the much of the difference is likely attributable to the timing of the two surveys. The 1993 PAPCHILD survey was conducted during the summer (June-July, 1992) and the current survey during the winter (January, 1996) .

Tables 6 (a) and (b) also suggest there remains room for improvement in terms of parent's management of diarrhoea cases. Only 27 percent of parents of children who had an episode of diarrhoea in the past two weeks preceding the survey used oral rehydration therapy (i.e. ORS, fluids, or both ORS and fluids), while 35.4 percent reduced food intake and 11 percent reduced fluid intake. More than one-third of cases were managed by medicine and ORS, and another third treated exclusively with medicines. Twenty-two percent of breast-feeding mothers reported stopping when their child suffered an episode of diarrhoea.

Table 6 (a). Parents' reported management of diarrhoeal cases occurring in the two weeks preceding the study, by region (%).

	Damascus	Middle	Coastline	Northern	Eastern	Southern
Treatment provided						
ORS	0	12.5	18.7	4.2	1.7	40
Home fluids	4.9	12.5	50	12.5	8.6	0
Both ORS & fluids	2.4	8.9	0	0	14.7	10
Medicines	43.9	30.4	6.3	41.7	26.7	10
Medicines & ORS	36.6	28.6	18.7	8.3	44	30
Nothing	12.2	7.1	6.3	33.3	4.3	10
Fluid intake						
No change	34.1	50	50	50	39.7	30
Increased	56.1	46.4	43.8	41.7	44	60
Reduced	9.8	3.6	6.2	8.3	16.3	10
Food intake						
No change	53.7	55.4	50	62.5	33.6	40
Increased	26.8	21.4	12.5	12.5	16.4	40
Reduced	19.5	23.2	37.5	25	50	20
Referral Point						
Private doctor	58.5	44.6	31.2	29.2	45.7	40
Pharmacy	4.9	10.7	0	20.8	6.9	10
Government hospital	4.9	0	6.3	0	14.6	0
Health centre	9.8	14.3	12.5	0	5.2	10
Private hospital	0	0	0	0	2.6	0
Nothing	21.9	30.4	50	50	25	40

Table 6 (b). Parents' reported management of diarrhoea cases existed in the two weeks preceding the study, by settlement type (%).

	Urban	Peri-urban	Rural	All
Treatment provided				
ORS	6.2	7.1	6.6	6.5
Home fluids	14.3	7.1	9.5	11.4
Both ORS & Fluids	10.7	7.1	8	9.1
Medicines	25.9	42.9	31.4	29.7
Medicines & ORS	33.9	14.3	36.5	34.2
None	8.9	21.4	8	9.1
Fluid Intake				
No change	42	35.7	43.1	42.2
Increased	49.1	57.1	43.8	46.8
Reduced	8.9	7.2	13.1	11
Food Intake				
No change	54.5	50	37.2	45.2
Increased	12.5	21.4	24.8	19.4
Reduced	30	28.6	38	35.4
Referral Point				
Private doctor	35.7	64.3	50.4	44.9
Pharmacy	7.1	21.4	8.0	8.4
Governmental hospital	7.1	-	8.8	7.6
Health centre	8.9	-	8.0	8.0
Private hospital	1.8	-	0.7	1.1
None	39.3	14.3	24.1	30

Fig.7/1 The prevalence of Diarrhoea in the past two weeks

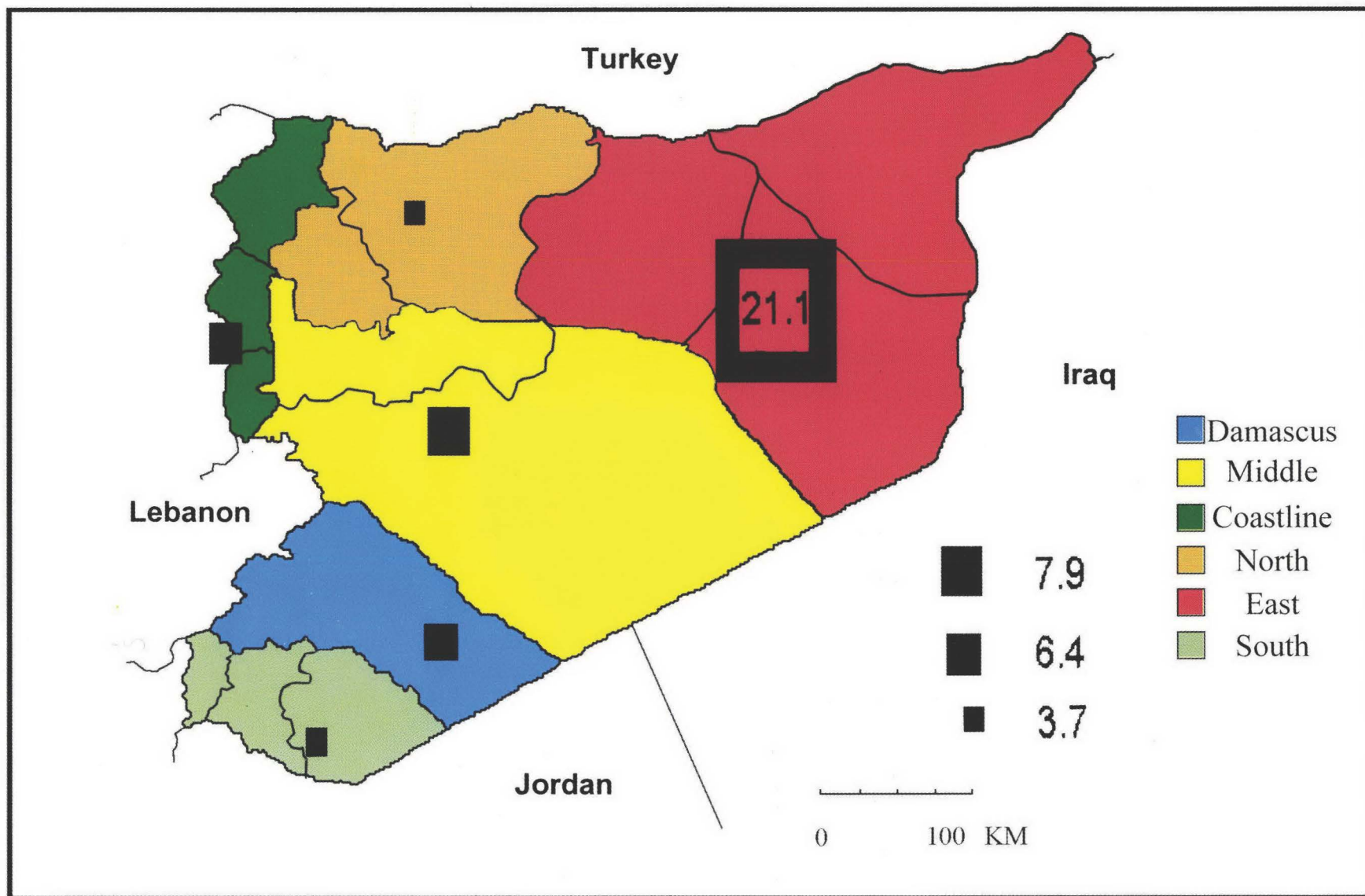


Fig 7/3 A : Percentage of children who had diarrhoea during two weeks before the survey

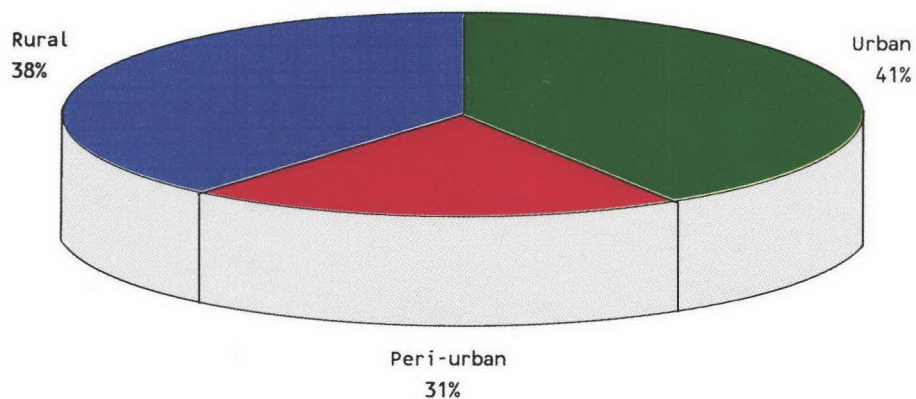


Fig 7/3 B : Percentage of children who had diarrhoea during two weeks before the survey

