SCIENCE AND TECHNOLOGY IN THE OIC MEMBER COUNTRIES

Executive Summary

Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRTCIC)

Organization of the Islamic Conference

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STATISTICAL, ECONOMIC AND SOCIAL RESEARCH AND TRAINING CENTRE FOR ISLAMIC COUNTRIES

(SESRTCIC/ANKARA CENTRE)

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EXECUTIVE SUMMARY

This study presents a brief assessment of science and technology (S&T) indicators for the OIC member countries in comparison to the rest of the world by using the available data collected from the relevant international sources.

While the United Nations Educational, Scientific, and Cultural Organization (UNESCO) is our main data source on human resources and R&D expenditures, the data on scientific and technical journal articles come from the Institute for Scientific Information's Science Citation Index (SCI), Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI). On the other hand, we obtained the data on high technology exports from the World Bank's World Development Indicators, and the patent data from the World Intellectual Property Organization's Industrial Property Statistics database.

One of the major findings of the present study is that the S&T indicators for the OIC member countries display a great disparity within the group members while the OIC countries, individually or as a group, lag far behind the world's developed countries with few exceptions.

Scientific and technical journal articles are one of the most important S&T indicators. The total scientific and technical publications of the OIC members between 1996 and 2005 stand at 275,999 (Table 1), and the number of articles per million people in the OIC member countries is recorded as 200.9 in this ten year period (Table 2).

The total number of articles published in the last ten years varies from 16 in Somalia to 87,629 in Turkey. On the other hand, two prestigious American universities, MIT and Stanford University, published 99,643 articles in the same period. When we compare the OIC regional groups, OIC Asia ranks first with 147,494 articles, followed by the OIC Arab Countries (105,218) and the OIC African Countries (23,287). Hungary, as a transition country, published 48,832 articles alone.

The number of articles per million people is compared at the individual country level in Table 2. Kuwait ranks first with 2,379 articles, Lebanon ranks second with 2,033.1 articles, and Turkey ranks third with 1,239.3 articles while Afghanistan ranks last

with 2.5 articles. For this indicator, OIC Arab Countries' average is 345.1, whereas the averages of the OIC Asia and the OIC Africa are 195.5 and 81.4 respectively. In this same period Finland published 16,559.8 articles and Ireland published 14,928.3 articles per million people.

Although the number of articles is an important indicator of S&T, one also has to look at the quality of those articles. A criterion that is widely used in this regard is the ***h-index***, which is based on how-many times an article has been cited by other scientists. Table 3 presents the ***h-index*** scores for the OIC countries in the period 1996-2005, where Lebanon comes first in ***h-index*** ranking with a score of 94; Turkey follows it with 92 and Saudi Arabia with 62. Comoros (3), Djibouti (5), Maldives (6), Somalia (6), Tajikistan (6) rank at the bottom of the list. The ***h-index*** of the Stanford University is 295 while Hungary, as a developing transition country, has a score of 137.

When we look at the last year's (2005) total scientific and technical articles in Table 4, the OIC member countries have published a total of 45,425 articles, which was less than the publications of New York State alone (52,560 articles). OIC Asian countries published 28,892 articles (%63.6 of total OIC articles), OIC Arab and the OIC African Countries had 13,444 and 3,089 articles published in 2005 respectively, and on the other hand, Harvard University published 15,455 articles alone in the same year.

When we compare OIC countries with selected developing countries, China (80,282), India (29,047), Russia (28,073), Brazil (20,669), Poland (17,011), and Israel (16,470) published more articles than each one of the OIC member countries except Turkey (17,717).

The number of articles per million people in 2005 is presented at the individual country level in Table 5. Lebanon ranks first with 347 articles, Kuwait ranks second with 267 articles, followed by Turkey and Qatar with 250 and 226 articles, respectively, while Somalia ranks last with 0.3 articles. Number of articles per million people in the OIC member countries was 33.8 in 2005 (Table 5), whereas Switzerland published 2,983.8 articles per million people in the same year.

OIC Arab (44.1), OIC Asian (38.3), and OIC African (10.8) countries produced fewer articles per million people than selected developing countries (namely China (61.1), Hungary (640), Poland (441), Russia (196.5), Israel (2,593.7), South Africa (138.5), Argentina (161.6) and Brazil (109.9).

