

Data Source

- ¹ New Eden Project Project Resource Database, <http://www.newedengroup.org/>

- National Climatic Data Center, Surface
² Climate Summary Stations - Iraq, <http://www.ncdc.noaa.gov/oa/climate/afghan/data/surfaceiraq.html/>

- John F. Kolars and William A. Mitchell, The Euphrates River and the Southeast Anatolia
³ Development Project, Southern Illinois University Press, Carbondale and Edwardsville, 1991.
⁴ <http://www.globalsecurity.org/military/world/iraq/city.htm>
⁵ <http://www.wikipedia.org>

- ⁶ Energy Information Administration Country Analysis Briefs: Iraq, <http://www.eia.doe.gov/>

Notes

Project headed by Nature Iraq (NI), sponsored by Italian Ministry for the Environment (IMET), in cooperation with Iraqi Ministry of Environment, Iraqi Ministry of Water Resources, Iraqi Ministry of Municipalities and Public Works, and the Free Iraq Foundation. Study area includes governorates of Basrah, Missan, and Thi Qar (40,000 km²).

The New Eden Master Plan uses these data and also suggests that climate data are available from the following sources:

- "General scheme of water resources and land development in Iraq," 1982 (Republic of Iraq Ministry of Irrigation, USSR v/o "selkhozpromexport");
- "Rainfall in IRAQ," 1960 (Ministry of Communications Directorate General of Civil Aviation, Meteorological Department – Climatological Section. Publication No. 12);
- "Shatt Al-Arab project," 1981 (Ministry of Irrigation – General establishment for studies and designs. Polservice, Hydroprojekt, Feasibility Report. Volume VII. Annual report);
- Azadegan Environmental Baseline Study, January 2004, Iran, and
- "Climatological Means for IRAQ," 1950 (Government of Iraq – Ministry of Communications and Works, Publication No. 9).

MARSH AGRICULTURE

		Acreage by directorate (ha) ¹			
		Wassit	Thi Qar	Missan	Bassrah
Crop Type	Wheat	124,545	27,200	62,275	13,834
	Barley	94,239	41,100	54,301	1,525
	Rice	10,524	1,382	5,097	25
	Orchards	10,750	5,000	1,750	18,750
	<i>Total</i>	240,058	74,682	123,423	34,134
	Arable	377,825	261,025	175,875	66,350
	Uncultivated	137,767	186,343	52,452	32,216

		Gross Irrigation rates in mm for Wassit and Thi Qar							
		Jan	Feb	Mar	Apr	May	June	July	Aug
Crop Type	Wheat	48	82	138	159	0	0	0	0
	Barley	44	85	134	107	0	0	0	0
	Winter veg	58	71	41	36	21	0	0	34
	Berseem	59	78	112	177	93	0	0	0
	Rice	0	0	0	482	492	678	607	480
	Sorghum	0	0	68	133	196	403	500	97
	Summer veg	0	19	71	99	200	321	373	306
	Sesame	0	0	0	68	184	304	469	356
	Sugarcane	0	0	0	0	0	0	0	0
	Alfalfa	62	88	140	190	294	410	453	424
	Date palms	55	96	158	211	311	443	437	410

		Gross Irrigation rates in mm for Missan and Basra							
		Jan	Feb	Mar	Apr	May	June	July	Aug
Crop Type	Wheat	17	55	98	132	0	0	0	0
	Barley	13	58	96	76	0	0	0	0
	Winter veg	34	64	32	26	17	0	0	25
	Berseem	36	54	79	134	74	0	0	0
	Rice	0	0	0	441	422	573	476	388
	Sorghum	0	0	66	103	140	313	361	69
	Summer veg	0	21	55	71	151	250	272	224
	Sesame	0	0	0	66	144	233	339	254
	Sugarcane	35	68	118	161	307	436	450	403
	Alfalfa	41	63	105	145	228	321	331	308
	Date palms	35	68	119	161	242	346	318	297