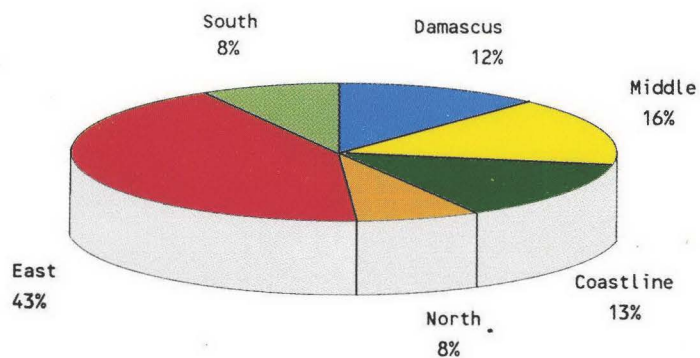


Fig 7/4 A : Percentage of children who had diarrhoea and been given less fluids & less food

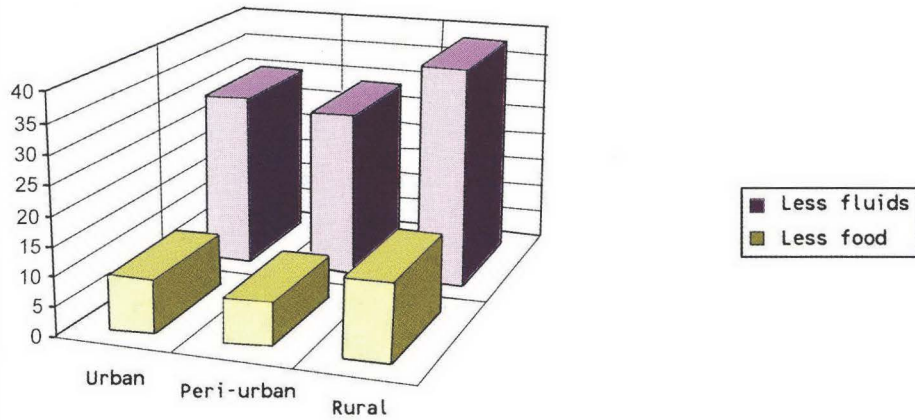


Fig 7/4 B : Percentage of children who had diarrhoea and been given less fluids & less food

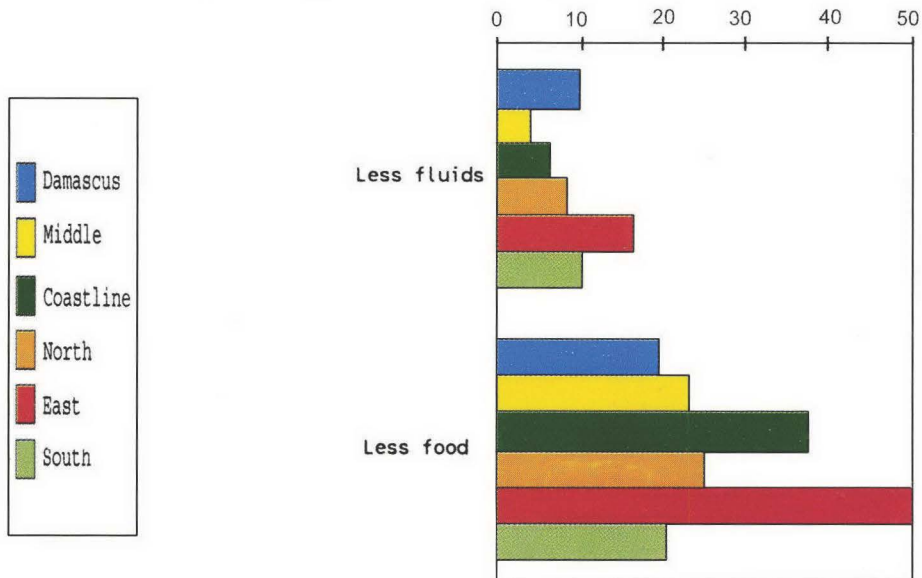


Fig.7/2 Percentage of mothers who stopped breast-feeding when the child had diarrhoea

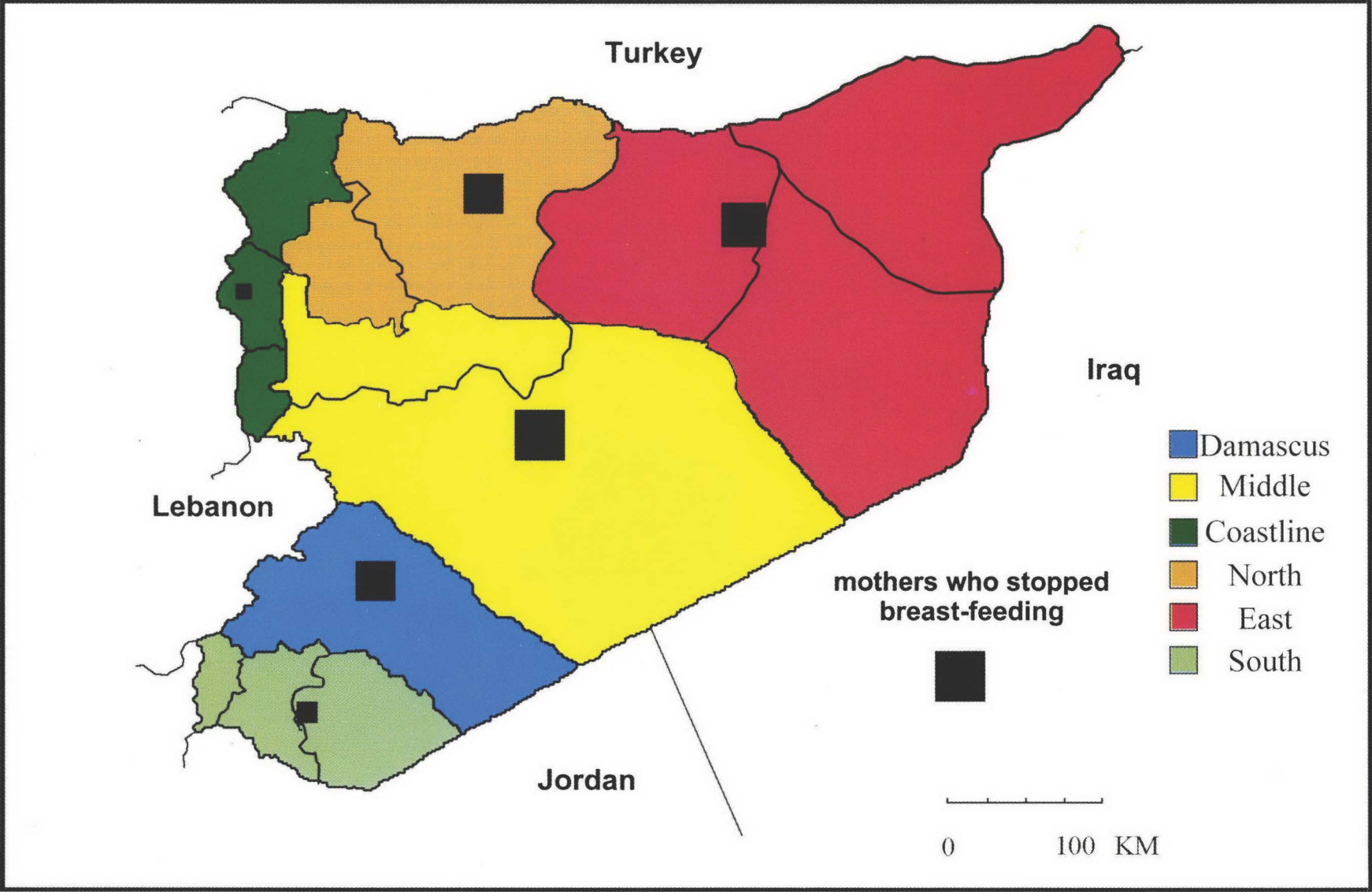


Fig 7/5 A : Percentage of mothers who stopped breast feeding when their child had diarrhoea