Most of the OIC members, especially the LDCs, have not been able to allocate adequate amount of funds towards S&T. In Table 6, we see that total gross expenditure on research and development as a percentage of GDP varies from %0.03 in Brunei Darussalam to %0.81 in Uganda. The average share of the R&D expenditure in GDP for the OIC member countries is %0.38, which is far below %2.28, the world's average. The OIC countries' average is even less than the averages of low income (%0.73) and the middle income countries (%0.85). The averages of OIC Arab Countries (%0.40), OIC African Countries (%0.52), and OIC Asian Countries (%0.33) all, are less than the share of R&D in many other countries, such as USA (%2.67), China (%1.31), South Korea (%2.64), and Israel (%4.72).

Inadequate S&T performance in the OIC member countries is also reflected in the number of researchers and technicians in Table 7. There are almost 8 times more R&D personnel in the USA (4,605) than the OIC member countries average (525). The average number of researchers and technicians per million people of the OIC Asian (527) and OIC African (131) Countries are less than the average of the middle income countries (725). On the other hand, high income countries possess 3,781 researchers and technicians per million inhabitants, while only 4 of the 57 OIC members employ more than thousand people per million inhabitants in R&D. Finally, China has 708 researchers and technicians per million people, and India has 119.

The share of the OIC member countries' high-technology exports (Table 8) in the world's total high-technology exports is only %4.1. Malaysia ranks 11th in the world, in terms of the value of high-technology exports, however, it is not possible to claim that Malaysia's success is shared by the other OIC members since %97 of total high-technology exports of the OIC member countries is provided by only three countries; namely, Malaysia ($52,868 million), Indonesia ($5,809 million), and Turkey ($1,064 million). The OIC Asian countries' total high-technology exports amounted to $60,188 million, while the OIC Arab ($1,459 million) and OIC Africa ($ 78 million) exported a small amount of high-technology products. On the other hand, China

exported $161,603 million of high-technology products (%11 of world's total), and USA exported $216,016 million (%15 of world's total).

Parallel to the results in Table 8, Table 9 reports the share of high-technology exports in total manufacturing exports. Malaysia ranks first in OIC group with %55, which is also higher than the world's average of %21. Yet, the OIC average (%5.8), as well as the OIC Asian, the OIC African, and the OIC Arab averages (%9.2, %0.6, and %2.5 respectively) are all considerably less than the average of all middle income countries (%19).

Table 10 and Table 11 show the number of patent applications in the OIC countries and selected parts of the world with respect to data from the World Intellectual Property Organization (WIPO). OIC member countries have an insignificant share in the world's total patent applications by residents, (Table 10), as in the case of the scientific articles publications and high-technology exports. Applications filed by the residents of the OIC member countries amount to 5,146, which is only %0.5 of the world's total patent applications (986,606). OIC Asian Countries' residents had 4,155 applications and OIC Arab had 991 while OIC African had no applications. Excluding applications to the regional patent offices (33,578), applications of high income countries amount to 806,062 (%84.6 of the world), middle income countries 139,418 (%14.6 of the world), and low income countries 7,548 (%0.8 of the world). Japan is the leading country in this category with 359,382 applications, corresponding to %37.7 of the world's total.

The number of patent applications by the non-residents of the OIC member countries (12,356) constitutes %1.9 of the world's total (635,457). While there is no patent application by OIC African group, the number of patent applications by non-residents of the OIC Asian and the OIC Arab group (8,531 and 3,825 respectively) represent a small portion of the number of low income (13,251) and middle income (147,313) countries' applications (Table 11). It should also be noted that the number of patent applications by non-residents are higher than the number of patent applications by the residents.

WIPO also provides data for patents granted to residents and non-residents for a long period of time, dating back to 1883. Considering the period from 2000 to 2005, however, there are only twelve OIC countries reported in their database. These

countries and the total numbers of patents granted to residents and non-residents in this six year period are as follows: Turkey (6,228), Kazakhstan (4,063), Egypt (2,267), Uzbekistan (2,229), Iran (770), Algeria (657), Morocco (556), Pakistan (448), Kyrgyzstan (332), Tajikistan (109), Syria (75), and Saudi Arabia (43), which all together constitutes the OIC total (17,777). These figures are also very small compared to the world's total (3,299,520), USA (964,184), Republic of Korea (281,435), and China (202,930). India and Hungary have also more patents granted than the OIC members (8,195 and 7,852 respectively).

In view of the given assessment of the S&T indicators, we can easily conclude that the OIC member countries contribute a very small amount to science and technology in modern world considering their high potential, as well as rich cultural heritage and long and vast scholarly tradition.