		Estimated Water Needs by Directorate (MCM)							
		Jan	Feb	Mar	Apr	May	June	July	Aug
Wassit		107.16	192.55	315.14	372.27	85.21	118.98	110.86	94.59
Thi Qar		33.89	62.04	100.51	104.44	22.35	31.52	30.24	27.13
Missan		18.26	66.94	115.24	148.77	25.74	35.26	29.83	24.97
Bassrah		9.11	21.24	37.33	49.72	45.48	65.02	59.74	55.78

Sep	Oct	Nov	Dec
0	86	82	14
0	86	75	11
101	91	66	48
86	119	52	42
0	0	0	0
0	0	0	0
163	47	0	0
23	0	0	0
0	0	0	0
299	211	111	66
271	190	101	52

ah

Sep	Oct	Nov	Dec
0	84	80	0
0	84	74	0
91	77	52	24
84	105	37	19
0	0	0	0
0	0	0	0
139	39	0	0
19	0	0	0
301	139	84	28
253	176	91	39
231	157	84	29

Sep	Oct	Nov	Dec
29.13	208.58	183.66	33.39
13.55	68.24	58.18	10.93
4.04	100.67	91.47	0.51
43.31	42.34	27.95	5.44

Station	Lat	Long	Elevation (m)	POR			JAN
AL HADITHAH	34 04N	042 22E	140	hourly, 1973-1990	Temperature (deg F)	Mean Max	11
						Mean Min	4
						Average	8
						Extreme Max	21
						Extreme Min	-5
						Precip (inches)	
						Mean	
AN NASIRYAH	31 05N	046 14E	3	hourly/daily, 1973-1993; precip, 1941-1990	Temperature (deg F)	Mean Max	16
						Mean Min	7
						Average	12
						Extreme Max	26
						Extreme Min	-1
						Precip (inches) (~)	
						Mean	20
AS SAMAWAH	31 18N	045 16E	6	hourly, 1973-1990	Temperature (deg F)	Max	66
						Min	0
						Mean Max	15
						Mean Min	7
						Average	11
						Extreme Max	29
						Extreme Min	-1
AS SULAYMANIYAH	35 33N	045 27E	853	hourly, 1973-1990	Precip (inches)	Mean	
						Max	
						Min	
						Mean Max	7
						Mean Min	2
						Average	4
						Extreme Max	18
BAGHDAD (SIRSENSK)	33 14N	044 14E	34	hourly/daily, 1973-1993; precip, 1888-1990	Temperature (deg F)	Extreme Min	-8
						Mean	
						Max	
						Min	
						Mean Max	14
						Mean Min	3
						Average	9
BAIJI	34 56N	043 29E	150	hourly, 1978-1990	Temperature (deg F)	Extreme Max	24
						Extreme Min	-4
						Mean	28
						Max	119
						Min	0
						Mean Max	13
						Mean Min	5
					Precip (inches)	Average	9
						Extreme Max	23
						Extreme Min	-3
						Mean	
						Max	
						Min	