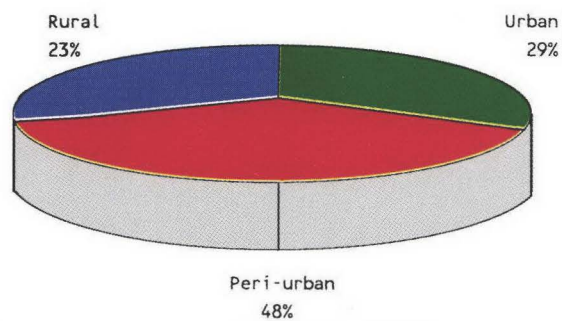
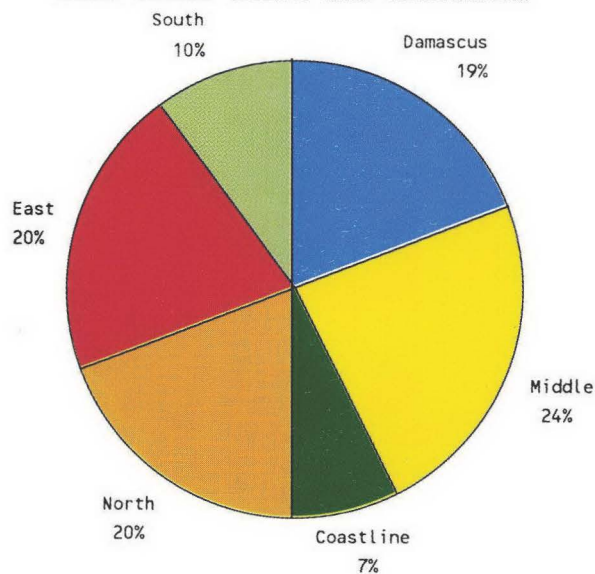


Fig 7/5 B : Percentage of mothers who stopped breast feeding when their child had diarrhoea



Breast-feeding results

Table 7 (a) shows that the practice of breast-feeding is almost universal among mothers in Syria. Ninety -three percent of all mothers reported breast-feeding their youngest child, ranging from 99.2 percent in the South to 90.2 percent in the East. Of total mothers who had breast-fed, 76.2 percent did so for at least four months, and 33 percent continued breast-feeding for at least 12 months. The most important reasons cited for not breast-feeding were insufficient milk (37.1 percent), mother's illness (18.6 percent), and baby's refusal (16.8 percent). Mother's work was not a significant explanatory factor despite the relatively high female labour force participation rates in Syria.

Table 7(a). Breast-feeding patterns by region.

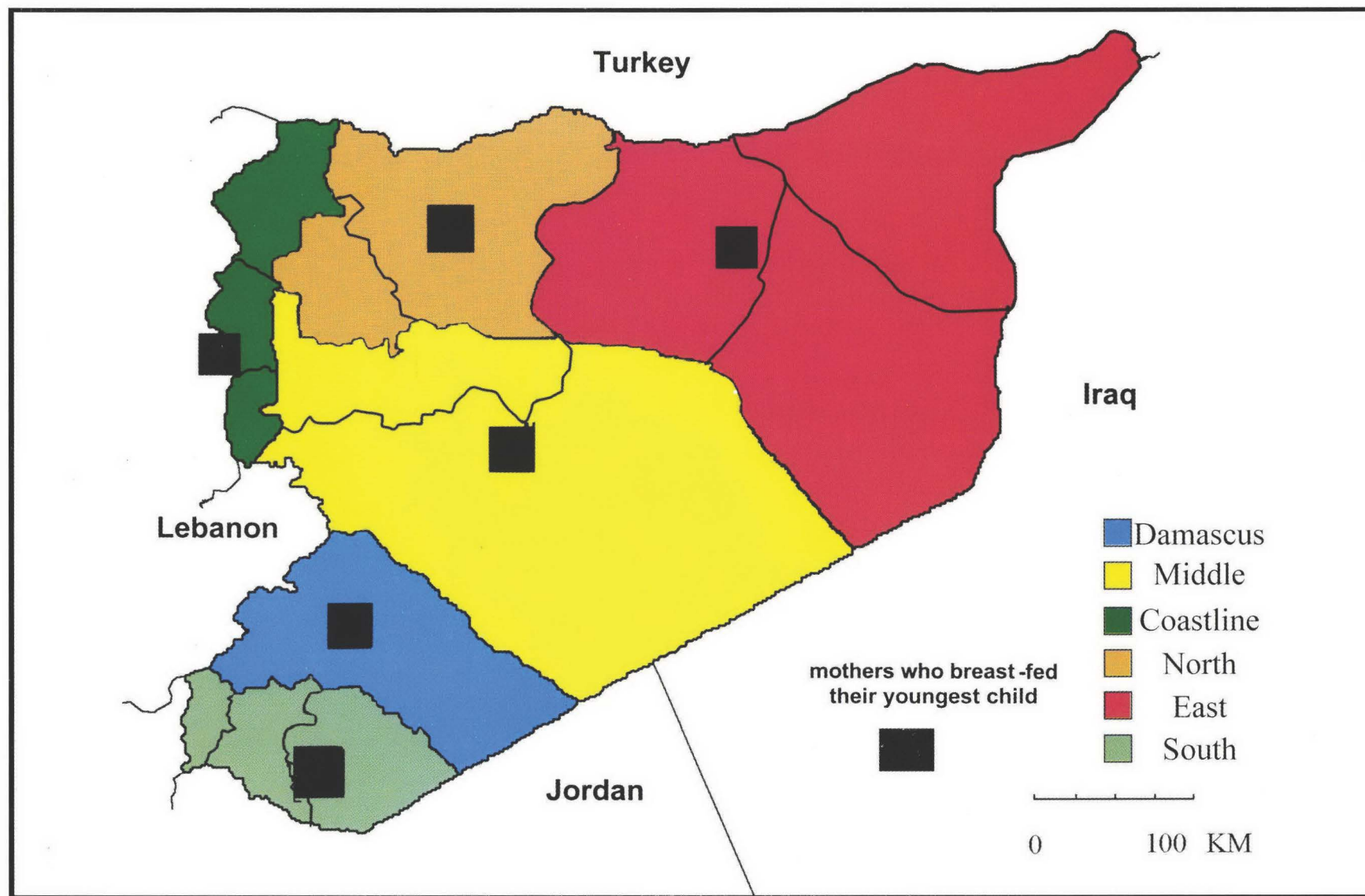
	Damascus	Middle	Coastline	North	East	South
% breast fed her youngest child	93	92.9	90.5	94.7	90.2	99.2
% breast feed her youngest child for 4 months	65.1	79.1	86	80	80	75.4
% of women not breast-feeding due to insufficiency of milk	29.6	48.1	42.9	42.1	24	100*

* Only one woman

Table 7 (b). Reasons given by mothers for not breast-feeding by settlement type (%).

	Urban	Peri-urban	Rural	All
Insufficiency of milk	25.9	33.3	53.3	37.1
Mother's illness	19.0	16.7	18.6	18.6
Baby's refusal	19.0	33.3	9.3	16.8
Child's illness	10.3	8.3	4.7	8.0
Problem in breast/nipples	8.6	8.3	-	5.3
Mother's work	3.4	-	-	1.8
Other causes	13.8	-	13.9	12.4

Fig.8/1 Percentage of mothers who breast-fed their youngest child



Child nutrition results

Table 8 indicates that child nutrition remains an area of concern in Syria. Nationally, the percentage of under-fives below average height-for-age, i.e. suffering from linear growth retardation, or “stunting”, typically the product of chronic under-nourishment, is 20.8 percent. The proportion of under-fives below average weight-for-age (male/female), or “under-weight”, reflecting both chronic and acute under-nutrition, is 12.9 percent. The percentage of under-fives below average weight-for-height, i.e. suffering from below average body mass relative to body length, or “wasting”, a result of current and acute under-nutrition, is 8.7 percent.

National rates of severe stunting, under-weight, and wasting are 10.1 percent, 3.7 percent and 2.5 percent respectively. Severe malnutrition is by far the highest in the East region, where 16.4 percent of under-fives are severely stunted, 11.9 percent are severely under-weight and 5.3 percent are severely wasted. Severe malnutrition is also more prevalent among boys than girls, older age groups, and in urban and rural areas compared to peri-urban areas.

Table 8. Anthropometric indicators for under-fives, by age, sex, settlement type and region (%).