In this regard, giving priority to science and technology, encouraging research and development programmes, improving educational institutions, striving for quality education that promotes innovation, linking postgraduate studies to the comprehensive development plans of the Islamic World, as well as facilitating academic interaction and exchange of knowledge among the academic institutions in the member countries are all important policy actions that need to be undertaken for scientific and technological progress, as very rightly indicated in the OIC Ten-Year Programme of Action.

Table 1: Scientific and Technical Journal Articles Published (1996-2005)

Country	Number of Articles	Country	Number of Articles
Turkey	87,629	Niger	590
Egypt	27,237	Libya	586
Iran	21,596	Albania	456
Saudi Arabia	16,830	Togo	422
Malaysia	10,894	Mozambique	416
Morocco	10,035	Kyrgyzstan	407
Lebanon	9,149	Yemen	396
Nigeria	8,774	Brunei	375
Pakistan	7,844	Palestine	263
Tunisia	7,453	Tajikistan	176
Jordan	6,513	Guinea-Bissau	175
Kuwait	5,900	Guyana	151
Indonesia	5,087	Mauritania	138
Algeria	4,984	Chad	111
Bangladesh	4,686	Sierra Leone	108
Uzbekistan	3,725	Turkmenistan	94
Oman	2,399	Afghanistan	59
Cameroon	2,351	Suriname	38
Kazakhstan	2,242	Maldives	25
Uganda	2,025	Djibouti	23
Azerbaijan	2,010	Comoros	18
Senegal	2,004	Somalia	16
U.A.E	1,961		
Syria	1,324		
Benin	1,263	**OIC Total**	**275,999**
Guinea	1,107	**OIC Asia Total**	**147,494**
Sudan	1,070	**OIC Arab Total**	**105,218**
Côte d'Ivoire	1,015	**OIC Africa Total**	**23,287**
Burkina Faso	970		
Bahrain	840	Finland	86,608
Iraq	772	Greece	65,107
Gambia	745	Ireland	60,609
Qatar	736	Hungary	48,832
Gabon	619	Stanford University	59,905
Mali	592	MIT	39,738

Source: ISI Web of Knowledge Database, which presents all articles covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI).

Table 2: Scientific and Technical Journal Articles Published per Million People (1996-2005)

Country	Articles per Million People	Country	Articles per Million People
Kuwait	2.379,0	Maldives	78,1
Lebanon	2.033,1	Syria	75,4
Turkey	1.239,3	Palestine	72,3
Bahrain	1.235,3	Nigeria	70,8
Jordan	1.203,9	Côte d'Ivoire	59,9
Qatar	1.206,6	Pakistan	53,1
Brunei	1.071,4	Mauritania	49,3
Oman	841,8	Niger	49,3
Tunisia	758,2	Mali	45,5
Saudi Arabia	694,9	Djibouti	35,9
Gambia	528,4	Bangladesh	35,1
UAE	485,4	Sudan	31,8
Gabon	476,2	Iraq	29,3
Malaysia	439,3	Tajikistan	27,1
Egypt	400,5	Comoros	24,7
Morocco	333,6	Indonesia	23,4
Iran	324,8	Mozambique	22,1
Azerbaijan	245,1	Sierra Leone	21,7
Guyana	198,7	Yemen	19,8
Senegal	198,6	Turkmenistan	19,2
Benin	187,4	Chad	12,7
Algeria	156,5	Afghanistan	2,5
Kazakhstan	150,5	Somalia	1,7
Cameroon	146,0		
Uzbekistan	145,5		
Guinea	140,1	**OIC Average**	**200,9**
Guinea-Bissau	134,6	**OIC Arab Average**	**345,1**
Albania	133,3	**OIC Asia Average**	**195,5**
Libya	106,5	**OIC Africa Average**	**81,4**
Suriname	86,4		
Togo	86,1	Finland	16.559,8
Kyrgyzstan	81,2	Ireland	14.928,3
Burkina Faso	80,2	Greece	6.096,2
Uganda	78,4	Hungary	4.893,0

Source: ISI Web of Knowledge Database, which presents all articles covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI). Population data is from SESRTCIC's BASEIND database and World Bank's WDI Database.

