



ORGANISATION OF THE ISLAMIC CONFERENCE
STATISTICAL, ECONOMIC AND SOCIAL RESEARCH
AND TRAINING CENTRE FOR ISLAMIC COUNTRIES



OIC OUTLOOK

May 2009

WATER RESOURCES AND THEIR USE IN AGRICULTURE IN THE OIC MEMBER COUNTRIES

Attar Sokak No: 4, 06700 GOP, Ankara, TURKEY
Tel: +90-312-468 6172 (4 lines) Fax: +90-312-468 5726
E-mail: oicankara@sesric.org Web: www.sesric.org

OIC OUTLOOK

WATER RESOURCES AND THEIR USE IN AGRICULTURE IN THE OIC MEMBER COUNTRIES

INTRODUCTION

During the second half of the 20th century, agriculture responded to a twofold increase in the world's population by more than doubling food production. During the same period, the group of developing countries increased per capita food consumption by 30 percent and nutritional situations improved accordingly. In addition, agriculture continued producing non-food crops, including cotton, rubber, beverage crops and industrial oils. However, while feeding the world and producing a diverse range of commodities in an increasingly productive way, agriculture also confirmed its position as the largest user of water on the globe.

Water lies at the core of sustainable development concerns and its efficient and equitable management is crucial for human survival. Water is essential for all socio-economic development and for maintaining healthy ecosystems. As population increases and development calls for increased allocations of groundwater and surface water for the domestic, agriculture and industrial sectors, the pressure on water resources intensifies, leading to tensions, conflicts among users, and excessive pressure on the environment.

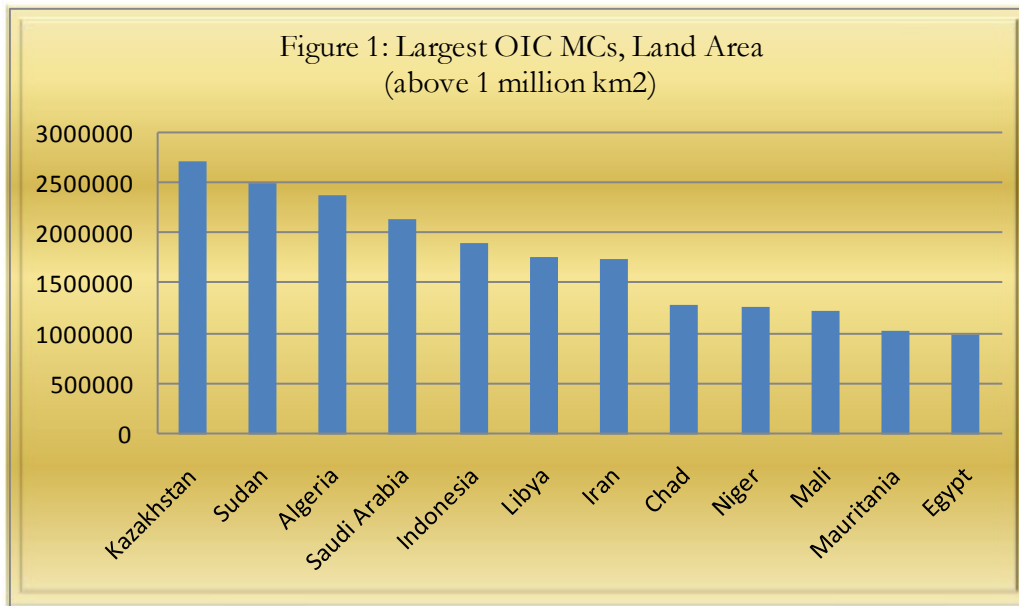
Imbalances between availability and demand, the degradation of groundwater and surface water quality, intersectoral competition, interregional and international conflicts, all contribute to water scarcity. Water use has been growing at more than twice the rate of population increase in the last century, and, an increasing number of regions are chronically short of water. By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity, and two-thirds of the world population could be under stress conditions.

The issue of water gains greater importance when the OIC Member Countries (MCs) are considered. The 57 OIC MCs are dispersed over a large geographical region spread out on four continents, extending from Albania (Europe) in the North to Mozambique (Africa) in the South, and from Guyana (Latin America) in the West to Indonesia (Asia) in the East. As such, the OIC MCs as a group account for more than one fifth of the world area and population. Water is a scarce resource in arid and semi-arid areas of the OIC region where most of the countries in this region are facing severe pressures due to limited opportunities for the exploitation of new water resources. These pressures are expected to increase in the face of expanding populations and the increased per capita water use associated with economic development.

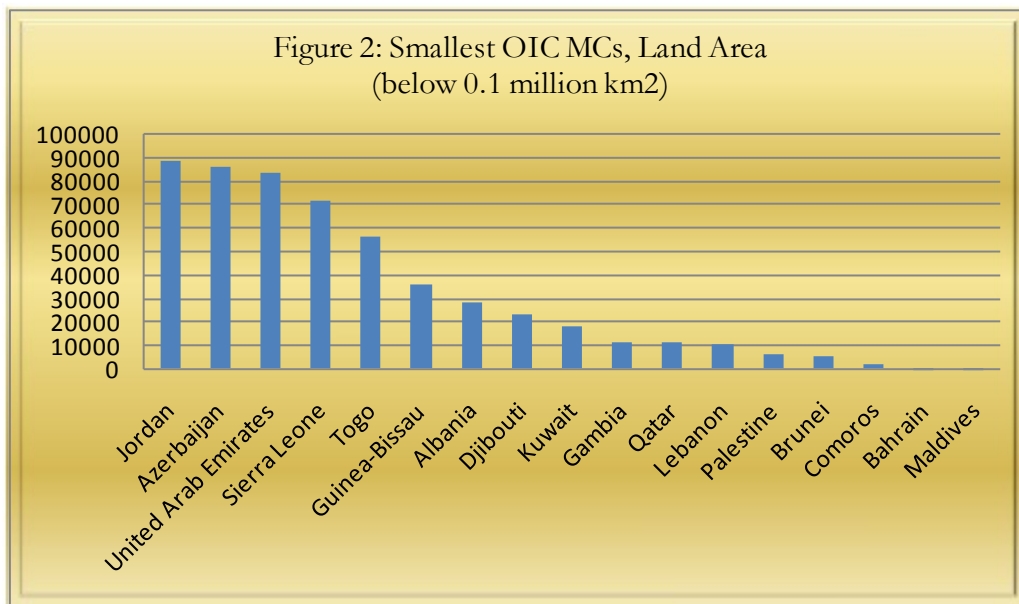
In the light of these challenges, this analysis attempts to provide a general view of the state of water resources and their use in agriculture in the OIC region. For this purpose, the OIC MCs have been grouped in seven sub-regions based primarily on geographic conditions. These sub-regions are hereafter referred to as North Africa, Sub-Saharan Africa, Middle East, Arabian Peninsula, Commonwealth of Independent States (CIS), Asia and Other OIC MCs (see Table A1 in the Annex).

POPULATION AND LAND USE

With a total land area of about 32.5 million square kilometres (km²) and a total population of 1,469 million in 2006, the OIC MCs accounted for 21.8% of the world total land area and 22.5% of its total population, and for 30.2% of the Developing Countries¹ (DCs) total land area and 26.8% of their total population (see Table A2 in the Annex). With respect to their land area, some of the OIC MCs are ranked among the largest countries of the world and some among the smallest. Figures 1 and 2 below, show the largest 12 OIC MCs (above 1 million km²), and the smallest 17 MCs (below 0.1 million km²), respectively.



Source: Table A2 in the Annex.



Source: Table A2 in the Annex.

¹ The group of the Developing Countries (DCs) is classified according to the World Bank “Country Groups” classification; All countries of the world excluding the group of the “High Income Economies”; <http://go.worldbank.org/D7SN0B8YU0>.

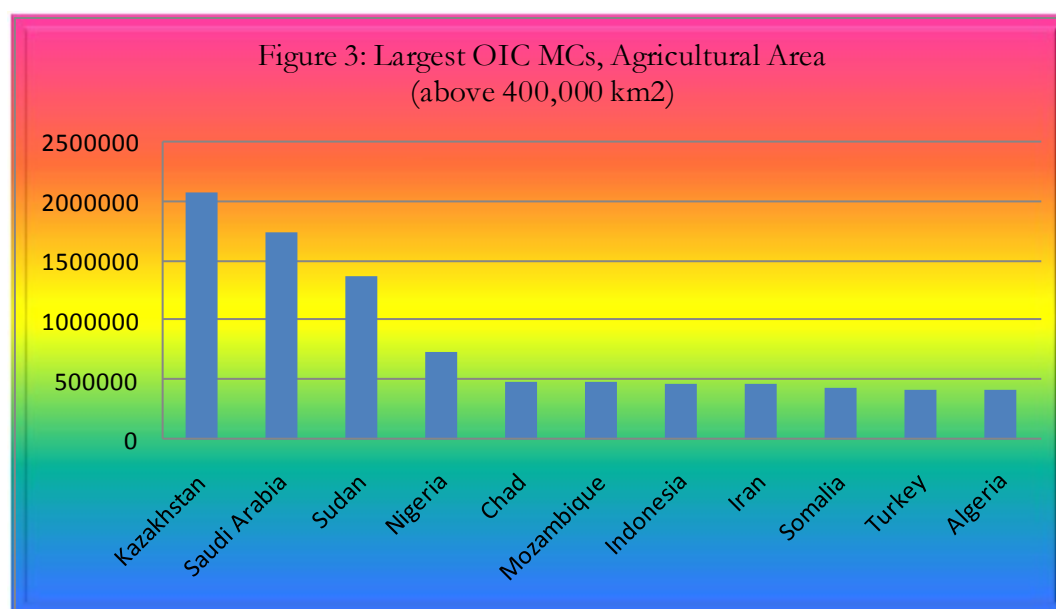
When considering records of the sub-regions of the OIC, as summarised in Table 1 below, the Arabian Peninsula recorded the lowest total population (57 million) and the highest percentage of urban population (77.46%); respectively, lowest percentage of rural population (22.54%). The Asian OIC MCs recorded the highest total population (669 million). The Middle East covers the smallest land area (728,700 km²). Sub-Saharan Africa covers the largest land area (9,519,520 km²) and recorded lowest percentage of urban population (40.08%); respectively, highest percentage of rural population (59.92%).