BASRA	30 34N 047 47E	2	hourly/daily, 1973-1992; precip, 1921- 1990	Temperature (deg F)	Mean Max	17
					Mean Min	8
					Average	12
					Extreme Max	26
					Extreme Min	-1
				Precip (inches) (~)	Mean	33
					Max	191
					Min	0
					Mean Max	15
					Mean Min	6
DIWANIYA	31 59N 044 59E	20	hourly/daily, 1973-1990; precip, 1940- 1990	Temperature (deg F)	Average	11
					Extreme Max	27
					Extreme Min	-1
					Mean	23
					Max	84
					Min	0
				Precip (inches) (~)	Mean Max	14
					Mean Min	6
					Average	10
					Extreme Max	23
					Extreme Min	-2
KARBALA	32 37N 044 01E	29	hourly, 1976- 1990	Temperature (deg F)	Mean	
					Max	
					Min	
				Precip (inches) (~)	Mean Max	13
					Mean Min	5
					Average	9
					Extreme Max	24
					Extreme Min	-2
					Mean	61
					Max	173
					Min	T
				Precip (inches) (~)	Mean Max	14
KIRKUK	35 28N 044 24E	331	hourly/daily, 1973-1992; precip, 1939- 1990	Temperature (deg F)	Mean Min	7
					Average	11
					Extreme Max	27
					Extreme Min	-1
					Mean	25
					Max	99
					Min	0
				Precip (inches) (~)	Mean Max	11
					Mean Min	3
					Average	7
KUT-AL-HAI	32 10N 046 03E	15	hourly/daily, 1973-1990; precip, 1940- 1990	Temperature (deg F)	Extreme Max	20
					Extreme Min	-4
					Mean	64
					Max	155
					Min	0
				Precip (inches) (~)	Mean Max	14
					Mean Min	7
					Average	
					Extreme Max	
					Extreme Min	
MOSUL (IAF)	36 19N 043 09E	223	hourly/daily, 1973-1993; precip, 1923- 1990	Temperature (deg F)	Mean	
					Max	
					Min	
				Precip (inches) (~)	Mean Max	11
					Mean Min	3
					Average	7
					Extreme Max	20
					Extreme Min	-4
					Mean	64
					Max	155
					Min	0
				Precip (inches) (~)	Mean Max	14
					Mean Min	7

NAJAF	31 59N	044 19E	105	hourly/daily, 1973-1990; precip, 1963- 1975	Temper (deg)	Average	11
						Extreme Max	27
						Extreme Min	-3
					Precip (inches)	Mean	25
						Max	94
						Min	0
AMARAH					Temperature (deg F)	Mean Max	14
-						Mean Min	8
Note 1: Use with extreme caution due to extremely limited observational database. Note 2: Broken period of record 1981- 1988 due to Iran-Iraq war.	31 51N	047 10E	9.144	7301-9212	Average	11	
					Extreme Max	23	
					Extreme Min	-3	
					Precip (inches)	Mean	
						Max	
						Min	
BUSSAYA					Temperature (deg F)	Mean Max	15
-						Mean Min	8
Note 1: Use with extreme caution due to extremely limited observational database. Note 2: Broken period of record 1981- 1988 due to Iran-Iraq war.	30 06N	46 07E	143.8656	7301-9212	Average	12	
					Extreme Max	28	
					Extreme Min	-1	
					Precip (inches)	Mean	
						Max	
						Min	
					Temperature (deg F)	Mean Max	14
						Mean Min	8
					Average	10	
HABBANIYA LAKE	30 06N	46 07E	143.8656	193701- 196712	Extreme Max	26	
					Extreme Min	-9	
					Precip (inches)	Mean	20
						Max	61
						Min	0
					Temperature (deg F)	Mean Max	13
						Mean Min	6
					Average	9	
KANAQIN IRAQ	34 18N	045 26E	202.0824	7301-9007	Extreme Max	27	
Note: Use with caution due to limited observational database.					Extreme Min	-7	
					Precip (inches)	Mean	61
						Max	188
						Min	5
					Temperature (deg F)	Mean Max	6
						Mean Min	2
					Average	4	
SALAHADDIN	36 37N	044 13E	1088.136	7301-9007	Extreme Max	17	
					Extreme Min	-8	
					Precip (inches)	Mean	
						Max	
						Min	

T = TRACE AMOUNTS (PRECIP < .005", SNOWFALL < .05", OR SNOW DEPTH < .5").

~ = DATA MAY BE DERIVED FROM NEARBY STATION (SEE HELP FOR MORE DETAILS).

= MEAN NO. DAYS < .5 DAYS.