Table 3: *h-Index of the Scientific and Technical Journal Articles Published (1996–2005)**

Country	*h-index*	Country	*h-index*
Lebanon	94	Guinea-Bissau	22
Turkey	92	Azerbaijan	21
Saudi Arabia	62	Mozambique	21
Egypt	60	Togo	21
Jordan	59	Brunei	20
Iran	53	Albania	17
Indonesia	52	Bahrain	17
Malaysia	51	Kyrgyzstan	15
Uganda	51	Yemen	15
Morocco	50	Chad	14
Senegal	48	Iraq	14
Bangladesh	45	Libya	14
Gambia	45	Mauritania	14
Nigeria	44	Qatar	14
Pakistan	44	Guyana	13
Tunisia	43	Sierra Leone	12
Algeria	42	Palestine	11
Cameroon	42	Suriname	11
Gabon	40	Afghanistan	8
Kuwait	40	Turkmenistan	8
Guinea	39	Maldives	6
Burkina Faso	31	Somalia	6
U.A.E	30	Tajikistan	6
Côte d'Ivoire	29	Djibouti	5
Oman	28	Comoros	3
Uzbekistan	28		
Benin	27	Finland	206
Mali	27	Ireland	168
Sudan	27	Hungary	137
Syria	27	Greece	127
Kazakhstan	26	Stanford University	295
Niger	25	MIT	276

Source: ISI Web of Knowledge Database, which presents all articles covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI).

* **The *h-index*** is an index suggested in 2005 by Jorge E. Hirsch of the University of California to quantify the scientific productivity of scientists. The index is calculated based on the distribution of citations received by a given researcher's publications. "*A scientist has index h if h of his/her N papers have at least h citations each, and the other (N – h) papers have at most h citations each.*"

Table 4: Scientific and Technical Journal Articles Published in 2005

Country	Number of Articles	Country	Number of Articles
Turkey	17,717	Togo	46
Iran	5,578	Brunei	41
Egypt	3,459	Tajikistan	37
Malaysia	1,806	Guyana	27
Saudi Arabia	1,751	Kyrgyzstan	25
Lebanon	1,563	Chad	23
Tunisia	1,437	Guinea-Bissau	23
Pakistan	1,264	Afghanistan	21
Morocco	1,176	Mauritania	21
Nigeria	1,097	Sierra Leone	7
Jordan	959	Comoros	6
Algeria	862	Turkmenistan	6
Indonesia	703	Suriname	5
Kuwait	668	Djibouti	4
Bangladesh	649	Somalia	3
Uzbekistan	397	Maldives	1
Cameroon	354		
Uganda	341		
Oman	334	**OIC Total**	**45,425**
Azerbaijan	281	**OIC Asia Total**	**28,892**
UAE	265	**OIC Arab Total**	**13,444**
Kazakhstan	261	**OIC Africa Total**	**3,089**
Senegal	252		
Syria	224	Japan	95,224
Benin	164	China	80,282
Sudan	147	France	69,269
Côte d'Ivoire	145	New York	52,560
Qatar	138	South Korea	31,565
Burkina Faso	133	India	29,047
Bahrain	129	Russia	28,073
Guinea	104	Switzerland	22,438
Iraq	100	Brazil	20,669
Mali	92	Poland	17,011
Gambia	87	Israel	16,470
Gabon	84	Finland	10,338
Libya	81	Greece	10,099
Albania	73	Bosnia and Herzegovina	141
Niger	69		
Mozambique	68	Harvard University	15,455
Palestine	63	Stanford University	7,833
Yemen	54	Yale University	6,150

Source: ISI Web of Knowledge Database, which presents all articles covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI).

Table 5: Scientific and Technical Journal Articles Published in 2005 per Million People

Country	Articles per Million People	Country	Articles per Million People
Lebanon	347.3	Mauritania	7.5
Kuwait	267.2	Mali	7.1
Turkey	250.6	Djibouti	6.3
Qatar	226.2	Niger	5.8
Bahrain	189.7	Tajikistan	5.7
Jordan	177.3	Kyrgyzstan	5.0
Tunisia	146.2	Bangladesh	4.9
Oman	117.2	Sudan	4.4
Brunei	117.1	Iraq	3.8
Iran	83.9	Mozambique	3.6
Malaysia	72.8	Indonesia	3.2
Saudi Arabia	72.3	Maldives	3.1
U.A.E	66.3	Yemen	2.7
Gabon	64.6	Chad	2.6
Gambia	61.7	Sierra Leone	1.4
Egypt	50.9	Turkmenistan	1.2
Morocco	39.1	Afghanistan	0.9
Guyana	35.5	Somalia	0.3
Azerbaijan	34.3		
Algeria	27.1		
Senegal	25.0	**OIC Average**	**33.8**
Benin	24.3	**OIC Arab Average**	**44.1**
Cameroon	22.0	**OIC Asia Average**	**38.3**
Albania	21.3	**OIC Africa Average**	**10.8**
Guinea-Bissau	17.7		
Kazakhstan	17.5	Switzerland	2,983.8
Palestine	17.3	Israel	2,593.7
Uzbekistan	15.5	Sweden	2,444.7
Libya	14.7	Ireland	2,051.2
Guinea	13.2	Japan	747.1
Uganda	13.2	Hungary	640.0
Syria	12.8	Poland	441.5
Suriname	11.4	Russia	196.5
Burkina Faso	11.0	Argentina	161.6
Togo	9.4	South Africa	138.5
Nigeria	8.8	Brazil	109.9
Côte d'Ivoire	8.6	China	61.1
Pakistan	8.6	Bosnia & Herzegovina	31.4
Comoros	8.2	India	26.5

