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# Annex 1: List of background papers

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(Author name, paper title, number of pages)

## IN ARABIC:

Al-TaHER Labib, Scientific Production in the Humanities and Social Sciences, 14

Baqer Alnajjar, the Impact of the Contemporary Social and Economic Formation on Innovation, 7

Taoufik Jebali, Artistic Production and Innovation: Theatre, 6

Hayder Ibrahim Ali, The System of Incentives and Innovation in the Arab World, 5

Khalida Said, The Arabic Language and Knowledge Acquisition, 26

Dina El Khawaga, Governing and the Legal and Procedural Context for the Production and Acquisition of Knowledge, 39

Roshdi Rashed, The Arab World and the Internalization of Science, 23

Rukia El Mossadeq, Towards a Political Government in the Service of the Knowledge Society, 13

Sa'adallah Agha Al Kala'a, Artistic Production and Innovation, Music, 21

Sami Al Banna, The Conceptual Framework, 54

Siham A. Al-Sawaigh, the System of Upbringing (Education) and its Relationship with Knowledge Acquisition in Arab Societies, 26

Shawki Galal, Transfer of Knowledge and Translation in the Arab World, 29

Tarek Al-Bishry, Observations (Comments) on Religion and Knowledge, 8

Taher Hamdi Kanaan, Entrepreneurship and Arab Economic Development, 12, ( translated)

Atif Kubursi, The Necessary Conditions for the Transition to a Knowledge Based Society, 14 (translated)

Abd El Hameed Hawwas, Popular Culture and Knowledge Acquisition, 15

Aziz Al-Azmeh, Arab Intellectual Heritage, 22  
Aziz Al-Azmeh, The General Intellectual Pattern (Paradigm) in the Arab Countries, the Arab Mind, 6

Imad Moustapha, The Organizational Context for Acquiring Knowledge: Transfer, Administration and Internalization of Technology, 22

Amr Najeeb Armanazi, Scientific Production in Natural Sciences and Technological Development, 40

Fadle M. Naqib, Knowledge and Economic growth, 12

Fowziyah Abdullah Abu-Khalid, Poetry in the Arab World, 17

- Clovis Maksoud, Introduction to the Arab Human Development Report 2003, 19
- Laila Abdel Majid, Information Media in the Arab States and the Transfer of Knowledge, 57
- Mari Rose Zalzal, Freedom and Knowledge between Ordinary and Condensed Time, 14
- Mohamed Al-Mili, Cultural Diversity and Acculturation, 18
- Mohammed Berrada, Literary Production and Innovation: The Short Story and Novel, 6
- Muhammad Hassan Al-Amin, Religion and Knowledge Acquisition, 8
- Mohamed Mahmoud El-Imam, Demand for Knowledge, 51
- Mohammad Malas, Artistic Production and Innovation: Cinema, 12
- Muna Al-Khalidi, Health and Environment in the Arab World, 7
- Munir Bashshur, Contemporary Education Systems in the Arab Countries: Their Contribution to Knowledge Acquisition, 38
- Nabil Ali, Arabic Language and the Knowledge Society, 16
- Hichem Djait, Knowledge in the Arab World: The Problem of the Intellectual Heritage, 13

#### **IN ENGLISH:**

- Inglehart R., Arab Development: the World Values Survey, 10
- A. B. Zahlan, The Arab Brain Drain and the Promotion of a Knowledge Based Society, 53
- Taher H. Kanaan, Entrepreneurship and Arab Economic Development, 8

## Annex 2: Designing a questionnaire to sample the opinions of faculty members in higher education institutions.

A questionnaire was designed to explore the opinions of small samples of Arab intellectuals of different ages and both sexes about incentives and obstacles to innovation in the Arab countries and the extent to which knowledge production and societal institutions in the area in question contribute to the promotion of knowledge acquisition. The survey was conducted under the auspices of UNDP offices in the Arab countries which host them. The survey also sought to explore the opinions of 96 Arab intellectuals active in public life chosen, for convenience, from members of faculties at the universities in each country. (To ensure fair representation, it was stipulated that 48 cases would be surveyed from the biggest and oldest universities, and 48 from the small and recently established universities.) It was also decided that the sample would be distributed according to three criteria: sex, academic specialization and academic level as follows: half representing the humanities and social sciences, and the second half other sciences. Half men and half women. One quarter from each of the following four academic levels: Assistants - tutors - teachers- primary academic level, associate professors - the middle academic level and professors - the highest academic level. Hence, the intersection of the four criteria would be represented in 32 cells, for which it was suggested that the sample cover three items in each one.