Monthly temperature (degrees Celsius) and precipitation (mm) ²

FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
16	21	27	33	38	41	40	37	31
7	11	16	21	26	27	27	23	18
12	16	22	27	32	34	34	31	24
30	31	37	43	45	49	47	46	40
-4	-1	1	11	18	20	21	15	4
19	24	31	37	42	43	43	41	34
10	14	19	24	27	29	28	26	21
15	19	26	31	34	36	36	33	28
29	36	41	47	48	49	49	47	42
0	2	10	10	20	20	21	18	10
15	18	15	8	0	0	0	0	3
51	86	66	48	5	0	0	0	25
0	0	0	0	0	0	0	0	0
19	24	31	37	41	43	41	40	33
10	15	21	26	28	30	29	27	22
15	19	26	32	34	36	36	34	28
31	35	43	48	47	51	48	47	43
2	4	10	13	21	21	20	15	10
10	14	21	27	34	38	37	33	26
4	9	13	19	25	28	28	24	18
8	12	17	23	29	33	33	29	22
22	25	30	39	41	44	43	42	38
-4	-5	0	8	12	16	17	15	5
18	23	29	36	41	43	42	39	33
6	10	15	20	23	26	24	21	16
12	17	22	28	32	34	33	30	24
29	31	38	44	49	50	48	47	41
-4	-1	6	10	17	16	17	13	4
28	28	18	8	0	0	0	0	3
201	150	147	74	3	0	25	5	28
0	0	0	0	0	0	0	0	0
17	22	28	35	39	43	42	39	32
8	13	18	24	29	32	30	28	22
12	18	23	30	34	37	36	33	27
29	29	37	45	49	49	47	48	39
-2	0	5	12	21	22	22	18	13

21	25	32	37	41	42	41	40	34
10	14	19	24	27	29	28	25	20
16	20	26	31	34	36	34	33	27
30	34	40	48	47	50	49	47	45
-2	1	6	12	20	21	20	17	7
18	18	18	8	0	0	0	0	3
69	107	150	56	0	3	0	3	33
0	0	0	0	0	0	0	0	0
19	24	30	37	41	43	42	40	33
9	13	18	23	26	27	27	24	19
14	18	24	30	34	35	34	32	27
29	33	39	46	47	49	48	48	43
-2	0	9	12	20	20	20	16	9
15	20	18	8	0	0	0	0	3
53	102	66	61	0	5	0	0	41
0	0	0	0	0	0	0	0	0
18	23	29	36	40	43	41	39	32
9	13	18	23	27	30	28	26	20
14	18	24	29	34	37	35	33	26
29	33	40	44	47	49	48	46	41
-2	1	9	12	15	22	23	18	7

16	19	26	33	38	42	41	38	31
8	11	16	22	26	29	28	25	20
12	16	21	27	32	36	35	32	26
26	28	36	43	46	49	48	45	40
-1	1	0	11	18	21	22	16	10
66	97	53	23	0	0	0	0	8
127	498	145	150	3	0	0	3	74
3	18	0	0	0	0	0	0	0
18	23	30	37	41	43	42	41	34
9	13	18	24	27	29	28	26	21
14	18	24	31	34	37	36	33	27
29	32	39	46	48	51	48	47	42
1	1	9	13	20	21	21	17	5
23	20	18	8	0	0	0	0	3
64	79	109	33	3	0	0	0	20
0	0	0	0	0	0	0	0	0
14	19	24	32	38	42	41	37	29
5	9	13	18	23	27	26	21	15
10	14	18	25	31	34	34	29	22
27	30	34	42	44	48	49	45	39
-6	-1	3	6	10	13	17	11	4
69	71	53	20	0	0	0	0	10
183	566	142	140	5	3	0	8	56
5	3	3	0	0	0	0	0	0
18	23	30	36	41	42	42	39	33
9	13	19	23	28	29	29	27	21