Source: ISI Web of Knowledge Database, which presents all articles covered by Science Citation Index Expanded (SCI-EXPANDED), Social Science Citation Index (SSCI), and Arts & Humanities Citation Index (A&HCI). Population data is from SESRTCIC's BASEIND database and World Bank's WDI Database.

Table 6: R&D Expenditures as a Percentage of GDP (1996-2003)*

Country	Share of R&D (%)	Country	Share of R&D (%)
Uganda	0.81	**OIC Average**	**0.38**
Malaysia	0.69	**OIC Arab**	**0.40**
Turkey	0.66	**OIC Africa**	**0.52**
Tunisia	0.63	**OIC Asia**	**0.33**
Bangladesh	0.62		
Morocco	0.62	**World**	**2.28**
Mozambique	0.59	Low income	0.73
Sudan	0.34	Middle income	0.85
Azerbaijan	0.30	High income	2.45
Pakistan	0.22		
Kazakhstan	0.22	East Asia & Pacific	1.23
Kyrgyzstan	0.20	Europe & Central Asia	0.98
Kuwait	0.20	L. America & Car.	0.56
Egypt	0.19	South Asia	0.73
Burkina Faso	0.17		
Indonesia	0.05	Israel	4.72
Brunei Darussalam	0.03	United States	2.67
		South Korea	2.64
		China	1.31
		India	0.85

Source: World Bank, World Development Indicators.

* Data are for the most recent year available.

L. America & Car.: Latin America & Caribbean

Table 7: Researchers and Technicians Employed in R&D (1996-2004)*

Country	Per Million People	Country	Per Million People
Jordan	2,636	Syria	54
Azerbaijan	1,431	Uganda	37
Iran	1,279	Burkina Faso	33
Tunisia	1,047		
Libya	854		
Morocco	782	**OIC Average**	**525**
Kazakhstan	721	**OIC Asia**	**527**
Kyrgyzstan	457	**OIC Arab**	**769**
Sudan	394	**OIC Africa**	**131**
Turkey	378		
Malaysia	356	Middle income	725
Guinea	342	High income	3,781
Brunei Darussalam	274		
Kuwait	242	Europe & Central Asia	1,993
Indonesia	207	East Asia & Pacific	708
Saudi Arabia	140	South Asia	119
Mozambique	132		
Gabon	109	United States	4,605
Pakistan	86	India	119
Bangladesh	77	China	708

Source: UNESCO Institute for Statistics.

* Data are for the most recent year available.

Table 8: High-Technology Exports (2004)

Country	$ Millions	Country	$ Millions
Malaysia	52,867.81	Maldives	0.46
Indonesia	5,808.54	Guyana	0.44
Turkey	1,063.65	Togo	0.05
Morocco	695.58	Gambia	0.03
Tunisia	370.24	Benin	0.01
Pakistan	150.36		
Jordan	146.70		
Saudi Arabia	112.68	**OIC Total**	**61,631.85**
Iran	98.31	**OIC Asia Total**	**60,188.25**
Kazakhstan	71.91	**OIC Arab Total**	**1,458.60**
Senegal	32.85	**OIC Africa Total**	**77.49**
Gabon	28.20		
Lebanon	26.22	**World**	**1,489,196.70**
Oman	22.09	Middle income	332,482.56
Bahrain	21.28	High income	1,156,714.14
Kyrgyzstan	18.51		
Qatar	18.40	L. America & Car.	40,878.78
Yemen	17.00	Europe & Central Asia	34,007.10
Egypt	15.46	MENA	1,404.55
Uganda	11.58		
Azerbaijan	7.80	USA	216,016.16
Algeria	6.72	China	161,603.32
Syria	6.23	Japan	124,044.96
Albania	5.39	South Korea	75,742.24
Burkina Faso	3.04	France	64,871.12
Bangladesh	2.58	Israel	6,860.97
Cameroon	1.73	India	2,840.25

Source: World Bank, World Development Indicators.