Table 1: Population and Land Use, 2006

	Population (2006)			Land Area
	Total	Urban (% of total)	Rural (% of total)	km ²
Arabian Peninsula	57040864	77.46	22.54	3100290
Asia	668952114	47.40	52.60	5577720
CIS	67498802	42.59	57.41	4089450
Middle East	61586934	71.39	28.61	728700
North Africa	192331952	57.75	42.25	8258700
Sub-Saharan Africa	343122899	40.08	59.92	9519520
Other	78288261	53.92	46.08	1190550
All OIC	1468821826	51.54	48.46	32464930
As % of DCs	26.8			30.2
As % of World	22.5			21.8

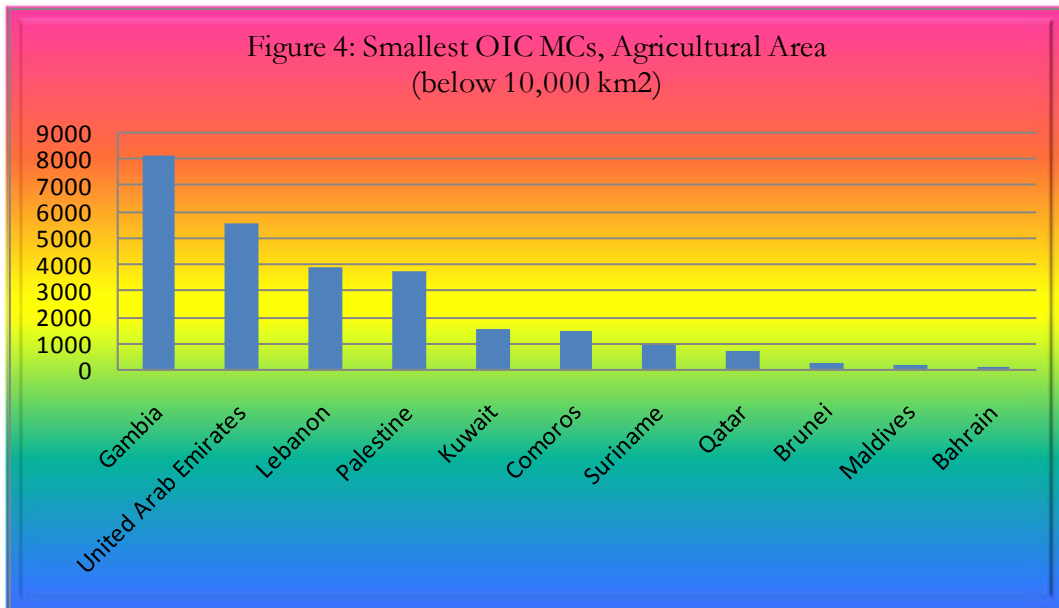
Source: Table A2 in the Annex.

With a total agricultural area² of about 14 million square kilometres (km²) in 2005, the OIC MCs accounted for 28% of the world agricultural area, and for 38% of the Developing Countries (DCs) agricultural area (see Table A3 in the Annex). With respect to their agricultural area, some of the OIC MCs are ranked among the largest countries of the world and some among the smallest. Figures 3 and 4 below, show the largest 11 OIC MCs (above 400,000 km²) of which 3 (Kazakhstan, Saudi Arabia and Sudan) have above 1 million km² each, and the smallest 11 MCs (below 10,000 km²), respectively.



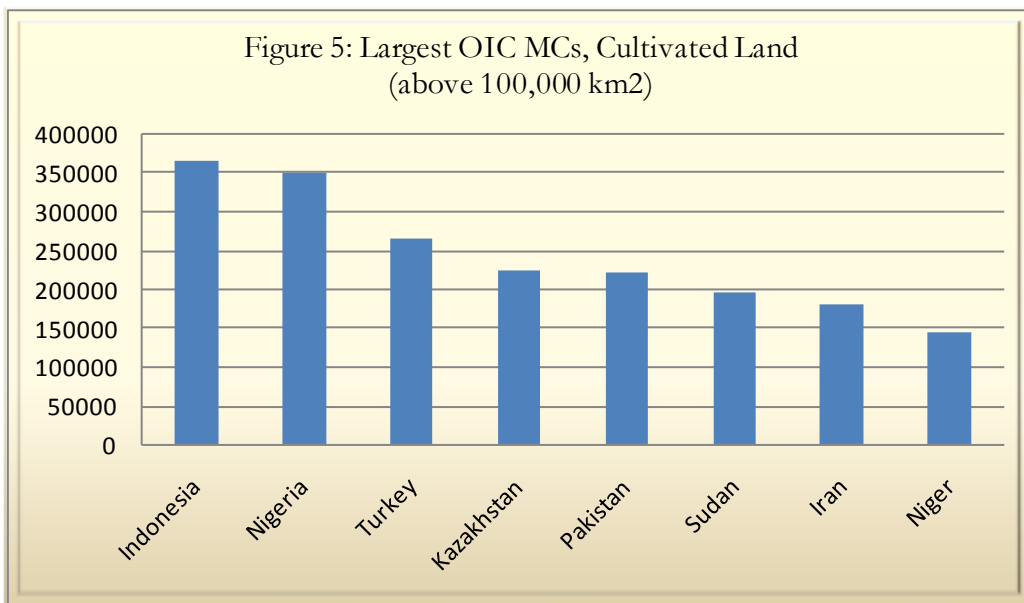
Source: Table A3 in the Annex.

² Agricultural area is the sum of cultivated area and permanent pasture, where cultivated area is the sum of arable land and permanent crop. That is, agricultural area is the sum of arable land, permanent crop and permanent pasture.

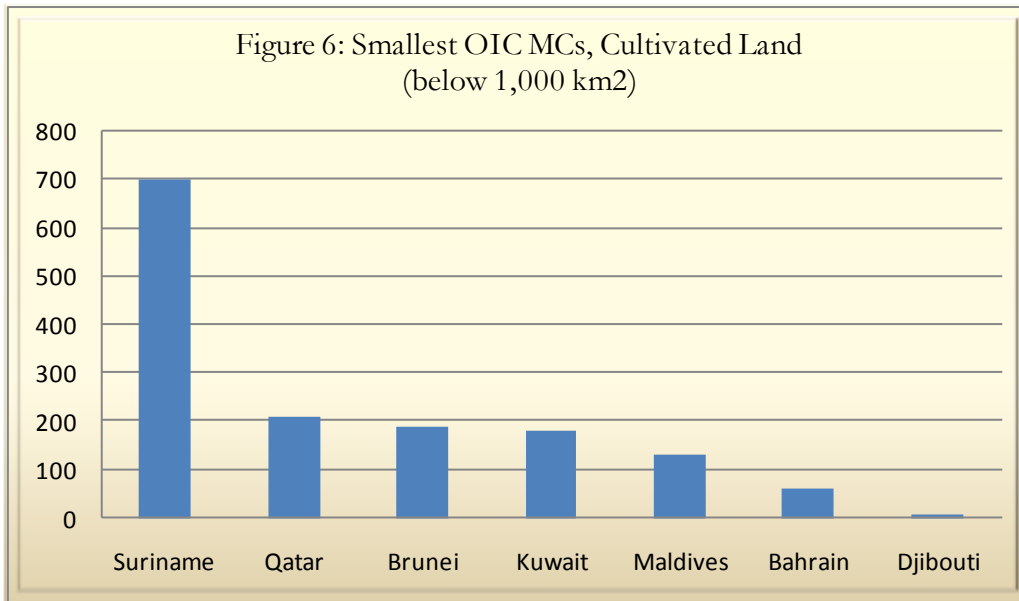


Source: Table A3 in the Annex.

But, when it comes to cultivated land, that is, excluding permanent pasture, the picture differs somewhat. Since permanent pasture constitutes an important portion of agricultural land for many OIC MCs, the listing of these countries with respect to their cultivated land differs. Figures 5 and 6 below, show the largest 8 OIC MCs (above 100,000 km²), and the smallest 7 MCs (below 1,000 km²), respectively.

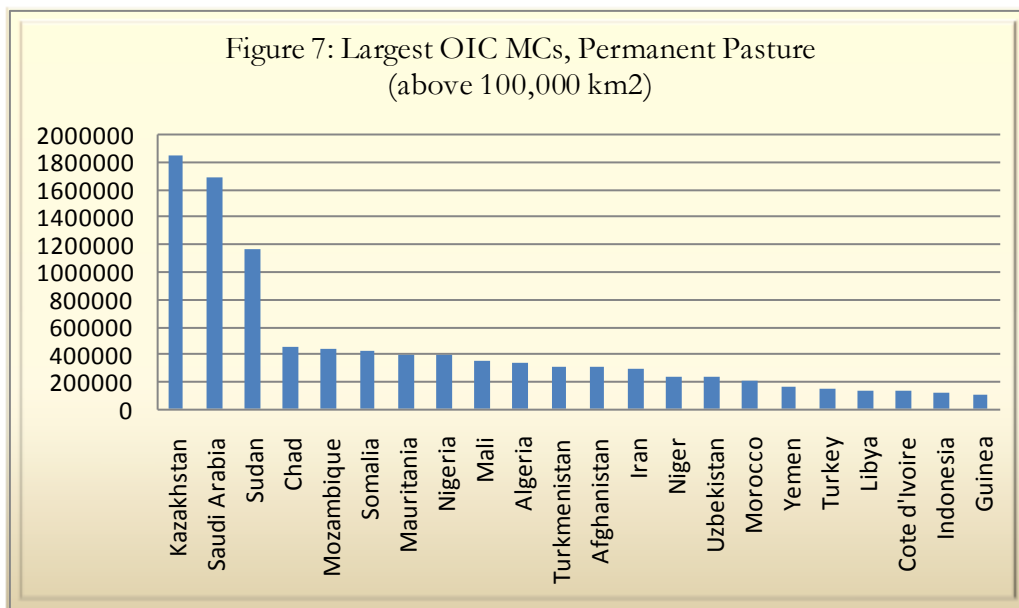


Source: Table A3 in the Annex.



Source: Table A3 in the Annex.

This brings out the need to take a look at those countries with huge portions of their agricultural land that is devoted to permanent pasture. Figure 7 below, shows that 22 OIC MCs have more than 100,000 km² of permanent pasture land each, of which 3 (Kazakhstan, Saudi Arabia and Sudan) have above 1 million km² each.



Source: Table A3 in the Annex.

When considering records of the sub-regions of the OIC, as summarised in Table 2 below, the Sub-Saharan Africa has the largest agricultural land area (4.3 million km²) but with 75% of it devoted to permanent pasture. The CIS has the second largest agricultural land area (2.9 million km²) but with 88% of it devoted to permanent pasture. North Africa has the third largest agricultural land area (2.4 million km²) but with 80% of it devoted to permanent pasture. The Arabian Peninsula has the fourth largest agricultural land area (2 million km²) but with 97% of it devoted to permanent pasture. The Middle East is somewhat more balancing between its cultivated and permanent pasture land areas with around 50% devoted for each. The group of Albania, Guyana, Suriname and Turkey has the highest percentage (63%) for cultivated land area.

While the percentage of agricultural area in total land area of the group of the OIC is above that of the Developing Countries (DCs) and that of the world, the percentage of its cultivated land area in total agricultural area is below the average levels of the world and the DCs (see Table 2 below). This is due, among other things, to the unsatisfactory use of land in agriculture, particularly due to the scarcity of water resources and the use of insufficient irrigation systems and techniques.