	No.	height-for-age		weight-for-age		weight-for-height	
		-2>%>-3 SDs	<-3 SDs	-2>%>-3 SDs	<-3 SDs	-2>%>-3 SDs	<-3 SDs
Age group (months)							
0-5	228	1.3	3.5	1.9	0.9	4	1.3
6-11	281	7.9	7.9	6.1	2.5	4	1.4
12-23	471	12.4	12	9.6	2.8	4.2	1.8
24-35	507	10.9	13.7	11.1	6.2	6.9	2.2
36-47	480	13.9	8.2	10.3	2.9	7.6	1.9
48-59	458	11.6	9.9	11.4	4.2	7.2	4.4
Sex							
Male	1283	11.5	11.6	10	3.9	6.5	2.9
Female	1142	9.8	8.5	8.3	3.4	5.9	2.1
settlement type							
Urban	941	9.4	10.9	8.3	3.8	6.8	2.7
	259	10.4	6.2	8.9	1.1	5.4	0.8
Peri-urban	1225	11.8	10.4	9.9	4.1	5.9	2.8
Rural							
Region							
Damascus	514	10.1	12.5	12.3	2.7	7.4	1.2
Middle	576	8.7	6.9	7.4	1.6	4.5	2.1
Coastline	205	10.7	4.9	2.9	0	1.5	0.5
North	551	12.5	8.3	10.9	3.4	7.4	3.3
East	379	9.8	16.4	7.4	11.9	8.7	5.3
South	200	14.5	12	11.5	1	5	2
Total	2425	10.7	10.1	9.2	3.7	6.2	2.5