14	18	24	30	34	36	36	33	27
33	34	43	45	48	48	48	45	43
-2	0	8	11	13	17	19	12	8
13	13	13	5	0	0	0	0	5
43	81	58	10	0	0	0	3	38
0	0	0	0	0	0	0	0	0
18	23	30	36	42	43	42	40	33
11	14	20	25	28	31	31	27	21
14	19	26	32	36	38	37	34	28
29	33	39	46	49	49	49	47	42
-2	4	10	11	18	22	20	16	8

18	24	31	37	41	42	42	39	33
11	17	24	29	33	35	33	31	24
15	21	28	34	38	39	38	36	29
29	36	43	47	47	49	48	47	41
-1	2	14	19	14	18	23	4	9

	16	20	27	33	39	40	41	38	31
	9	13	20	25	30	31	32	28	23
	12	16	22	28	33	35	34	31	25
	31	36	41	47	47	52	50	48	43
	-4	-1	4	10	19	21	19	11	6
	18	23	18	3 #	#		0 #		3
	53	84	107	25 #	#		0	5	13
#	#		0	0	0	0	0	0	0
	17	21	27	34	39	42	42	39	32
	8	12	17	23	27	29	29	26	21
	13	17	22	29	34	36	36	33	26
	29	32	39	43	47	50	49	47	42
	-4	-2	2	8	14	19	14	11	4
	53	74	38	15 #	#	#	#		5
	155	234	109	81	8	10	3 #		41
	5	5	0	0	0	0	0	0	0
	9	13	18	25	31	35	34	31	24
	4	8	13	18	24	29	28	25	19
	7	11	16	22	28	32	32	27	21
	22	24	31	40	43	42	42	40	35
	-6	-1	3	6	11	18	21	16	8

NOV	DEC
21	14
9	6
16	10
32	25
-2	-3

25	18
13	9
19	14
36	29
0	-1
15	20
71	69
0	0
24	18
14	9
19	13
36	27
3	0

17	11
11	6
14	8
35	21
0	-7

23	17
8	6
16	11
32	24
-2	-4
20	25
157	114
0	0
21	16
12	8
17	12
30	25
3	-2

26	19
13	10
20	14
37	30
1	0
25	30
193	137
0	0
24	17
12	8
18	13
37	26
2	-1
13	20
64	71
0	0
23	17
13	9
18	13
31	25
2	1

22	15
12	8
17	12
31	25
0	-2
38	58
150	163
0	13
24	18
13	9
19	13
37	32
2	0
20	23
130	74
0	0
20	13
8	6
14	9
31	24
-2	-2
46	61
142	165
0	10
23	17
13	8

	18	13
	35	27
	3	0
	10	10
	61	48
T	T	
	24	17
	14	10
	19	13
	33	27
	-1	0

24	17
16	10
20	14
37	29
2	-1

22	16
16	9
17	11
35	27
1	-7
20	18
89	79
0	0
23	16
12	9
17	12
35	28
0	-5
30	51
102	193
0 #	
16	9
11	6
12	7
29	20
-1	-6

2004 Energy Consumption by Type ⁶

Oil	94%
Natural Gas	5%
Hydropower	1%

Usable Oil Production Capacity ⁶

		2003 (pre-war) Estimated	
Field		2007 Estimated Capacity (bbl/da)	Capacity (bbl/da)
Southern Fields	Rumalia North	500,000	500,000
	Rumalia South	800,000	800,000
	West Qurna	180,000	250,000
	Az-Zubair	230,000	230,000
	Missan	100,000	100,000
	Majnoon	50,000	50,000
	Luhais	50,000	50,000
Northern Fields**	Kirkuk	250,000 [600,000 - 700,000]	700,000
	Bai Hassan	[50,000 - 100,000]	125,000
	Jambur	[75,000]	75,000
	Khabbaz	[25,000]	30,000
	Ajil	[25,000]	25,000
	East Baghdad	0	50,000
	Ain Zalah/Butmah	[10,000]	10,000
	Sufiya (other minor fields)	10,000	10,000