Table 2: Land Use in Agriculture, 2005

	Agricultural Area		Cultivated Area				Permanent Pasture	
			Arable Land		Permanent Crops			
	km2	%	km2	%	km2	%	km2	%
Arabian Peninsula	1940250	62.58	51760	2.67	5890	0.30	1882600	97.03
Asia	1774690	31.82	784870	44.23	223660	12.60	766160	43.17
CIS	2883116	70.50	334212	11.59	9615	0.33	2539289	88.07
Middle East	257900	35.39	111000	43.04	14720	5.71	132180	51.25
North Africa	2372560	28.73	428430	18.06	49980	2.11	1894150	79.84
Sub-Saharan Africa	4273970	44.90	920780	21.54	120990	2.83	3232200	75.63
Other	441770	37.11	249480	56.47	29380	6.65	162910	36.88
All OIC	13944256	42.95	2880532	20.66	454235	3.26	10609489	76.09
DCs	36813466	31.92	10555502	28.67	1164545	3.16	25093419	68.16
World	49675795	33.35	14211691	28.61	1405117	2.83	34058987	68.56
OIC (% of DCs)	37.88		27.29		39.01		42.28	
OIC (% of World)	28.07		20.27		32.33		31.15	

Source: Table A3 in the Annex.

WATER RESOURCES

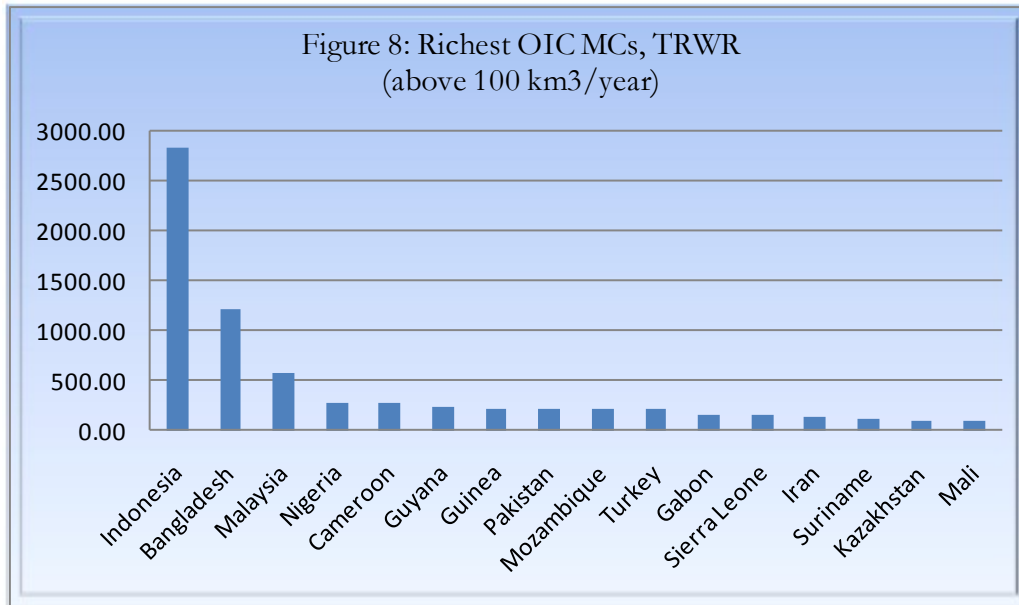
Because of the aridity prevailing in most of the OIC MCs, the OIC region is the poorest in the world in terms of water resources. This is true even when the contribution of rivers flowing from the bordering regions is considered. However, water resources distribution within this vast region is far from being uniform. Land relief, location with respect to the sea, latitude and resulting hydro-climatic conditions, diversity in hydrographical and geological structures and matching or mismatching of the river basins with the national territories all give rise to extremely different water situations.

In this analysis, a distinction has been made between renewable and non-renewable water resources. Renewable water resources (RWR) are that part of water resources generated from endogenous precipitation. They are computed on the basis of the water cycle by adding up the long-term average annual flow of rivers and lakes (surface water) and recharge groundwater reservoirs. Non-renewable water resources are groundwater bodies (deep aquifers) that have a negligible rate of recharge on the human time-scale and thus can be considered non-renewable.

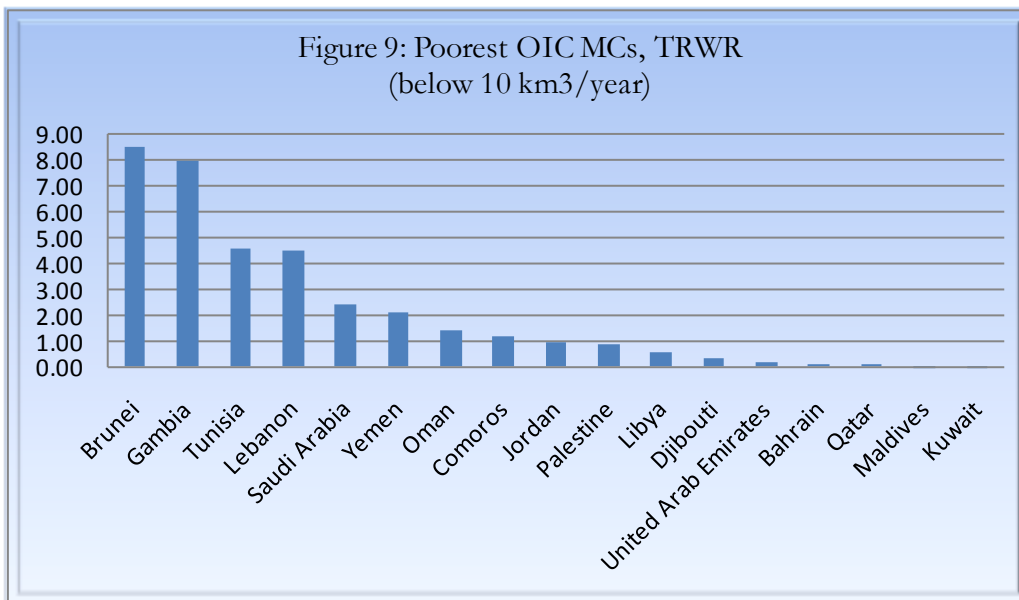
Total renewable water resources (TRWR) are the total amount of a country's water resources and defined as the sum of internal renewable water resources and external renewable water resources which is the incoming flow originating outside the countries' borders.

With a Total Renewable Water Resources (TRWR) of about 8000 km³/year according to the latest available data, the OIC MCs accounted for 15% of the world TRWR, and for 18% of the Developing Countries (DCs) TRWR.

With respect to their Total Renewable Water Resources (TRWR), some of the OIC MCs are considered highly rich while others highly poor. Figures 8 and 9 below, show the richest 16 OIC MCs (above 100 km³/year) of which 3 (Indonesia, Bangladesh and Malaysia) recorded above 500 km³/year each, and the smallest 17 MCs (below 10 km³/year), respectively.



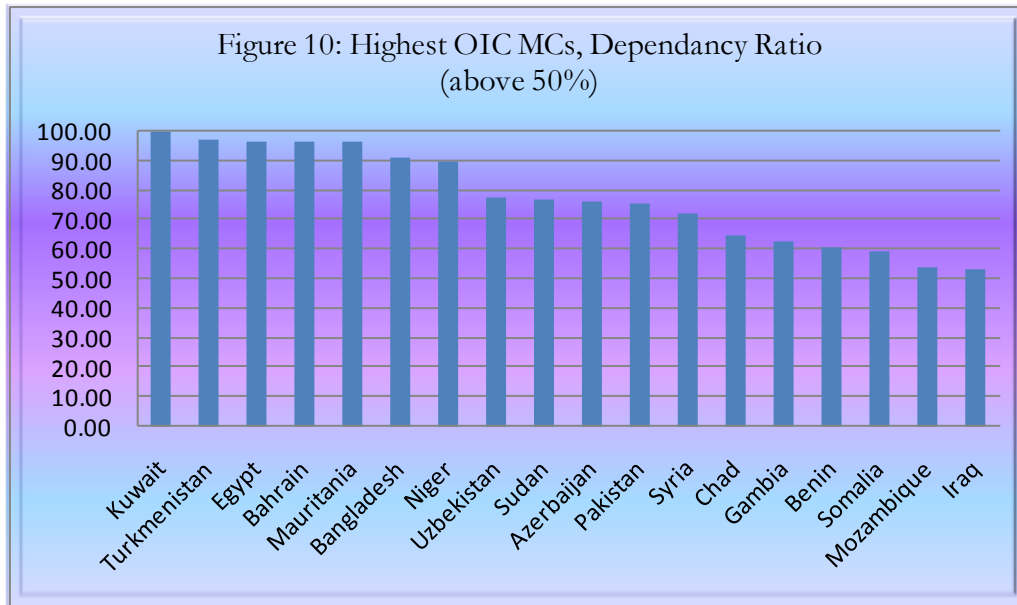
Source: Table A4 in the Annex.



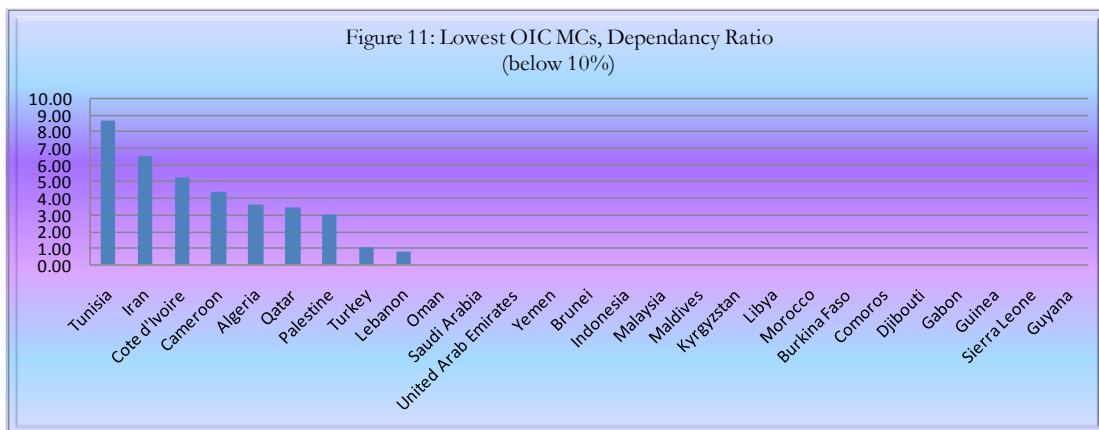
Source: Table A4 in the Annex.

When discussing TRWR, it is important also to mention how much a country depends on internal and external water resources. This issue is reflected through the Dependency Ratio (see Table A4 in the Annex). The Dependency Ratio is an indicator that takes

values between 0 and 100. It indicates how much a country depends within its TRWR on external resources. The lowest the ratio is, the more the country depends on its internal water resources. And, the higher the ratio is, the more the country depends on its external water resources. Figures 10 and 11 below, show 18 OIC MCs that are much dependent on external water resources (above 50%), and 27 OIC MCs that are least dependent on external water resources (below 10%).