Fig.9/1 Percentage of wasted children

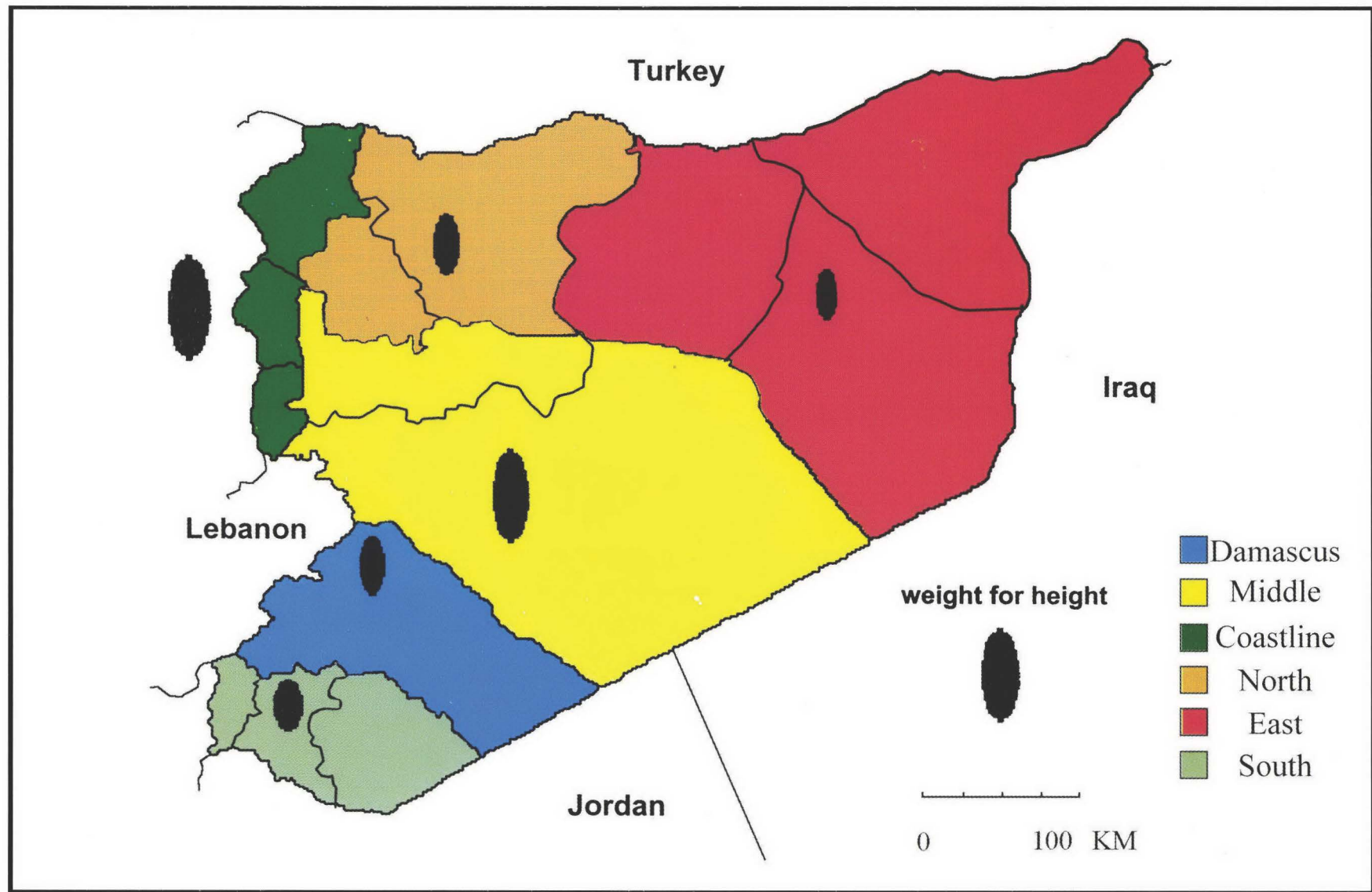


Fig.9/1 Percentage of stunted or under-weight children

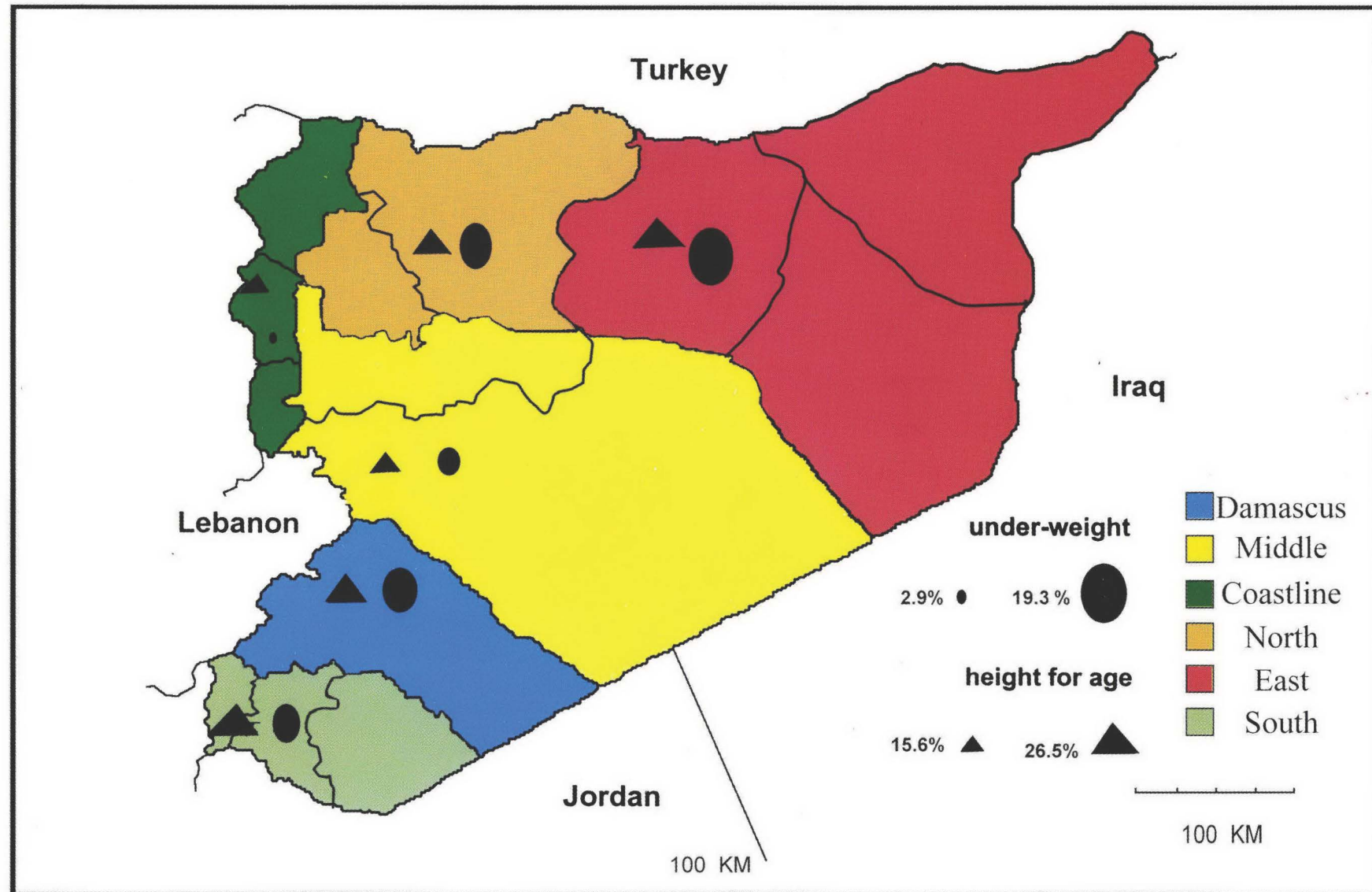


Fig 9/2 A : Anthropometric indicators for under-fives

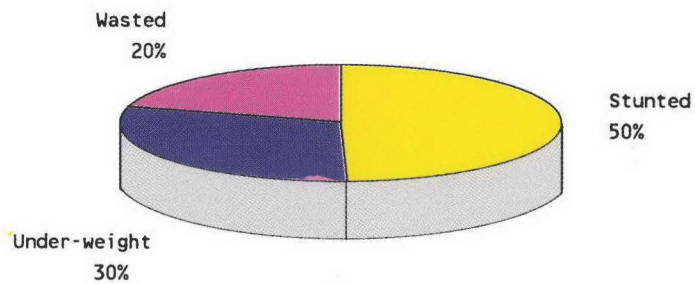


Fig 9/2 B : Anthropometric indicators for under-fives

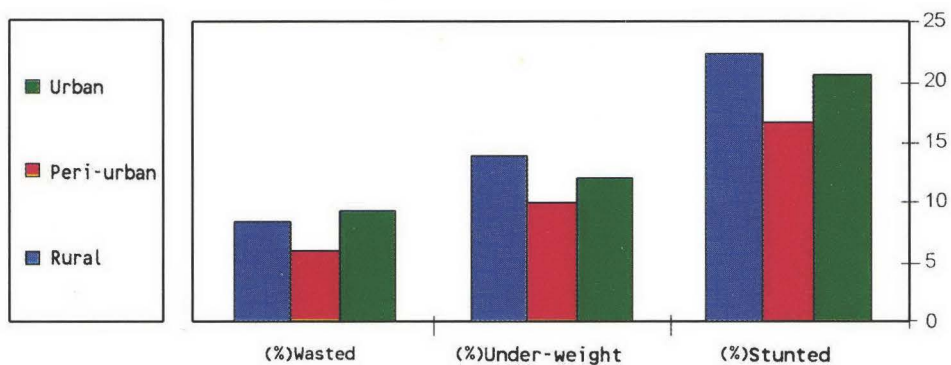
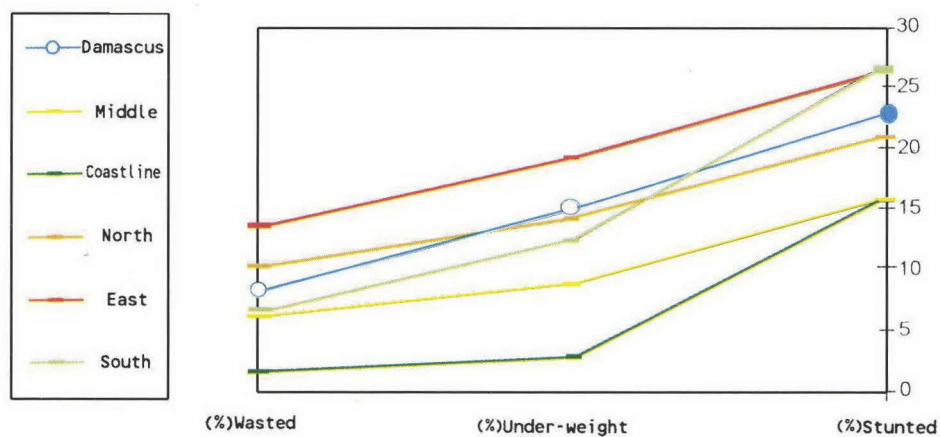


Fig 9/2 C : Anthropometric indicators for under-fives



Vaccination coverage results

Tables 9 (a) and (b) indicate that substantial numbers of under-fives lack a vaccination card, a critical part of the system to keep track of children's vaccination status. Over one-third of under-fives and over one-quarter of children aged 12-23 months did not have a card available at the time the survey, and cards could only be produced for inspection for only 37 percent of under-fives and 48.7 percent of children aged 12-23 months. Card unavailability for under-fives was highest in the North region (56.9 percent) and in peri-urban locations (50.5 percent).

Table 9(a). Availability of vaccination cards by region (%).

	Damascus	Middle	Coastline	North	East	South
Children <5						
Cards available & seen	46.7	37.9	48.9	31	20	51.4
Cards available but not seen	40.8	14.5	29.7	12.1	46.2	14
Cards not available	12.5	47.6	21.4	56.9	33.8	34.6
Children 12-23 months						
Cards available & seen	60.7	49.1	60	36.8	32.1	64.3
Cards available but not seen	31.1	12.1	25.5	12.8	41.7	11.9
Cards not available	8.2	38.8	14.5	50.4	26.2	23.8

Table 9(b). Availability of vaccination cards by settlement type (%).

	Urban	Peri-urban	Rural	All
Children < 5				
Cards available & seen	43.1	34.4	32.6	36.9
Cards available but not seen	27.5	15.1	27.9	26.5
Cards not available	29.4	50.5	39.5	36.6
Children 12-23 months				
Cards available & seen	56	44.2	44	48.7
Cards available but not seen	20.8	13.5	25.6	22.6
Card not available	23.2	42.3	30.4	28.7

Tables 9 (c) and (d), providing the vaccination status of those children with vaccination cards that were seen by the survey field workers, indicates that raising coverage levels remains a challenge in some areas and for some antigens. BCG coverage for children aged 12-23 months is 95.4 percent nationally, but only 81 percent in the East region. Coverage among children aged 12-23 months for the first dose of DPT is 93.1 percent nationally, but only 78 percent in the East region, and the drop-out rate nationally between the first and third doses of DPT is seven percent. For OPV, the drop-out rate between the first and third doses was also high, at 14.9 percent among under-fives and 8.2 percent among children 12-23 months, and OPV0 coverage is only 81 percent. Measles coverage among children aged 24-35 months is 91.9 percent for the first dose but only 59.4 for the second. In general, coverage rates among children 12-23 months were lowest in the East region and then North regions; there were no major differences in coverage by settlement type.

The vaccination status of children whose vaccination cards were not available or not seen was investigated through proxy reporting, i.e., mothers were asked to report the history of vaccination. Eighty-five percent of mothers reported a history of vaccination in the deltoid, 87.3 percent reported a history of intramuscular vaccination and 92.5 percent reported a history of oral vaccination. These rates were higher than those reported by the PAPCHILD survey in 1993.

Table 9(c). Vaccination coverage among children aged 12-23 months with vaccination cards by region.

	Damascus	Middle	Coastline	North	East	South
BCG	100	96	100	91	81	96
DPT1	97	95	85	95	78	100
DPT2	96	95	85	84	70	93
DPT3	93	91	82	79	70	85
OPV0	93	82	97	60	67	74
OPV1	97	91	97	91	78	93
OPV2	96	89	91	84	74	85
OPV3	92	88	91	77	67	81
Measles1	89	88	88	77	67	85
Measles2	45	33	42	42	33	33
HB1	97	95	91	60	81	89
HB2	93	86	91	49	67	78
HB3	78	72	67	30	63	70

Table 9(d). Vaccination coverage (%) among children with vaccination cards by settlement type.

	Children aged 12-23 months				Children aged 24-35 months	All children aged <5
	Urban	Peri-urban	Rural	Total	Total	Total
BCG	95.7	95.7	95.1	95.4	89.8	92.4
DPT1	97.4	91.3	89.3	93.1	96.4	89.9
DPT2	94.8	91.3	83.6	89.3	94.9	82.8
DPT3	91.4	82.6	81.1	85.8	91.9	75.7
OPV0	85.3	73.9	78.7	81.2	76.1	74.1
OPV1	94.8	91.3	90.2	92.3	95.4	87.4
OPV2	91.4	91.3	85.2	88.5	92.9	81.4
OPV3	87.1	82.6	82.8	84.7	90.4	74.4
Measles1	85.3	87	82	83.9	91.9	68.6
Measles2	37.9	39.1	40.2	39.1	59.4	34.6
HB1	85.3	78.3	91	87.4	82.2	68.9
HB2	76.7	69.6	84.4	79.7	76.6	57.5
HB3	62.1	43.5	72.1	65.1	68.5	37.9