**Most production shut-in due to limited export routes/limited refining capacity.

[] Amounts in brackets are estimates of production that could come online if export/domestic refining become available

Refinery Development ⁶

Location	Estimated Capacity (bbl/da)	Notes
Kirkuk	150,000	Approved July 2007.
Dohuk	250,000	Construction to start July 2007
Kurdistan (location TBD)	20,000	Planned for 2008.
Msaib/Nassiriyah	300,000	In discussion phase.
Hindiyah (Karbala)	140,000	Planned for 2009 or 2010.
Koya (Kwsengeq)	70,000	Planned for 2012.
Amarah	30,000	Planned for 2009. To be expanded
Basrah	150,000	In contract phase. Planned for 2010

2006 Electric Power (MW) ⁶

Average Generation	4,063
Peak Generation*	4,855
Average Demand	7,482
Peak Demand*	9,299

*August 2006

**Estimated Reserves
(billion bbl)**

10
7
15-21
5
3
20
2
10
2
1
<1
<1
8
<1
<1

ible.

7.

anded to 120,000 bbl/d. Includes 16-million gallon storage facility.
or 2010.

District	Population	Drinking Water Source(s)	Water Treatment
			Capacity (m ³ /h)
			Name
			Al Bida WTP (Nassriya)
			Al Mujamaat Al Sabaa
			Al Mujamaat Al Khamsa
			Al Mujamaat Al Farancia
			Al Nasiriya Al Qadima
			Al Fidaa New WTP
			Al Dinawea
			Batha'a WTP
Nasiriya	635,520	Gharraf river, Shatt Al Ibrahim, Sweet Water Canal.	Fadak WTP
			Musaa Al Kadem
			Al Fidaa WTP
			Al Haiat Al Jadidah Al Sh
			Batha's WTP
			Said Dakhail WTP
			Thi Qar WTP
			Said Dakhail WTP (Centr
			Al Harzah WTP
			Al Islah WTP
			Zain Al Aabiden
			Badir Al Rumaidh WTP
			Rafai WTP
			Gool Organization WTP
			Um Al Baneen WTP
			Kalaat Sukkar WTP 1
			Kalaat Sukkar WTP 2
			Al Ariaf WTP
			Nahiat Al Nasir WTP
			Al Ameer WTP
			Al Karama WTP
			Al Nadha WTP
			Fajir WTP
			Maysalon CU
			Qaryat Al Kadim WTP
Rafai	360,000	Gharraf river.	Qaryat Al Bakir Sabakat ,
			Fajir CU
			Rafai Al Rifia WTP
			Abu Hawan WTP
			Al Eilaa WTP
			Al Islah WTP
			Al Kothoban Fajir CU
			Al Salihia WTP
			Al Tukia CU
			Nahiat Al Nasir Al hai Al /
			Nahiat Al Nasir Al Tadber
			Qaryat Al Ganana WTP
			Said Shwea WTP
			Nahiat Al Nasir WTP
			Albu Saaid Fajir CU

Suq Ash Shuyukh	270,000	Euphrates*, Sweet Water Canal (Suq Ash Shuyukh and Al Fadilya). *Water piped from Euphrates is not potable (TDS = 1500 - 2000 mg/L) and few of plants have desalination capacity, hence most of district is supplied by water tankers.	Suq Ash Shuyukh WTP	1250
			Al Fadiliya CU	263
			Al Fadiliya	200
			Bani Saeed WTP	200
			Suq Ash Shuyukh WTP [I	200
			Al Batat WTP	100
			Al Fadiliya WTP	100
			Al Proten WTP	100
			Suq Ash Shuyukh Al Hai	100
			Suq Ash Shuyukh Al Ima	100
			Al Ekika WTP	50
			Al Germah WTP	50
			Al Karamah WTP	50
			Tar New WTP	50
			Akaika WTP	30
			Tar Old WTP	30
			Al Misslim CU	14
			Al Jeweber WTP [RO]	10
			Karmat Hassan WTP	8
			Al Kirmashiya WTP [RO]	4
			Al Fuhud Monotheist WTP	650
			Al Ata'a WTP	200
			Al Sajjah Al Qadim	200
			Al Aunaisy WTP	50
Chubaiysh	65,200	Euphrates.	Al Sadir Al Thani WTP [F	50
			Al Sajjah Al Jadid	50
			Al Fuhud RO [RO]	20
			Al Kauther WTP [RO]	20
			Al HamMar WTP	15
			Al Wanies	6
			Al Sadir Al Awal WTP [R	5