Source: Table A4 in the Annex.



Source: Table A4 in the Annex.

When considering records of the sub-regions of the OIC, as summarised in Table 3 below, the Arabian Peninsula recorded the lowest of both TRWR (6.25 km³/year) and per capita TRWR (145 m³/year) noting that this region includes Bahrain and Kuwait with almost 100% dependency ratio and Oman, Saudi Arabia, the United Arab Emirates and Yemen with zero percent dependency ratios. Asia recorded the highest TRWR noting that this region includes Bangladesh and Pakistan with very high dependency ratios and Brunei, Indonesia, Malaysia and Maldives with zero percent dependency ratios. The group of Albania, Guyana, Suriname and Turkey recorded the highest per capita TRWR noting that this region has low dependency ratio with Guyana and Turkey recording almost zero percent dependency ratios.

Table 3: Total Renewable Water Resources (TRWR)
(Latest available data)

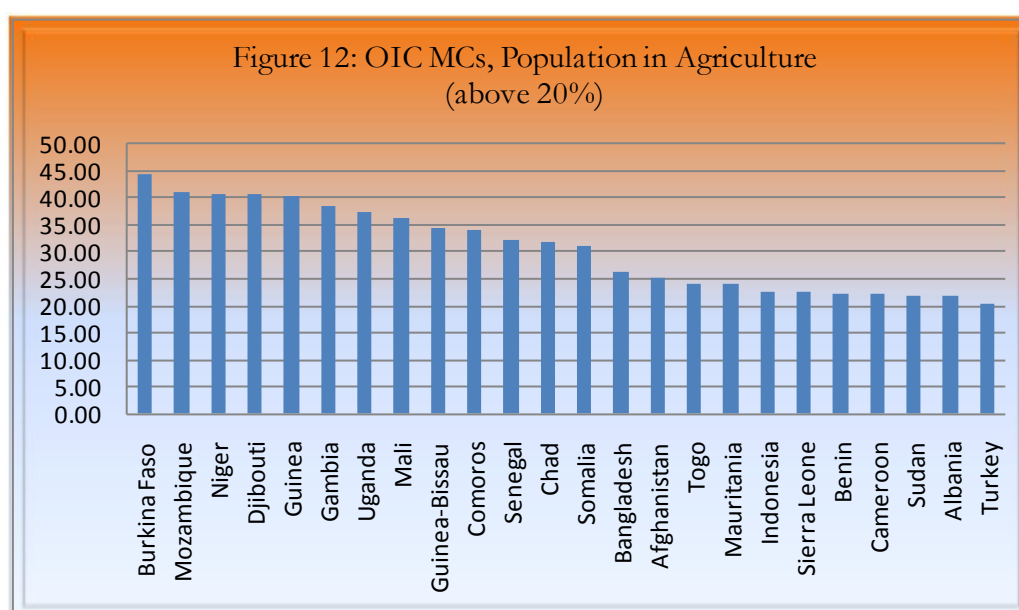
	TRWR (km ³ /year)
Arabian Peninsula	6.25
Asia	5064.96
CIS	255.98
Middle East	98.69
North Africa	167.67
Sub-Saharan Africa	1821.59
Other	618.26
All OIC	8033.38
DCs	44922.44
World	55150.06
OIC (% of DCs)	17.88
OIC (% of World)	14.57

Source: Table A4 in the Annex.

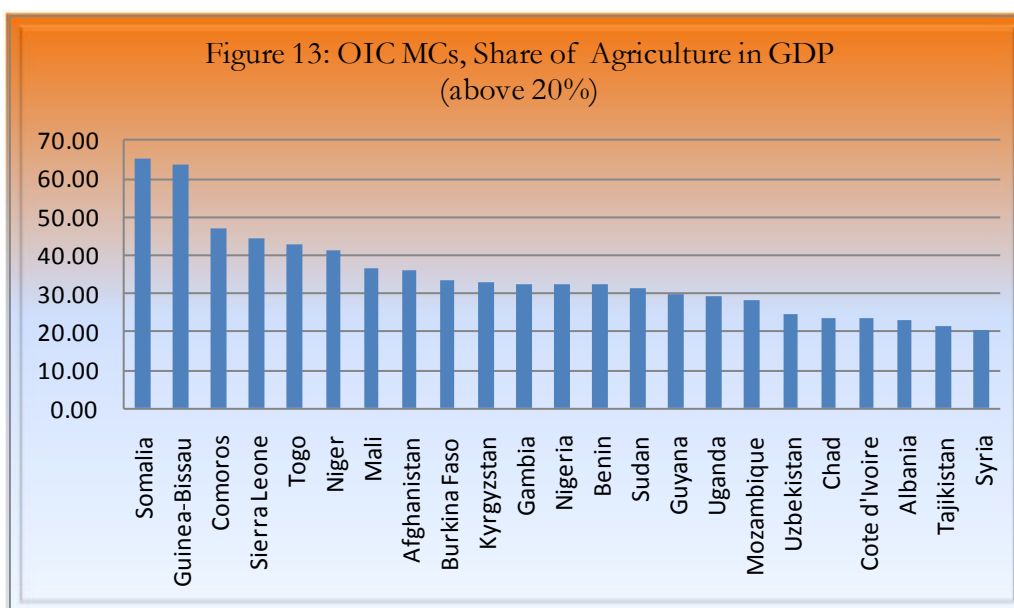
WATER WITHDRAWAL AND USE IN AGRICULTURE

Employing around 20% of the total population in 2006, the group of the OIC falls behind both of Developing Countries (DCs) and the world, 25% and 21%, respectively. Yet, the average contribution to total GDP in the group of the OIC (20%) is higher than both of DCs and the world, 18.67% and 14.67%, respectively (see Table A5 in the Annex).

Agriculture is still considered as a primary economic activity that is assumed to play a significant role in the economies of many OIC MCs. Figures 12 and 13 below, show 27 OIC MCs with the highest percentage of population employed in agriculture (above 20% of total population) and 23 MCs with the highest contribution of agriculture to GDP (above 20% of GDP), respectively.



Source: Table A5 in the Annex.



Source: Table A5 in the Annex.

When considering records of the sub-regions of the OIC, as summarised in Table 4 below, the Middle East and the Arabian Peninsula recorded the lowest percentages of population in agriculture, 4.35% and 7.36%, respectively. The Arabian Peninsula also recorded the lowest share of agriculture in GDP (6.47%) while the Middle East recorded the second highest one (20.37%). The records of the highest percentage of population in agriculture (23.52%) and the highest share of agriculture in GDP (30.87%) were both recorded by Sub-Saharan Africa.

Table 4: Population in Agriculture and Share of Agriculture in GDP, 2006

	Population in Agriculture (2006)		Share of Agriculture in GDP (%)
	Total Population in Agriculture	% of Total Population	
Arabian Peninsula	4199128	7.36	6.47
Asia	136523517	20.41	15.06
CIS	7237448	10.72	18.54
Middle East	2678400	4.35	20.37
North Africa	25046181	13.02	13.56
Sub-Saharan Africa	80714910	23.52	30.87
Other	15931766	20.35	16.60
All OIC	272331352	18.54	19.79
DCs	1362655319	24.83	18.67
World	1379163815	21.09	14.67
OIC as % of DCs	19.99		
OIC as % of World	19.75		

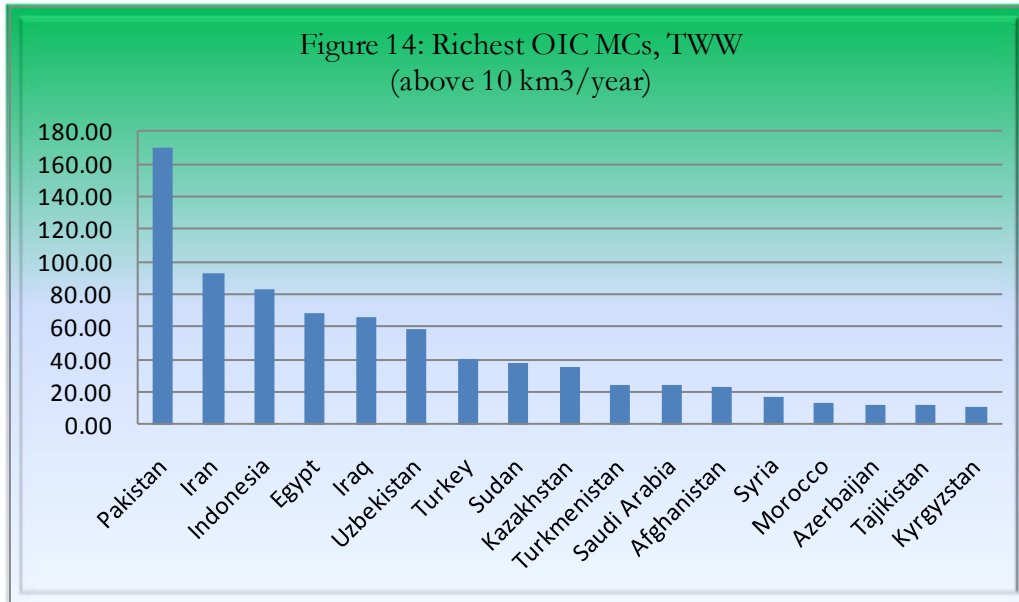
Source: Table A5 in the Annex.

The Total Water Withdrawal³ (TWW) in the OIC MCs accounts for 29% of that of the Developing Countries (DCs) total and 22% of that of the World total. As percentage of own TRWR, the OIC MCs recorded significantly higher TWW (10%) than both of the DCs (6.5%) and the world (7%). Also, most of the TWW is directed to agriculture on all levels; OIC, DCs and the world. It is also recognised that some OIC MCs have a value above 100% of its TWW as percentage of TRWR. This indicates that these countries rely, at least, partly on renewable water resources flowing from outside, non-conventional

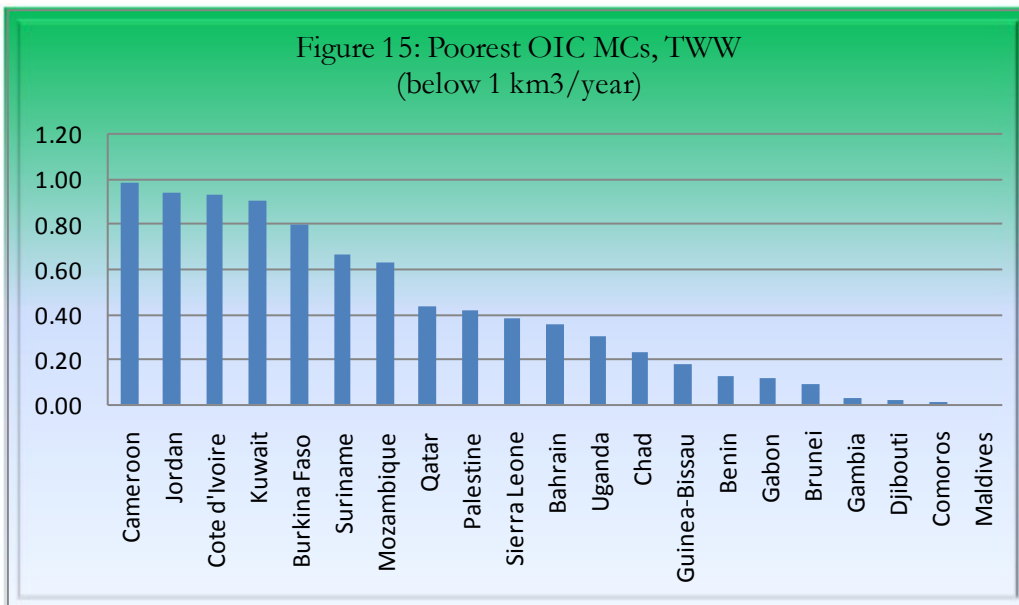
³ Total water withdrawal (TWW) is the annual quantity of water withdrawn for agricultural, industrial, and domestic purposes. The use of desalinated and treated wastewater is thus included.

water resources (desalinated water and treated wastewater) or mining their groundwater resources (see Table A4 in the Annex).