**Fig.10/1 Percentage coverage with EPI vaccines
Children 12-23 months**

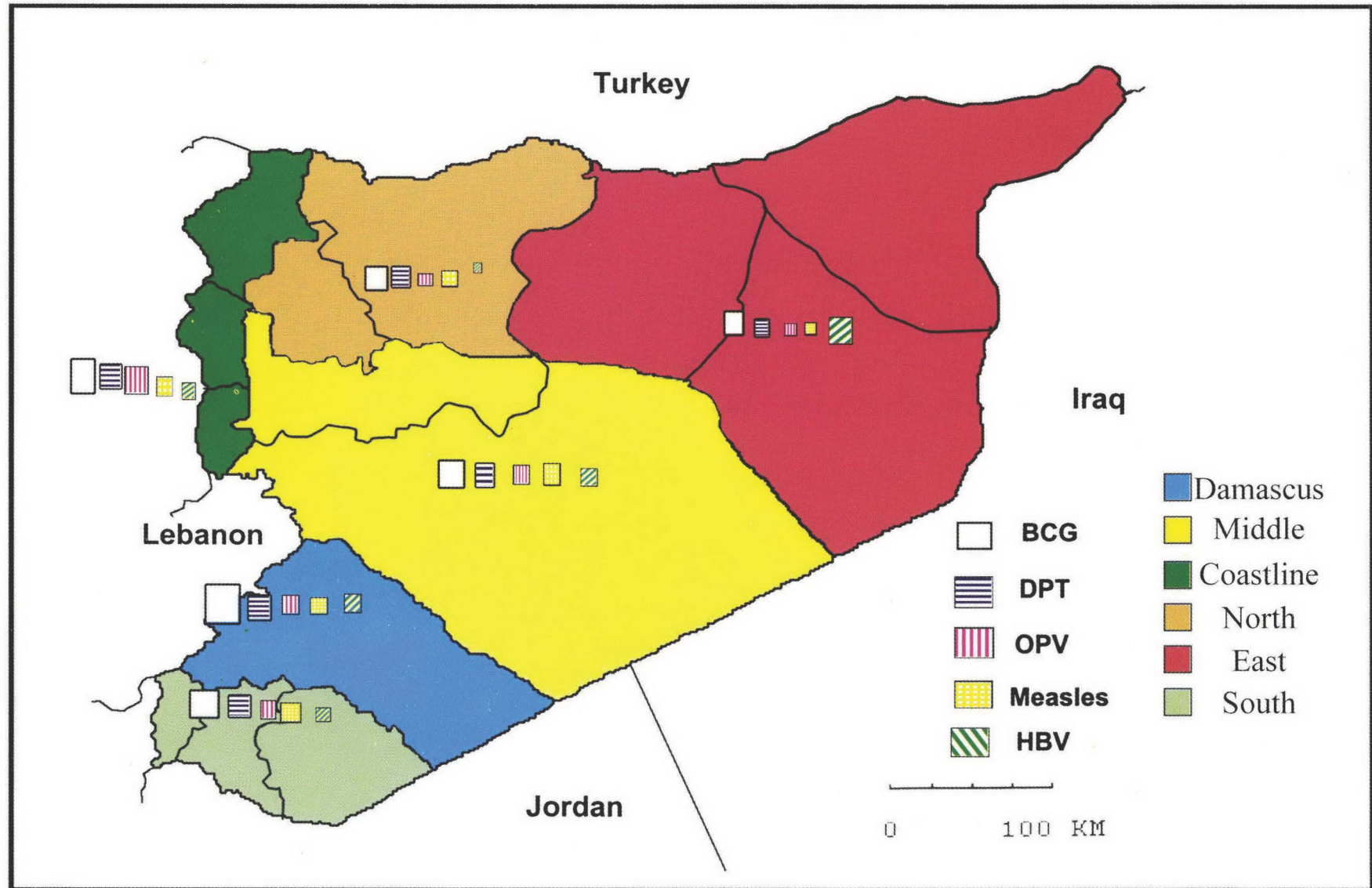


Fig 10/2 A : Coverage with EPI vaccines
Children 12-23 months who had cards

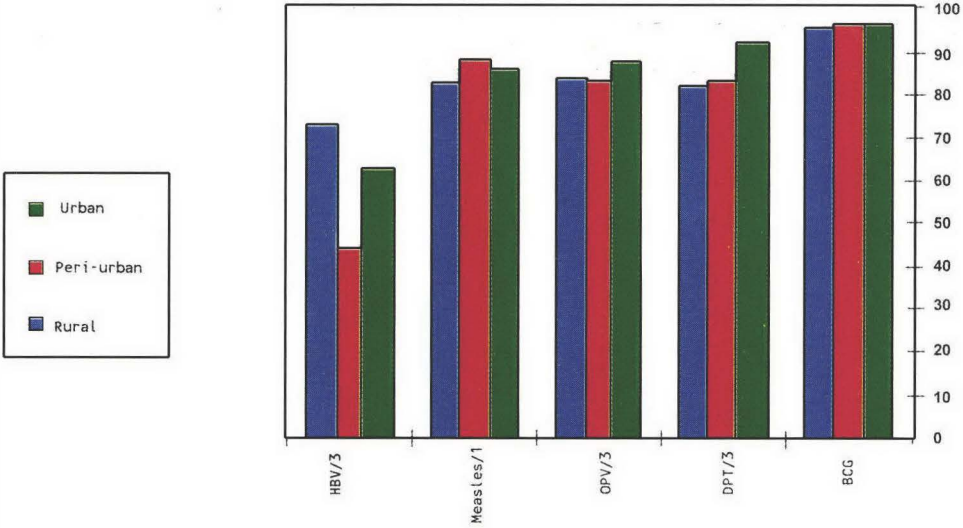
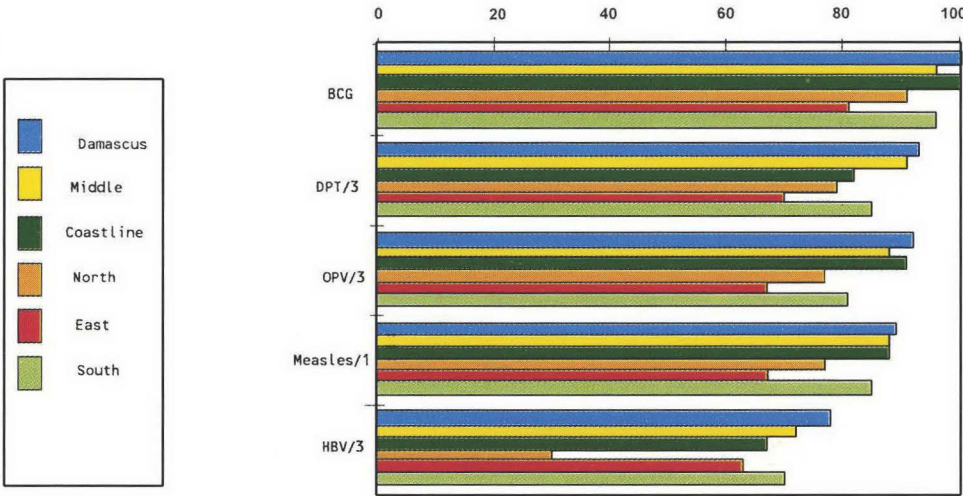


Fig 10/2 B : Coverage with EPI vaccines
Children 12-23 months who had cards



Basic education results

Tables 10 (a) and (b) indicate that primary cycle enrollment (children aged 6-11 years) is almost universal in Syria but that enrollment falls off considerably as students move to the secondary cycle (children aged 12-14 years). Primary net enrollment nationally is 96.5 percent, varying slightly by settlement type from 98.6 percent in urban areas to 91.6 percent in peri-urban areas, and by region from 99.6 percent in the Coastline region to 92.6 percent in the North region. Enrollment is 2.7 percentage points higher for males nationally, but is 7.2 points higher in peri-urban areas and 5.7 points higher in the East region. At the secondary level, net enrollment falls to 71.6 percent nationally, and to only 47 percent in peri-urban areas and 49.5 percent in the North region. Secondary level enrollment is slightly higher for girls and boys. Eighty-two percent of children successfully complete six years of primary education, and 53.8 percent of children complete three years of secondary education.