Plants

Operational performance

Good

Acceptable

Poor

Good

Acceptable

Under construction

Good

Acceptable

Acceptable

Acceptable

Acceptable

Poor

Poor

Poor

Acceptable

Acceptable

Not working

Poor

Poor

Acceptable

Poor

Poor

Aceceptable

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Not working

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Poor

Wastwater Treatment Plants

Capacity
(population
equivalent)

Operational performance

10,000 Acceptale

85,000 Not working

Discharges
to

Euphrates

Euphrates

NONE

Acceptable
Good
Acceptable
Poor
Not built
Acceptable
Poor
Poor
Acceptable
Acceptable
Poor
Poor
Poor
Good
Good
Poor
Poor
Good
Not working
Good
Acceptable
Acceptable
Poor
Poor
Poor
Poor
Good
Acceptable
Acceptable
Poor
Acceptable

NONE

NONE

Cities to include in model

City	River	2002 Population 4,5	Notes
Baghdad	Tigris	5,605,000	
Mosul	Tigris	1,739,000	
Basrah	Tigris	1,337,000	
Irbil (or Art West of Ti		839,000	Near Greater Zab
Kirkuk	West of Ti	728,000	
Sulaymaniyah		643,000	
Al Najaf	Euphrates	563,000	
Karbala	Euphrates	549,000	
Nassiriyah	Euphrates	535,000	
Al-Hillah	Euphrates	524,000	
Dahuk ⁵	Tigris	500,000	
Ramadiya	Euphrates	423,000	
Al Diwaniya	Euphrates	421,000	
Al Kut	Tigris	381,000	
Amarah	Tigris	340,000	
Baqubah	Diyala	280,000	
Fallujah	Euphrates	256,000	
Samarra	Tigris	201,000	
Az Zubayr	Persian Gu	168,000	
Tal Afar	Tigris	155,000	
Al Qai'm ⁵	Euphrates	150,000	
Bayji		120,000	Al-Bayji refinery (290,000 - 300,000 bbl/day capacity) is one of three
Kufa	Euphrates	115,000	
Haditha	Euphrates	75,000	
Umm Qasr	Persian Gu	46,000	It stands on the canalised Khawr az-Zubayr, part of the Khawr Abd /
Musayyib ⁵	Euphrates	43,432	
Ar Rutbah	East of Eu	25,000	Musayyib is home to the Musayyib Power Plant which might be able Water piped to Ar Rutbah from a group of 12 wells 15km to the sout
Al Kifl ⁵	Euphrates	15,000	
Hit	Euphrates		Near Kifl oil field (capacity of 40,000 bbl/day)

major refineries. Bayji thermal powerplant is the largest in the country and a major contributor to Bag

Allah estuary which leads to the Persian Gulf.

to supply 1/4 to 1/3 of Iraq's electricity needs [reference needed].

h. Along its path, the Bedouin population draws water from it for them and their 2 million sheep (that r

Jhaddad's electricity supply.

need 3 to 4 liters each per day).

		Historical ³		Future projection ³			
		Flow at border	Flow at Hit (MCM)	1986-1990	1990-1995	1995-2000	2000+
Euphrates	Max		63,420				
	Min		10,660				
	Average	33,460	28,400	29,351	20,000	8,898	4,473

Tigris
 Greater Zab
 Lesser Zab
 Diyala