With respect to their Total Water Withdrawal (TWW), some of the OIC MCs are considered highly rich while others highly poor. Figures 14 and 15 below, show the richest 17 OIC MCs (above 10 km³/year) and the smallest 21 MCs (below 1 km³/year), respectively.

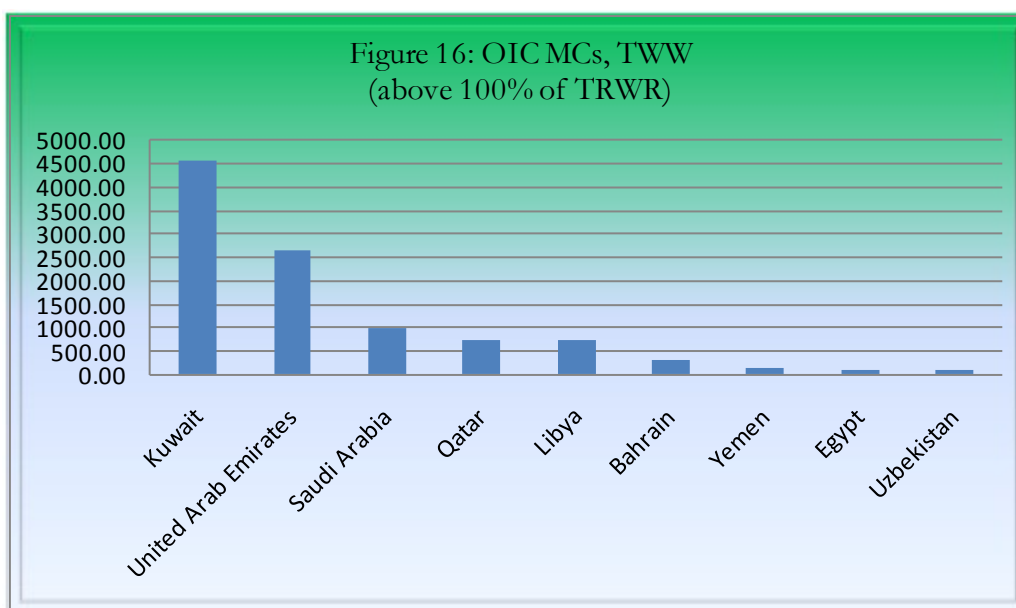


Source: Table A4 in the Annex.



Source: Table A4 in the Annex.

This brings out the need to take a look at those countries with portions of their TWW that come from renewable water resources flowing from outside, non-conventional water resources (desalinated water and treated wastewater) or mining groundwater resources. Figure 16 below, shows that 9 OIC MCs are classified within such category.



Source: Table A4 in the Annex.

When considering records of the sub-regions of the OIC, as summarised in Table 5 below, the Sub-Saharan Africa recorded the lowest TWW (30.22 km³/year) being also the lowest percentage of TRWR (1.66%). The Arabian Peninsula recorded the second lowest TWW (34.1 km³/year) but the highest percentage of TRWR (545.6%). While Asia recorded the highest TWW (5065 km³/year), it recorded the third lowest percentage of TRWR (7.5%) where the group of Albania, Guyana, Suriname and Turkey recorded the second lowest percentage of TRWR (7.14%). Additionally, it is worth mentioning that all OIC sub-regions devoted most of their TWW to agriculture.

Table 5: Total Water Withdrawal (TWW) and Use in Agriculture
(Latest available data)

Country	TRWR (km ³ /year)	TWW		Agricultural Water Withdrawal	
		km ³ /year	% of TRWR	km ³ /year	% of TRWR
Arabian Peninsula	6.25	34.10	545.60	29.28	468.48
Asia	5064.96	377.84	7.46	352.69	6.96
CIS	255.98	152.24	59.47	136.78	53.43
Middle East	98.69	85.36	86.49	68.25	69.16
North Africa	167.67	131.26	78.28	115.77	69.05
Sub-Saharan Africa	1821.59	30.22	1.66	25.20	1.38
Other	618.26	44.12	7.14	32.88	5.32
All OIC	8033.38	855.13	10.64	760.85	9.47
DCs	44922.44	2939.13	6.54	2298.55	5.12
World	55150.06	3869.02	7.02	2691.90	4.88
OIC as % of DCs	17.88	29.09		33.10	
OIC as % of World	14.57	22.10		28.26	

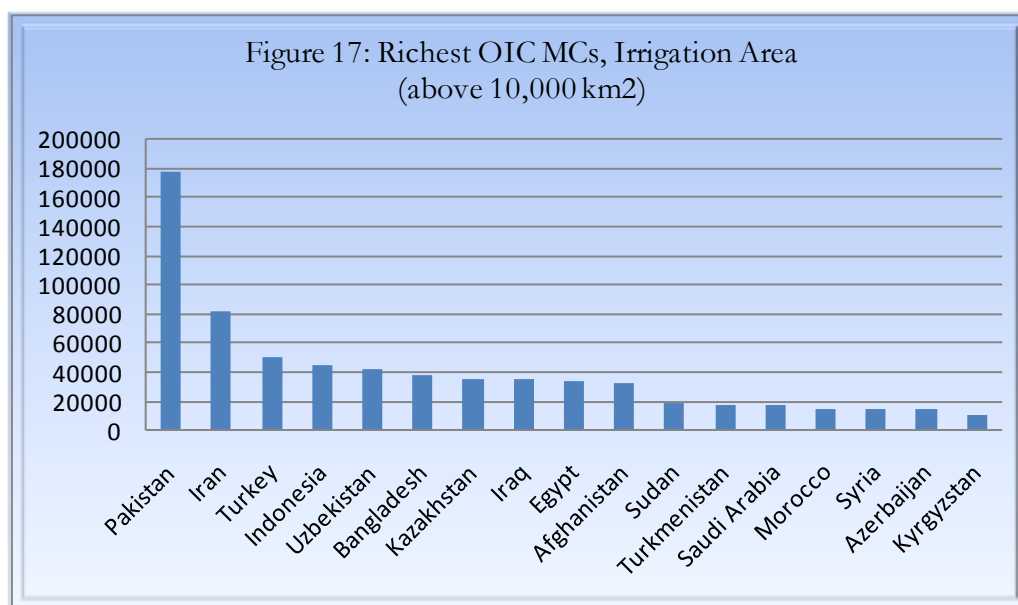
Source: Table A4 in the Annex.

Having considered land use in agriculture and water resources, it is important here to also analyse the concept of irrigation. The term “irrigation area” or “area under irrigation” refers to the area of land equipped to provide water, other than direct rainfall, to the

crops. It includes areas equipped for full and partial control irrigation⁴, spate irrigation⁵ areas, and equipped wetland and inland valley bottoms⁶. It does not include flood recession cropping areas⁷ which, when added to the other mentioned areas, the total irrigation area is then called the water managed area.

With a total irrigation area of 734,618 square kilometres (km²) according to the latest available data, the OIC MCs accounted for 26.27% of the world irrigation area, and for 31.99% of the Developing Countries (DCs) irrigation area (see Table A6 in the Annex). The total irrigation area in the OIC region accounts for 2.26% of its total land area and 25.5% of its total arable land area. Both rates are above those of the world and the Developing Countries; 1.88% and 19.68% for the world and 1.99% and 21.75% for the Developing Countries, respectively.

With respect to their irrigation area, some of the OIC MCs are considered highly rich while others highly poor. Figures 17 and 18 below, show the richest 17 OIC MCs (above 10,000 km²) of which Pakistan recorded the significantly highest irrigation area (24.26%) in the OIC region, and the smallest 9 MCs (below 100 km²), respectively. Additionally, while only 4 OIC MCs (Bangladesh, Pakistan, Azerbaijan and Albania) have each an irrigation area over 10% of their total land area, 31 OIC MCs have each an irrigation area below 1% of their total land area. And, while 17 OIC MCs have each an irrigation area over 10% of their total agricultural area, 18 OIC MCs have each an irrigation area below 1% of their total agricultural area (see Table A6 in the Annex).



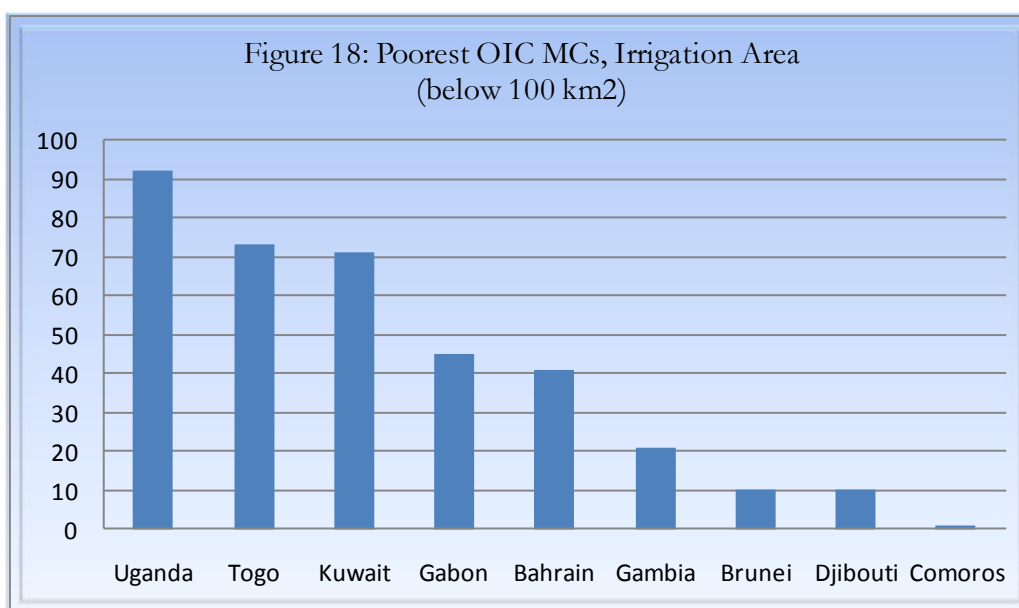
Source: Table A6 in the Annex.