Table 10 (a). Primary and secondary enrollment ratios by region.						
	Damascus	Middle	Coastline	North	East	South
Primary education (6-11 years)						
Male	99.3	97.5	99.2	95.5	98.1	100
Female	98	95.9	100	89.1	92.4	100
Total	98.7	96.8	99.6	92.6	95.5	100
Secondary education (12-14 years)						
Male	71.8	77.4	80	54	74	87.8
Female	77.5	69.4	98.7	44.5	82.3	92
Total	74.5	73.7	89.2	49.5	78.2	89.9

Table 10 (b). Primary and secondary enrollment ratios by settlement type.				
	Urban	Peri-urban	Rural	All
Primary education (6-11 years)				
Male	98.5	95	97.9	97.8
Female	98.8	87.8	93.4	95.1
Total	98.6	91.6	95.7	96.5
Secondary education (12-14 years)				
Male	72.8	47	75.6	71
Female	79.4	63.8	68	72.2
Total	76	55.2	72	71.6

Fig.11/1 The primary and preparatory net enrollment ratio

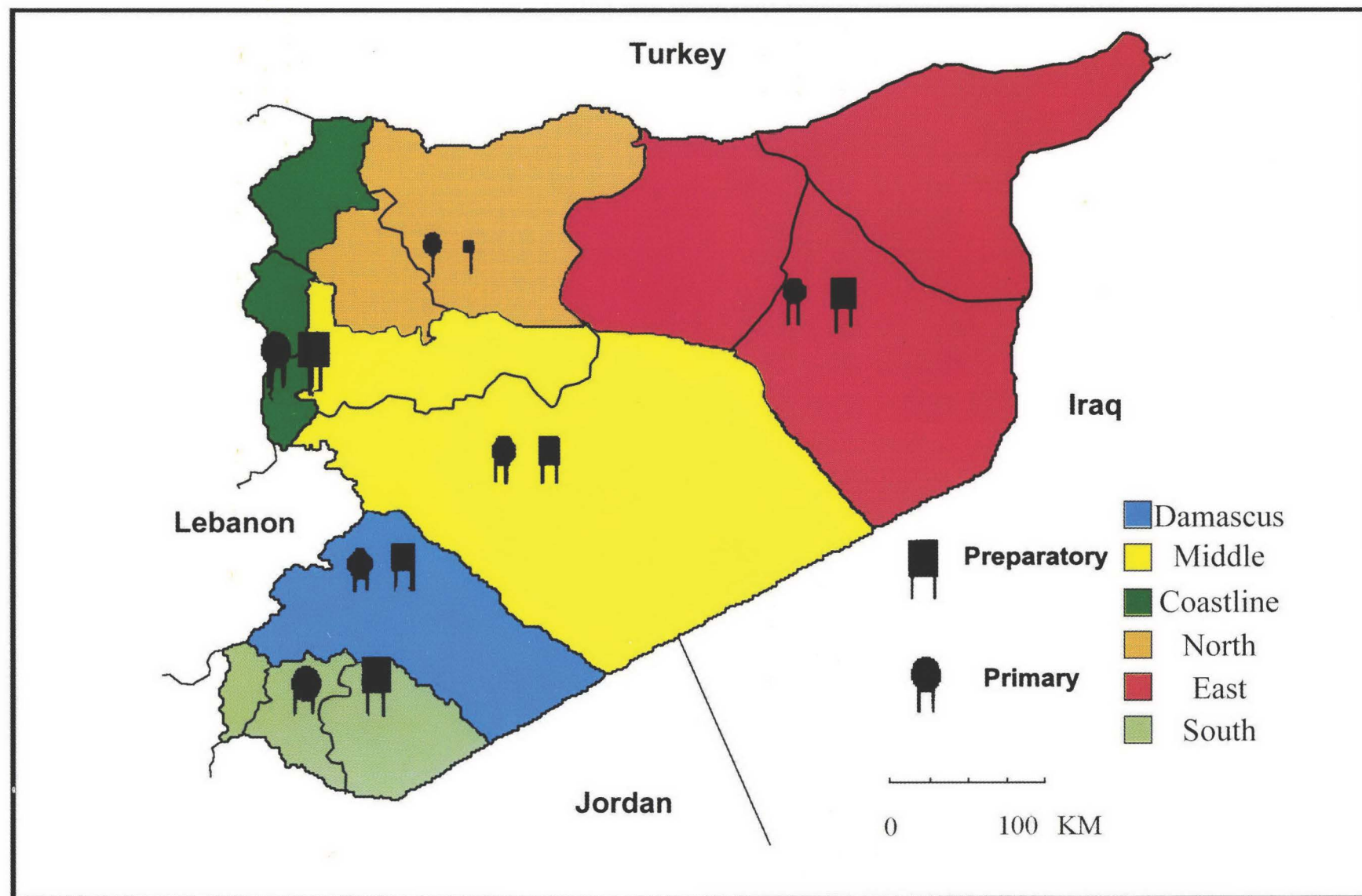


Fig 11/2 A : Enrollment ratios

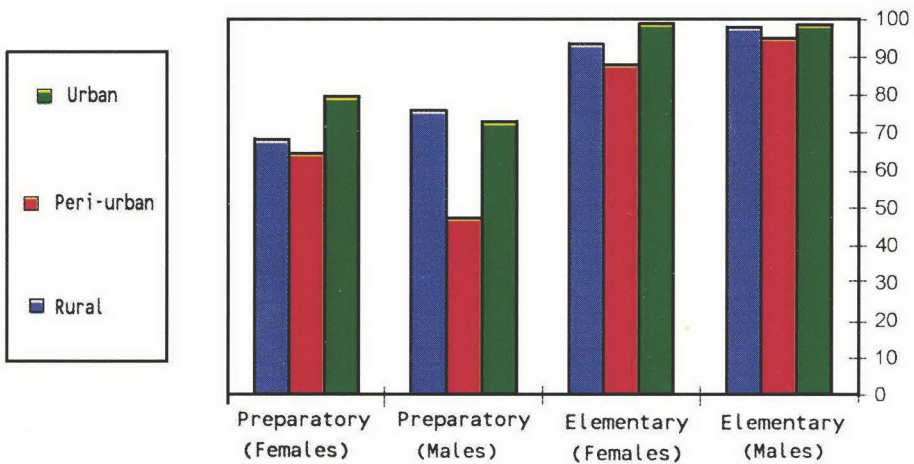
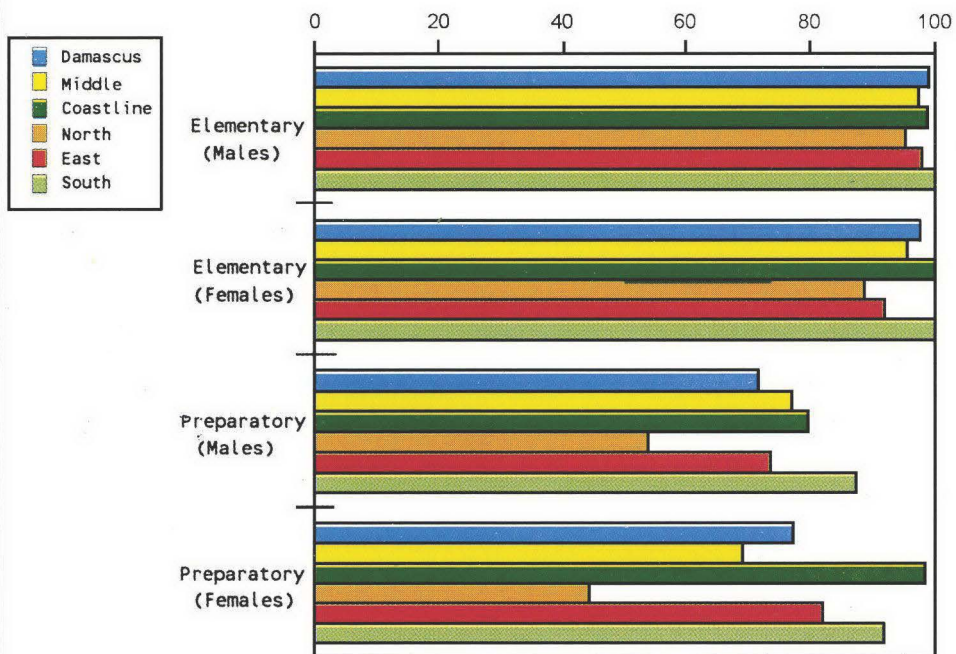


Fig 11/2 B : Enrollment ratios



Conclusion

This study provided a host of data of use to policy-makers in their efforts to improve the quality of health care in Syria and address the priority health concerns of women and children. Among the major findings were the following:

- **Water supplies:** Access to water supplies is generally good in Syria, with almost three-quarters of households connected to a water network and over 95 percent of households are connected to a water network or a well. But reliance on water tankers or other water sources is widespread in the East (28 percent of households) and in rural locations (23.5 percent).
- **Sanitation facilities:** Substantial numbers of households remain without access to adequate facilities for excreta disposal. Only two-thirds of households nationally, and only 43.3 percent of East households and 31.2 percent of rural households, are connected to a piped sewerage system. One-quarter of East households and 17.2 percent of rural households are completely lacking sanitation facilities, posing an important environmental health concern.
- **Access to health services:** Almost all households have relatively easy physical access to non-tertiary health facilities. Only 3.2 of total households have to travel more than 30 minutes to reach a health centre, although this proportion rises to 11.4 percent for East households and 6.6 percent for rural households. Tertiary care facilities are fewer in number but still almost three-quarters of households have a Government hospital within 30 minutes' travel time.
- **Salt iodization:** Actual usage of iodized salt lags somewhat behind awareness of its importance. Almost three-quarters of households nationally are aware of iodized salt, but only 58 percent of aware households, and 35.6 percent of total households, actually use iodized salt. Awareness and usage are lowest in North, peri-urban and rural households.
- **Availability of oral rehydration salts:** Oral rehydration salts still are not universally available in Syrian health care facilities. One-quarter of total public health centres and 22 percent of total government hospitals did not have ORS supplies at the time of the survey, despite the central importance of ORS to the Ministry of Health's national control of diarrhoeal diseases programme. Eight percent of households, most situated in rural areas, report having no access to a health facility providing ORS.
- **Management of diarrhoea episodes:** There remains room for improvement in terms of parent's management of diarrhoea cases, pointing to the importance of the communications component of the national control of diarrhoeal disease programme.