MENA: Middle East & North Africa

L. America & Car.: Latin America & Caribbean

Table 9: Share of High-Technology Exports in Total Manufacturing Exports (2004)

Country	Share of High-Tech. Exports (%)	Country	Share of High-Tech. Exports (%)
Malaysia	55.36	Gambia	0.37
Indonesia	16.13	Guyana	0.33
Gabon	14.51	Bangladesh	0.05
Uganda	13.11	Benin	0.04
Yemen	12.97	Togo	0.03
Morocco	10.17		
Kyrgyzstan	9.99	**OIC Average**	**5.75**
Burkina Faso	9.76	**OIC Arab**	**2.45**
Senegal	6.47	**OIC Africa**	**0.56**
Jordan	5.32	**OIC Asia**	**9.21**
Tunisia	4.93		
Bahrain	2.73	**World**	**21.33**
Iran	2.59	Middle income	19.33
Lebanon	2.40	High income	22.35
Kazakhstan	2.35		
Azerbaijan	2.06	East Asia & Pacific	33.42
Turkey	1.99	L. America & Car.	13.12
Cameroon	1.33	Europe & Central Asia	8.68
Pakistan	1.32	South Asia	4.11
Oman	1.27	MENA	3.16
Albania	1.11		
Maldives	1.06	South Korea	32.76
Algeria	1.05	United States	32.29
Syria	1.02	China	29.81
Saudi Arabia	0.82	Japan	23.68
Qatar	0.74	Israel	18.82
Egypt	0.64	India	4.88

Source: World Bank World Development Indicators.

MENA: Middle East & North Africa

L. America & Car.: Latin America & Caribbean

Table 10: Patent Applications by Office: Filed by Residents (1997-2005)*

Country	Number of Patent Applications	Country	Number of Patent Applications
Kazakhstan	1,696	**World Total**	**986,606**
Iran	691		
Turkey	465	Regional Patent Offices	33,578
Egypt	428		
Azerbaijan	281	East Asia & Pacific	587,142
Uzbekistan	264	North America	206,705
Syria	249	Europe & Central Asia	143,210
Indonesia	234	South Asia	6,980
Kyrgyzstan	179	Latin America & Caribbean	5,902
Malaysia	179	Middle East & North Africa	3,033
Morocco	139	Sub-Saharan Africa	56
Saudi Arabia	61		
Algeria	58	High Income	806,062
Pakistan	58	Middle Income	139,418
Tunisia	56	Low Income	7,548
Turkmenistan	44		
Bangladesh	32	Japan	359,382
Tajikistan	32	USA	202,776
		Republic of Korea	121,942
OIC Total	**5,146**	China	93,172
OIC Asia Total	**4,155**	India	6,795
OIC Arab Total	**991**	Israel	1,329

Source: World Intellectual Property Organization, Industrial Property Statistics.

* Data are for the most recent year available between 1997 and 2005.

Table 11: Patent Applications by Office: Filed by Non-Residents (1997-2005)*

Country	Number of Patent Applications	Country	Number of Patent Applications
Malaysia	6,272	**World Total**	**635,457**
Egypt	2,016		
Pakistan	1,081	Regional Patent Offices	67,085
Saudi Arabia	552		
Indonesia	533	East Asia & Pacific	238,377
Morocco	520	North America	216,164
Algeria	455	Europe & Central Asia	58,631
Turkey	349	Latin America & Caribbean	30,008
Tunisia	282	Middle East & North Africa	13,225
Uzbekistan	180	South Asia	11,557
Kazakhstan	102	Sub-Saharan Africa	410
Azerbaijan	6		
Turkmenistan	5	High Income	407,808
Tajikistan	2	Middle Income	147,313
Kyrgyzstan	1	Low Income	13,251
OIC Total	**12,356**	USA	182,866
OIC Asia Total	**8,531**	China	79,842
OIC Arab Total	**3,825**	Japan	59,118
		Republic of Korea	38,733
		India	10,287
		Israel	8,929

Source: World Intellectual Property Organization, Industrial Property Statistics.

- Data are for the most recent year available between 1997 and 2005.

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