⁴ Physical area of irrigation schemes developed and managed either by government, private estates or farmers, and where a full or partial control of the water is achieved; gardening is included.

⁵ It is a method of random irrigation using the floodwaters of a normally dry system. It is practised by building earthen diversion banks across a dry watercourse. The floods or spates are diverted into embanked fields, where the water is ponded until total infiltration.

⁶ Parts of cultivated wetlands and inland valley bottoms which have been equipped with water control structures such as intakes, canals, etc.

⁷ Areas along rivers where cultivation occurs in the areas exposed as floods recede. The special case of floating rice is included in this category.



Source: Table A6 in the Annex.

When considering records of the sub-regions of the OIC, as summarised in Table 6 below, the Arabian Peninsula recorded the lowest of both total irrigation area, its percentage of total land area and of agricultural land area, (2,725 km²), (0.09%) and (0.14%) respectively. Asia recorded the highest total irrigation area, its percentage of agricultural area and of total arable land, (376,932 km²), (21.24%) and (48.02%) respectively. The Middle East recorded the highest percentage of total irrigation area in total land area, (7.07%).

Table 6: Irrigation Area (Latest available data)

Country	Total Irrigation Area (km ²)	As % of		
		Total Land Area	Agricultural Area	Arable Land
Arabian Peninsula	2725	0.09	0.14	5.26
Asia	376932	6.76	21.24	48.02
CIS	127458	3.12	4.42	38.14
Middle East	51531	7.07	19.98	46.42
North Africa	82028	0.99	3.46	19.15
Sub-Saharan Africa	14226	0.15	0.33	1.54
Other	55243	4.64	12.50	22.14
All OIC	734618	2.26	5.27	25.50
DCs	2295937	1.99	6.24	21.75
World	2796892	1.88	5.63	19.68
OIC as % of DCs	31.99			
OIC as % of World	26.27			

Source: Table A6 in the Annex.

Irrigation techniques are also an important concept to help better understand ways and means of irrigation used in the OIC MCs. Data on the irrigation techniques used in full or partial irrigation schemes are available fully for 42 MCs (see Table A7 in the Annex). Based on this data, surface irrigation is by far the most widely used technique in the OIC region, practised on 67.86% of the total irrigation area. On the other hand, sprinkler irrigation⁸ is practised on 8.43% and micro-irrigation⁹ on only 0.66% of the total irrigation area.

⁸ It is a method of irrigation by applying water under pressure when the water is sprinkled in the form of artificial rain through lines carrying distribution components: rotary sprinklers, diffusers with permanent water streams and perforated pipes.

In Saudi Arabia and Cote d'Ivoire, sprinkler irrigation is by far the most predominant (59.45% and 49.45% respectively). Considering micro-irrigation, it comes in the second place, after surface irrigation, in the United Arab Emirates and Jordan (8.63% and 8.11% respectively), and for the rest of the 42 OIC MCs, micro-irrigation is either a third choice or never even applicable (see Table A7 in the Annex).

CONCLUSION AND RECOMMENDATIONS

Constituting 22.5% of the world's total population (26.8% of that of the DCs), 21.8% of the world's total land area (30.2% of that of the DCs), and 28% of the world's total agricultural area (38% of that of the DCs), the OIC region is considered to be one of the most important groupings of the world. However, against the above-mentioned percentages, this region receives less than 15% of the world's total renewable water resources (less than 18% of that of the DCs) but directing more than 90% of its total water withdrawal to agriculture; a figure that is twice as that of the world and the DCs. With 18.54% of its total population employed in agriculture against 21.09% for the world (24.83% for the DCs), the OIC region recorded 19.79% share of agriculture in GDP against 14.67% for the world (18.67% for the DCs). Considering the percentage of the cultivated land in total agricultural area in the OIC region (23.92%), it comes out to be below the average levels of the world (31.44%) and the DCs (31.83%). This is due, among other things, to the unsatisfactory use of land in agriculture, particularly due to the scarcity of water resources and the use of insufficient irrigation systems and techniques.

The use of water in agriculture is not adequately and efficiently addressed by most of the OIC MCs. Consequently, huge amounts of the water diverted for irrigation are wasted at the farm level through either deep percolation or surface runoff. These quantities may not be lost when one considers water use in the regional context, since return flows become part of the usable resources elsewhere. However, these losses often represent foregone opportunities for water because they delay the arrival of water at downstream diversions and almost produce poorer quality water at the regional level. The future emphasis must be directed towards increasing the efficiency of water use systems and increasing water productivity, getting more crops per drop, as well as moving seriously towards tapping new non-conventional water resources to increase agricultural productivity.

On the OIC level, the following issues should be emphasised:

- Increasing the productivity of land or a fuller use of land and water resources by the development of efficient irrigation systems and techniques in order to achieve sustainable increases in food production.
- The suitability of land for irrigated agriculture should be assessed within the process of land evaluation (which crops to grow where) or the selection of suitable land, cropping, and irrigation system. This process should be physically and financially practicable and economically viable.

⁹ It is a method of irrigation (with different techniques) when water is applied to and causing wetting of only part of the soil in the field at the base of the plant (plant root zone) in small but frequent quantities, i.e. drop by drop. It includes the following terms or systems: trickle irrigation, drip irrigation, daily flow irrigation, drop irrigation and sip irrigation.

- Promoting and providing modern techniques and water-saving technologies of irrigation as well as shifting from surface irrigation system to pressurized irrigation will contribute to the goal of achieving sustainable food production.

In this context, the following specific views may be considered:

- OIC MCs with high rural population percentages (above 20%) and high agricultural area percentages (above 20%) accompanied with low shares of agriculture in GDP (below 20%) are strongly advised to optimize the use of their resources in order to achieve higher shares of agriculture in GDP. These are Azerbaijan, Bangladesh, Guinea, Indonesia, Iran, Iraq, Kazakhstan, Malaysia, Maldives, Mauritania, Morocco, Pakistan, Senegal, Tunisia, Turkey, Turkmenistan and Yemen.
- OIC MCs with high percentages of permanent pasture in total agricultural land area (above 50%) should be encouraged to apply optimised projects aiming at devoting some part of these pasture land areas to cultivated land areas (see Table A3 in the Annex).
- OIC MCs with low percentages of total water withdrawal in total renewable water resources (below 20%) should be given special attention to help them increase the portion of total water withdrawal in total renewable water resources (see Table A4 in the Annex) and thus better contribute to water withdrawal directed to agriculture which shall enhance efficient optimisation of sustainable agricultural development.
- Finally, with respect to irrigation techniques, most of the OIC MCs are in urgent need to develop modern techniques and water-saving technologies of irrigation in order to decrease their heavy dependence on surface irrigation. This shall indeed help in increasing the efficient agricultural area and also enhance efficient optimisation of sustainable agricultural development.

REFERENCES

FAO Statistics Database, AQUASTAT Online Database,
<http://www.fao.org/nr/water/aquastat/data/query/index.html>.

FAO Statistics Database, FAOSTAT Online Database, <http://faostat.fao.org>.

World Bank, Data & Statistics, Country Groups,
<http://go.worldbank.org/D7SN0B8YU0>.

Table A1: OIC Country Classification

Arabian Peninsula	North Africa
Bahrain	Algeria
Kuwait	Egypt
Oman	Libya
Qatar	Morocco
Saudi Arabia	Sudan
United Arab Emirates	Tunisia
Yemen	Sub-Saharan Africa
Asia	Benin
Afghanistan	Burkina Faso
Bangladesh	Cameroon
Brunei	Chad
Indonesia	Comoros
Iran	Cote d'Ivoire
Malaysia	Djibouti
Maldives	Gabon
Pakistan	Gambia
Commonwealth of Independent States (CIS)	Guinea
Azerbaijan	Guinea-Bissau
Kazakhstan	Mali
Kyrgyzstan	Mauritania
Tajikistan	Mozambique
Turkmenistan	Niger
Uzbekistan	Nigeria
Middle East	Senegal
Iraq	Sierra Leone
Jordan	Somalia
Lebanon	Togo
Palestine	Uganda
Syria	
Other: Albania, Guyana, Suriname and Turkey (OIC MCs in Europe and America)	

Table A2: Total Population and Land Area

Country	Population (2006)			Land Area
	Total	Urban (% of total)	Rural (% of total)	km2
Bahrain	738913	88.45	11.55	710
Kuwait	2778650	98.31	1.69	17820
Oman	2546325	71.50	28.50	309500
Qatar	821313	95.51	4.49	11000
Saudi Arabia	24174940	81.20	18.80	2149690
United Arab Emirates	4248476	77.74	22.26	83600
Yemen	21732247	29.49	70.51	527970
All Arabian Peninsula	57040864	77.46	22.54	3100290
Afghanistan	26087654	23.25	76.75	652090
Bangladesh	155990777	26.12	73.88	144000
Brunei	381952	73.95	26.05	5770
Indonesia	228864475	49.30	50.70	1904570
Iran	70270178	67.46	32.54	1745150
Malaysia	26113731	68.61	31.39	329740
Maldives	300292	35.26	64.74	300
Pakistan	160943055	35.27	64.73	796100
All Asia	668952114	47.40	52.60	5577720
Azerbaijan	8406028	51.62	48.38	86600
Kazakhstan	15314346	57.25	42.75	2724900
Kyrgyzstan	5258626	35.92	64.08	199900
Tajikistan	6639837	26.38	73.62	142550
Turkmenistan	4899456	47.73	52.27	488100
Uzbekistan	26980509	36.67	63.33	447400
All CIS	67498802	42.59	57.41	4089450
Iraq	28505843	66.75	33.25	438320
Jordan	5728965	78.33	21.67	88780
Lebanon	4055301	86.73	13.27	10400
Palestine	3889267	71.65	28.35	6020
Syria	19407558	53.50	46.50	185180
All Middle East	61586934	71.39	28.61	728700
Algeria	33351137	63.98	36.02	2381740
Egypt	74166496	42.64	57.36	1001450
Libya	6038643	77.16	22.84	1759540
Morocco	30852971	55.31	44.69	446550
Sudan	37707483	41.68	58.32	2505810
Tunisia	10215222	65.73	34.27	163610
All North Africa	192331952	57.75	42.25	8258700
Benin	8759655	40.39	59.61	112620
Burkina Faso	14358500	18.72	81.28	274000
Cameroon	18174696	55.12	44.88	475440
Chad	10468179	25.69	74.31	1284000
Comoros	818437	27.89	72.11	1860
Cote d'Ivoire	18914474	47.50	52.50	322460
Djibouti	818508	86.55	13.45	23200
Gabon	1310820	84.16	15.84	267670
Gambia	1663031	54.79	45.21	11300
Guinea	9181335	33.43	66.57	245860
Guinea-Bissau	1645529	29.63	70.37	36120
Mali	11968376	31.02	68.98	1240190
Mauritania	3043639	40.55	59.45	1030700
Mozambique	20971449	35.28	64.72	799380
Niger	13736722	16.33	83.67	1267000
Nigeria	144719953	46.90	53.10	923770
Senegal	12072479	41.78	58.22	196720
Sierra Leone	5742694	37.10	62.90	71740
Somalia	8445397	35.61	64.39	637660
Togo	6410428	40.64	59.36	56790
Uganda	29898598	12.67	87.33	241040
All Sub-Saharan Africa	343122899	40.08	59.92	9519520
Albania	3172155	45.44	54.56	28750
Guyana	739065	28.22	71.78	214970
Suriname	455273	74.24	25.76	163270
Turkey	73921768	67.77	32.23	783560
All Other	78288261	53.92	46.08	1190550
All OIC	1468821826	51.54	48.46	32464930
DCs	5488716952			115318184
World	6538167861			148939063
OIC as % of DCs	26.8			30.2
OIC as % of World	22.5			21.8

Source: FAO Statistics Database (AQUASTAT Online Database).