Only 27 percent of parents of children who had an episode of diarrhoea in the past two weeks preceding the survey used oral rehydration therapy (i.e. ORS, fluids, or both ORS and fluids), while 35.4 percent reduced food intake and 11 percent reduced fluid intake.

Twenty-two percent of breast-feeding mothers reported stopping when their child suffered an episode of diarrhoea.

- **Breast-feeding patterns:** The practice of breast-feeding is almost universal among mothers in Syria. Ninety -three percent of all mothers reported breast-feeding their youngest child, ranging from 99.2 percent in the South to 90.2 percent in the East. Of total mothers who had breast-fed, 76.2 percent did so for at least four months, and 33 percent continued breast-feeding for at least 12 months. The most important reasons cited for not breast-feeding were insufficient milk (37.1 percent) and mother's illness (18.6 percent).
- **Child nutrition:** Child nutrition remains an area of concern in Syria. The percentage of under-fives below average height-for-age, i.e. suffering from stunting, typically the product of chronic under-nourishment, is 20.8 percent. The proportion of under-fives below average weight-for-age (male/female), or "under-weight", reflecting both chronic and acute under-nutrition, is 12.9 percent. The percentage of under-fives below average weight-for-height, i.e. suffering from wasting, a result of current and acute under-nutrition, is 8.7 percent. Rates of severe stunting, under-weight, and wasting are 10.1 percent, 3.7 percent and 2.5 percent respectively; severe malnutrition is by far the highest in the East region, where 16.4 percent of under-fives are severely stunted, 11.9 percent are severely under-weight and 5.3 percent are severely wasted.
- **Vaccination coverage:** Raising coverage levels remains a challenge in some areas and for some antigens. BCG coverage for children aged 12-23 months is 95.4 percent nationally, but only 81 percent in the East region. Coverage among children aged 12-23 months for the first dose of DPT is 93.1 percent nationally, but only 78 percent in the East region. For OPV, the drop-out rate between the first and third doses is high, at 14.9 percent among under-fives and 8.2 percent among children 12-23 months, and OPV0 coverage is only 81 percent. Measles coverage among children aged 24-35 months is 91.9 percent for the first dose but only 59.4 for the second. Substantial numbers of under-fives lack a vaccination card, a critical part of the system to keep track of children's vaccination status.
- **Basic education results:** Primary cycle enrollment (children aged 6-11 years) is almost universal in Syria but enrollment falls off considerably as students move to the secondary cycle (children aged 12-14 years). The net enrollment is 96.5 percent at the primary level compared to only 71.6 percent at the secondary level. Secondary enrollment is particularly low in peri-urban areas and the North region, at 47 percent 49.5 percent respectively. Enrollment is slightly higher among boys at the primary level and slightly higher among girls at the secondary level.

Annex

Methodology in detail

1. Organization of the survey

The Central Bureau of Statistics (CBS), in cooperation with other concerned bodies, started work on the various elements of the survey during the second half of 1995. A technical committee was set up, comprising representatives of the State Planning Commission, Ministry of Health, CBS and UNICEF, to plan and prepare for the survey, adopt the sampling scheme, design the questionnaires, decide on the outcome tables and data processing, train the field workers and agree on the time schedule. Another committee comprising representatives from the MOH and CBS was set up to assist in the sampling and questionnaire design, adopt variable definitions and training instructions. The field work was carried out under the supervision of the directors of statistics departments and health in the provinces. The field team included women field workers from the Ministry of Health.

2. Questionnaire Design

The survey questionnaire was designed to collect information on the following:

- Introductory data; covered 13 variables concerned with the household address, distribution of children according to age, sex and date of birth.
- Data on water and sanitation; covered 4 items concerned with the source of drinking water, the continuity of the water in its source, the distance from the source and the type of sanitation
- Data related to the accessibility of health services, which included the distance between the household and the nearest type of health facility, the common method of transport and the time of travel to the health facility.
- The type of salt used at home; for which three questions were asked about the knowledge of housewife of the iodized salt, the use of iodized salt and the result of testing samples of the used salt.
- Data on the availability of ORS in the health facilities. This included information on the availability of ORS at the time of study and also information on the loss of ORS in the previous year.
- Data related to mothers' knowledge of diarrhoea management. This included questions on the food and fluid intake usually given to the child with diarrhoea, the timing of seeking medical advice, knowledge of danger signs and of ORS.
- Data on the existence of diarrhoea episodes and its management. This included questions on the occurrence of any diarrhoeal episode among the under five in the two weeks preceding the study, type of treatment given to the child, type of referral point and whether breast feeding was stopped or not.
- Data on breast feeding, where information was gathered on the prevalence of the practice of breast feeding, reasons for non breast feeding the child, duration of breast feeding and reasons for stopping breast feeding.
- Data on anthropometric measurement, which included weight and height.

- Data on vaccination. This included questions on the availability of vaccination cards, the type of vaccine and date of vaccination.
- Data on basic education. This included questions on the enrollment of children in the schools, the level of schooling.

The questionnaire was structured to facilitate computer coding and processing. The questions were of all types - close-ended, open-ended and semi-open-ended.

3. Sample design

3.1. Sampling frame

The 1994 census provided a frame for the households. The established frame was recent and reliable, so it could be a valid frame for social and demographic investigations. The census unit used was considered to be the smallest statistical unit that could be relied on to reach the households. The maps that were made available after the 1994 census were used in reaching the census units and the census records used in preparing household lists. The size of census unit was 108 families in rural locations, 144 in small towns and 180 in large towns.

3.2. Sample size

It was decided to cover urban and rural locations in all provinces. The study unit was considered to be the child under the age of five. Thus it was estimated that a sample of 2,200 families would be enough to meet the study's objectives. On the basis of the 1993 PAPCHILD survey, it was expected to find 1,600 child under the age of five in the chosen sample.

3.3. Selection of sampling units

Multi-stage cluster sampling was used in order to select the sampling units. The size of cluster was limited to 100 families. The method of systematic sampling was used to select the required number of clusters from the different types of settlement, so as to choose 10 families from each chosen cluster. This made a total of 220 clusters to satisfy the sample size. The distribution of clusters and families in each type of settlement, was as follows:

	Urban	Rural	Total
No. of clusters	123	97	220
No. of families	1230	970	2200

In more detail, the sample was selected as follows: The whole country was considered as one administrative location (one stratification), and the sampling fraction was estimated by dividing the total number of families by the number of required clusters (i.e. 220).

Thus an estimation of the number of clusters and its distribution in different types of settlement was made. This ensured that the sample size was distributed equally with the number of people in each type of settlement, which meant that the sample was internally homogenous. According to the above, the settlements were selected at the first stage of sampling and also the number of clusters was decided on.

In the second stage, the clusters were chosen in each type of settlement. This was done as follows:

- In rural locations: Since the cluster size was 100 families, and because the census unit included 108 families, it was felt that those units should be of use in selecting the required number of clusters. It was satisfactory to divide the number of families in each settlement by 100 and to select the desired number using random method (approximately one cluster).
- In urban locations: The number of population in the settlement was divided by 100 giving the number of clusters in the settlement. This is different from the census units which included 144 families in small towns and 180 in large towns. Thus it was necessary to reallocate the town or the location to clusters, each including 100 families. The maps were used to do that and to select the required number of clusters at random.

The third stage of sampling included the selection of families, which was done using the systematic random sampling. A number between 1 and 10 was randomly chosen at the starting point in the cluster. The next family would be chosen by adding 10 to the previous number and so on until the total desired number of families was chosen. No allowance was made for the non-response, which was expected to be extremely low.