Table A3: Land Use in Agriculture, 2005

Country	Agricultural Area		Cultivated Area				Permanent Pasture	
			Arable Land		Permanent Crops			
	km2	%	km2	%	km2	%	km2	%
Bahrain	100	14.08	20	20.00	40	40.00	40	40.00
Kuwait	1540	8.64	150	9.74	30	1.95	1360	88.31
Oman	18050	5.83	620	3.43	430	2.38	17000	94.18
Qatar	710	6.45	180	25.35	30	4.23	500	70.42
Saudi Arabia	1737100	80.81	35000	2.01	2100	0.12	1700000	97.86
United Arab Emirates	5600	6.70	640	11.43	1910	34.11	3050	54.46
Yemen	177150	33.55	15150	8.55	1350	0.76	160650	90.69
All Arabian Peninsula	1940250	62.58	51760	2.67	5890	0.30	1882600	97.03
Afghanistan	380480	58.35	79100	20.79	1380	0.36	300000	78.85
Bangladesh	90110	62.58	79510	88.24	4600	5.10	6000	6.66
Brunei	250	4.33	140	56.00	50	20.00	60	24.00
Indonesia	478000	25.10	230000	48.12	136000	28.45	112000	23.43
Iran	476310	27.29	165330	34.71	15740	3.30	295240	61.98
Malaysia	78700	23.87	18000	22.87	57850	73.51	2850	3.62
Maldives	140	46.67	40	28.57	90	64.29	10	7.14
Pakistan	270700	34.00	212750	78.59	7950	2.94	50000	18.47
All Asia	1774690	31.82	784870	44.23	223660	12.60	766160	43.17
Azerbaijan	47586	54.95	18432	38.73	2215	4.65	26939	56.61
Kazakhstan	2075980	76.19	223640	10.77	1360	0.07	1850980	89.16
Kyrgyzstan	107450	53.75	12840	11.95	720	0.67	93890	87.38
Tajikistan	42550	29.85	9300	21.86	1270	2.98	31980	75.16
Turkmenistan	330650	67.74	23000	6.96	650	0.20	307000	92.85
Uzbekistan	278900	62.34	47000	16.85	3400	1.22	228500	81.93
All CIS	2883116	70.50	334212	11.59	9615	0.33	2539289	88.07
Iraq	100100	22.84	57500	57.44	2600	2.60	40000	39.96
Jordan	10120	11.40	1840	18.18	860	8.50	7420	73.32
Lebanon	3880	37.31	1860	47.94	1420	36.60	600	15.46
Palestine	3720	61.79	1070	28.76	1150	30.91	1500	40.32
Syria	140080	75.65	48730	34.79	8690	6.20	82660	59.01
All Middle East	257900	35.39	111000	43.04	14720	5.71	132180	51.25
Algeria	411500	17.28	74500	18.10	8500	2.07	328500	79.83
Egypt	35200	3.51	30000	85.23	5200	14.77	0	0.00
Libya	155850	8.86	17500	11.23	3350	2.15	135000	86.62
Morocco	303950	68.07	84800	27.90	9150	3.01	210000	69.09
Sudan	1368370	54.61	194340	14.20	2230	0.16	1171800	85.63
Tunisia	97690	59.71	27290	27.94	21550	22.06	48850	50.01
All North Africa	2372560	28.73	428430	18.06	49980	2.11	1894150	79.84
Benin	35670	31.67	27500	77.10	2670	7.49	5500	15.42
Burkina Faso	109000	39.78	48400	44.40	600	0.55	60000	55.05
Cameroon	91600	19.27	59600	65.07	12000	13.10	20000	21.83
Chad	492300	38.34	42000	8.53	300	0.06	450000	91.41
Comoros	1480	79.57	800	54.05	530	35.81	150	10.14
Cote d'Ivoire	203000	62.95	35000	17.24	36000	17.73	132000	65.02
Djibouti	17010	73.32	10	0.06	0	0.00	17000	99.94
Gabon	51600	19.28	3250	6.30	1700	3.29	46650	90.41
Gambia	8140	72.04	3500	43.00	50	0.61	4590	56.39
Guinea	125700	51.13	12000	9.55	6700	5.33	107000	85.12
Guinea-Bissau	16300	45.13	3000	18.40	2500	15.34	10800	66.26
Mali	394790	31.83	48000	12.16	400	0.10	346390	87.74
Mauritania	397620	38.58	5000	1.26	120	0.03	392500	98.71
Mozambique	486300	60.83	44000	9.05	2300	0.47	440000	90.48
Niger	385000	30.39	144820	37.62	180	0.05	240000	62.34
Nigeria	740000	80.11	320000	43.24	30000	4.05	390000	52.70
Senegal	82480	41.93	25500	30.92	480	0.58	56500	68.50
Sierra Leone	28800	40.14	6000	20.83	800	2.78	22000	76.39
Somalia	443760	69.59	13500	3.04	260	0.06	430000	96.90
Togo	36300	63.92	24900	68.60	1400	3.86	10000	27.55
Uganda	127120	52.74	54000	42.48	22000	17.31	51120	40.21
All Sub-Saharan Africa	4273970	44.90	920780	21.54	120990	2.83	3232200	75.63
Albania	11230	39.06	5780	51.47	1220	10.86	4230	37.67
Guyana	17400	8.09	4800	27.59	300	1.72	12300	70.69
Suriname	910	0.56	600	65.93	100	10.99	210	23.08
Turkey	412230	52.61	238300	57.81	27760	6.73	146170	35.46
All Other	441770	37.11	249480	56.47	29380	6.65	162910	36.88
All OIC	13944256	42.95	2880532	20.66	454235	3.26	10609489	76.09
DCs	36813466	31.92	10555502	28.67	1164545	3.16	25093419	68.16
World	49675795	33.35	14211691	28.61	1405117	2.83	34058987	68.56
OIC as % of DCs	37.88		27.29		39.01		42.28	
OIC as % of World	28.07		20.27		32.33		31.15	

Source: FAO Statistics Database (FAOSTAT Online Database).

Note: Percentages calculated using Tables A2 and A3.

Table A4: Total Renewable Water Resources (TRWR), Total Water Withdrawal (TWW) and Use in Agriculture (Latest available data)

Country	TRWR (km ³ /year)	Dependency Ratio (%)	TWW		Agricultural Water Withdrawal	
			km ³ /year	% of TRWR	km ³ /year	% of TRWR
Bahrain	0.12	96.55	0.36	300.00	0.16	133.33
Kuwait	0.02	100.00	0.91	4550.00	0.49	2450.00
Oman	1.40	0.00	1.32	94.29	1.17	83.57
Qatar	0.06	3.45	0.44	733.33	0.26	433.33
Saudi Arabia	2.40	0.00	23.67	986.25	20.83	867.92
United Arab Emirates	0.15	0.00	4.00	2666.67	3.31	2206.67
Yemen	2.10	0.00	3.40	161.90	3.06	145.71
All Arabian Peninsula	6.25		34.10	545.60	29.28	468.48
Afghanistan	65.00	15.38	23.26	35.78	22.84	35.14
Bangladesh	1210.64	91.33				
Brunei	8.50	0.00	0.09	1.06		
Indonesia	2838.00	0.00	82.78	2.92	75.60	2.66
Iran	137.52	6.56	93.30	67.84	86.00	62.54
Malaysia	580.00	0.00	9.02	1.56	5.60	0.97
Maldives	0.03	0.00	0.00	0.00	0.00	0.00
Pakistan	225.27	75.58	169.39	75.19	162.65	72.20
All Asia	5064.96		377.84	7.46	352.69	6.96
Azerbaijan	34.68	76.60	12.21	35.21	9.33	26.90
Kazakhstan	109.61	31.19	35.00	31.93	28.63	26.12
Kyrgyzstan	20.58	0.00	10.08	48.98	9.45	45.92
Tajikistan	15.98	16.72	11.96	74.84	10.96	68.59
Turkmenistan	24.72	97.09	24.65	99.72	24.04	97.25
Uzbekistan	50.41	77.37	58.34	115.73	54.37	107.86
All CIS	255.98		152.24	59.47	136.78	53.43
Iraq	75.61	53.45	66.00	87.29	52.00	68.77
Jordan	0.94	27.21	0.94	100.00	0.61	64.89
Lebanon	4.50	0.79	1.31	29.11	0.78	17.33
Palestine	0.84	2.99	0.42	50.00	0.19	22.62
Syria	16.80	72.35	16.69	99.35	14.67	87.32
All Middle East	98.69		85.36	86.49	68.25	69.16
Algeria	11.67	3.60	6.07	52.01	3.94	33.76
Egypt	57.30	96.86	68.30	119.20	59.00	102.97
Libya	0.60	0.00	4.33	721.67	3.58	596.67
Morocco	29.00	0.00	12.60	43.45	11.01	37.97
Sudan	64.50	76.92	37.32	57.86	36.07	55.92
Tunisia	4.60	8.71	2.64	57.39	2.17	47.17
All North Africa	167.67		131.26	78.28	115.77	69.05
Benin	26.39	60.97	0.13	0.49	0.06	0.23
Burkina Faso	12.50	0.00	0.80	6.40	0.69	5.52
Cameroon	285.50	4.38	0.99	0.35	0.73	0.26
Chad	43.00	65.12	0.23	0.53	0.19	0.44
Comoros	1.20	0.00	0.01	0.83	0.00	0.00
Cote d'Ivoire	81.14	5.30	0.93	1.15	0.60	0.74
Djibouti	0.30	0.00	0.02	6.67	0.00	0.00
Gabon	164.00	0.00	0.12	0.07	0.05	0.03
Gambia	8.00	62.50	0.03	0.38	0.02	0.25
Guinea	226.00	0.00	1.51	0.67	1.36	0.60
Guinea-Bissau	31.00	48.39	0.18	0.58	0.14	0.45
Mali	100.00	40.00	6.55	6.55	5.90	5.90
Mauritania	11.40	96.49	1.70	14.91	1.50	13.16
Mozambique	217.11	53.80	0.63	0.29	0.55	0.25
Niger	33.65	89.60	2.18	6.48	2.08	6.18
Nigeria	286.20	22.78	8.01	2.80	5.51	1.93
Senegal	38.80	33.51	2.22	5.72	2.07	5.34
Sierra Leone	160.00	0.00	0.38	0.24	0.35	0.22
Somalia	14.70	59.18	3.30	22.45	3.28	22.31
Togo	14.70	21.77				
Uganda	66.00	40.91	0.30	0.45	0.12	0.18
All Sub-Saharan Africa	1821.59		30.22	1.66	25.20	1.38
Albania	41.70	35.49	1.71	4.10	1.06	2.54
Guyana	241.00	0.00	1.64	0.68	1.60	0.66
Suriname	122.00	27.87	0.67	0.55	0.62	0.51
Turkey	213.56	1.01	40.10	18.78	29.60	13.86
All Other	618.26		44.12	7.14	32.88	5.32
All OIC	8033.38		855.13	10.64	760.85	9.47
DCs	44922.44		2939.13	6.54	2298.55	5.12
World	55150.06		3869.02	7.02	2691.90	4.88
OIC as % of DCs	17.88		29.09		33.10	
OIC as % of World	14.57		22.10		28.26	

Source: FAO Statistics Database (AQUASTAT Online Database).

Table A5: Population in Agriculture and Share of Agriculture in GDP

Country	Population in Agriculture (2006)		Share of Agriculture in GDP (%)
	Total Population in Agriculture	% of Total Population	
Bahrain	2779	0.38	0.86
Kuwait	15824	0.57	0.46
Oman	309499	12.15	1.86
Qatar	4365	0.53	
Saudi Arabia	598787	2.48	2.81
United Arab Emirates	94162	2.22	2.25
Yemen	3173712	14.60	14.34
All Arabian Peninsula	4199128	7.36	6.47
Afghanistan	6527090	25.02	36.10
Bangladesh	41238185	26.44	18.87
Brunei	802	0.21	0.70
Indonesia	51556491	22.53	13.83
Iran	6820818	9.71	8.98
Malaysia	1727737	6.62	8.51
Maldives	26039	8.67	13.90
Pakistan	28626355	17.79	19.55
All Asia	136523517	20.41	15.06
Azerbaijan	986558	11.74	6.26
Kazakhstan	1189697	7.77	6.57
Kyrgyzstan	548747	10.44	32.99
Tajikistan	812822	12.24	21.42
Turkmenistan	728329	14.87	19.59
Uzbekistan	2971295	11.01	24.42
All CIS	7237448	10.72	18.54
Iraq	611023	2.14	8.57
Jordan	193861	3.38	3.08
Lebanon	37696	0.93	6.14
Palestine	110613	2.84	
Syria	1725207	8.89	20.37
All Middle East	2678400	4.35	20.37
Algeria	2995321	8.98	8.46
Egypt	8539059	11.51	12.97
Libya	90686	1.50	5.05
Morocco	4133579	13.40	12.44
Sudan	8290563	21.99	31.51
Tunisia	996973	9.76	10.93
All North Africa	25046181	13.02	13.56
Benin	1958399	22.36	32.20
Burkina Faso	6374175	44.39	33.28
Cameroon	4012916	22.08	19.41
Chad	3335282	31.86	23.42
Comoros	277175	33.87	47.00
Cote d'Ivoire	3302910	17.46	23.40
Djibouti	332826	40.66	3.86
Gabon	193104	14.73	5.27
Gambia	642431	38.63	32.65
Guinea	3698840	40.29	16.73
Guinea-Bissau	568063	34.52	63.57
Mali	4346580	36.32	36.54
Mauritania	729734	23.98	12.54
Mozambique	8640484	41.20	28.34
Niger	5589956	40.69	41.26
Nigeria	16226626	11.21	32.52
Senegal	3872058	32.07	14.72
Sierra Leone	1288056	22.43	44.27
Somalia	2620036	31.02	65.45
Togo	1544322	24.09	42.73
Uganda	11160937	37.33	29.03
All Sub-Saharan Africa	80714910	23.52	30.87
Albania	694546	21.90	22.81
Guyana	52335	7.08	29.57
Suriname	32233	7.08	5.16
Turkey	15152652	20.50	8.86
All Other	15931766	20.35	16.60
All OIC	272331352	18.54	19.79
DCs	1362655319	24.83	18.67
World	1379163815	21.09	14.67
OIC as % of DCs	19.99		
OIC as % of World	19.75		

Source: FAO Statistics Database (AQUASTAT Online Database).

Table A6: Total Irrigation Area (Latest available data)

Country	Total Irrigation Area (km2)	As % of		
		Total Land Area	Agricultural Area	Arable Land
Bahrain	41	5.77	41.00	205.00
Kuwait	71	0.40	4.61	47.33
Oman	589	0.19	3.26	95.00
Qatar	129	1.17	18.17	71.67
Saudi Arabia	17308	0.81	1.00	49.45
United Arab Emirates	2266	2.71	40.46	354.06
Yemen	6801	1.29	3.84	44.89
All Arabian Peninsula	2725	0.09	0.14	5.26
Afghanistan	31991	4.91	8.41	40.44
Bangladesh	37510	26.05	41.63	47.18
Brunei	10	0.17	4.00	7.14
Indonesia	44279	2.32	9.26	19.25
Iran	81316	4.66	17.07	49.18
Malaysia	3626	1.10	4.61	20.14
Maldives				
Pakistan	178200	22.38	65.83	83.76
All Asia	376932	6.76	21.24	48.02
Azerbaijan	14260	16.47	29.97	77.37
Kazakhstan	35564	1.31	1.71	15.90
Kyrgyzstan	10771	5.39	10.02	83.89
Tajikistan	7192	5.05	16.90	77.33
Turkmenistan	17441	3.57	5.27	75.83
Uzbekistan	42230	9.44	15.14	89.85
All CIS	127458	3.12	4.42	38.14
Iraq	35250	8.04	35.21	61.30
Jordan	789	0.89	7.80	42.88
Lebanon	900	8.65	23.20	48.39
Palestine	201	3.34	5.40	18.79
Syria	14391	7.77	10.27	29.53
All Middle East	51531	7.07	19.98	46.42
Algeria	5694	0.24	1.38	7.64
Egypt	34222	3.42	97.22	114.07
Libya	4700	0.27	3.02	26.86
Morocco	14842	3.32	4.88	17.50
Sudan	18630	0.74	1.36	9.59
Tunisia	3940	2.41	4.03	14.44
All North Africa	82028	0.99	3.46	19.15
Benin	123	0.11	0.34	0.45
Burkina Faso	250	0.09	0.23	0.52
Cameroon	257	0.05	0.28	0.43
Chad	303	0.02	0.06	0.72
Comoros	1	0.05	0.07	0.13
Cote d'Ivoire	728	0.23	0.36	2.08
Djibouti	10	0.04	0.06	100.00
Gabon	45	0.02	0.09	1.38
Gambia	21	0.19	0.26	0.60
Guinea	949	0.39	0.75	7.91
Guinea-Bissau	226	0.63	1.39	7.53
Mali	2358	0.19	0.60	4.91
Mauritania	450	0.04	0.11	9.00
Mozambique	1181	0.15	0.24	2.68
Niger	737	0.06	0.19	0.51
Nigeria	2931	0.32	0.40	0.92
Senegal	1197	0.61	1.45	4.69
Sierra Leone	294	0.41	1.02	4.90
Somalia	2000	0.31	0.45	14.81
Togo	73	0.13	0.20	0.29
Uganda	92	0.04	0.07	0.17
All Sub-Saharan Africa	14226	0.15	0.33	1.54
Albania	3400	11.83	30.28	58.82
Guyana	1501	0.70	8.63	31.27
Suriname	512	0.31	56.26	85.33
Turkey	49830	6.36	12.09	20.91
All Other	55243	4.64	12.50	22.14
All OIC	734618	2.26	5.27	25.50
DCs	2295937	1.99	6.24	21.75
World	2796892	1.88	5.63	19.68
OIC as % of DCs	31.99			
OIC as % of World	26.27			

Source: FAO Statistics Database (AQUASTAT Online Database).

Note: Percentages calculated using Tables A2, A3 and A6.

Table A7: Irrigation Techniques (Latest available data)

Country	As % of Total Irrigation Area		
	Surface Irrigation	Sprinkler Irrigation	Micro-Irrigation
Azerbaijan	91.28	10.45	0.02
Bahrain	82.68	3.90	1.13
Bangladesh	100.00	0.00	0.00
Benin	41.00	37.15	1.11
Brunei	100.00	0.00	0.00
Burkina Faso	58.80	15.60	0.00
Cameroon	66.23	21.13	0.00
Chad	87.52	12.39	0.00
Cote d'Ivoire	16.14	49.45	0.00
Egypt	88.51	5.02	0.65
Gambia	100.00	0.00	0.00
Guinea	21.00	0.32	0.02
Guinea-Bissau	37.88	0.00	0.00
Guyana	100.00	0.00	0.00
Indonesia	100.00	0.00	0.00
Iran	91.39	3.44	0.52
Jordan	17.57	1.27	8.11
Kazakhstan	49.59	15.45	0.00
Kuwait	42.54	8.45	1.62
Kyrgyzstan	96.56	3.44	0.00
Lebanon	63.56	27.89	0.86
Malaysia	93.94	0.00	0.00
Mali	41.35	0.00	0.00
Morocco	81.43	10.22	0.66
Nigeria	81.22	0.02	0.00
Oman	79.22	11.30	0.94
Qatar	75.25	14.05	1.10
Saudi Arabia	31.60	59.45	0.18
Senegal	85.36	0.00	0.00
Sierra Leone	3.40	0.00	0.00
Somalia	25.00	0.00	0.00
Suriname	98.29	1.68	0.00
Syria	86.96	9.05	0.40
Tajikistan	100.00	0.00	0.00
Togo	31.51	0.00	0.00
Tunisia	54.57	22.84	1.57
Turkey	91.76	5.98	0.20
Turkmenistan	99.98	0.00	0.00
Uganda	58.15	2.50	0.00
United Arab Emirates	11.96	1.77	8.63
Uzbekistan	100.00	0.00	0.01
Yemen	66.73	0.00	0.01
All OIC	67.86	8.43	0.66

Source: FAO Statistics Database (AQUASTAT Online Database).

Note: Percentages calculated using Table A6.