Given that the survey addressed a sample of highly qualified academics, it was not expected that problems which other field surveys usually encounter in the Arab countries would arise since the respondents were well able to respond the questionnaire by themselves. As such it was assumed that the whole process would be limited to sample selection, sending the questionnaires to the chosen intellectuals and ensuring the retrieval of com-

pleted forms. However, the report team only succeeded in obtaining the results of the surveys from 15 out of 22 Arab countries. Only three Arab countries ( Tunisia, Algeria, and Morocco) succeeded in completing the survey, while the results from the other four countries which responded to the questionnaire fell short of the survey goal: twenty responses from Bahrain, Lebanon, and Sudan, and 39 from Egypt only.

**Elements of opinion survey of Arab intellectuals  
Arab Human Development Report 2003  
Building a Knowledge Society in Arab Countries**

Country: .....  
General guidelines.....

Please circle the right answer when there is more than one option. Please answer briefly, write clearly, and put the numbers in the defined boxes.

**Name (optional)**..... **age:** ..... year **sex:** male female  
**Highest degree:** Bachelor Master PhD **Scientific Branch:** ..... **Specialization:**.....  
**Rank in the academic profession:** faculty assistant ( tutor, assistant teacher ) First level for faculty (Teacher)  
 Intermediate Level (associate professor) Highest Level (Professor)

**What is the extent of your satisfaction with the state of knowledge acquisition in your country ( 1%- 100% ) ....%**

**What is your evaluation of the extent to which knowledge acquisition serves economic development in your country ( 1% - 100 ) .....%**

**What is in your opinion the most important obstacle to innovation in your country? .....**

**Other comments about knowledge acquisition in your country .....**

**Other comments about knowledge acquisition in the Arab countries .....**

**Please evaluate the fields which are embodied in the columns against the nine criteria given in the rows:**

**Field:** (these were the knowledge acquisition/diffusion/production areas selected for the survey).

**Criteria:** (in each case, concrete criteria illustrative of the field in question were indicated to guide respondents.)

- The extent of sufficiency of the right to knowledge in society (1%- 100%).....
- The extent of sufficiency of the incentive system for knowledge acquisition in society (1% - 100%) ...
- The extent to which the field serves human development (1% - 100%) ....
- The extent to which cultural diversity in the society is reflected in the field (1% - 100%) ....
- The extent to which the field keeps pace with the global state of the art in knowledge (1%-100% ) ..
- The extent of improvement in the field over the last ten years (1% - 100% ) .....

How do you compare the situation in the Arab countries in this field with that in India\*?  
 China?  
 East Asian Tigers?

\* 1% to 100% or more than 100% if you think the situation in your country is better. You can put the sign " - " to denote " don't know"

# Statistical Tables on Knowledge in Arab Countries

- Table A-1 Net enrolment ratios (%) in pre-primary education by gender, Arab and comparator countries, 1999/2000
- Table A-2 Net enrolment ratios (%) in primary education by gender, Arab and comparator countries, 1999/2000
- Table A-3 Net enrolment ratios (%) in secondary education by gender, Arab and comparator countries, 1999/2000
- Table A-4 Gross enrolment ratios (%) in tertiary education by gender, Arab and comparator countries, 1999/2000
- Table A-5 Pupils per teacher ratio by education level, Arab and comparator countries, 1999/2000
- Table A-6 Public expenditure on education as a percentage of GNI, Arab and comparator countries, 1999/2000
- Table A-7 Relative distribution of tertiary education students (%) by levels of higher education, Arab and comparator countries, 1999/2000
- Table A-8 Percentage of females among tertiary education students (%) by levels of higher education, Arab and comparator countries, 1999/2000
- Table A-9 Mean years of schooling (25 years or older) by gender, Arab countries and three Asian tigers, 1960-2000
- Table A-10 Values of indicators on knowledge capital in 109 countries, around the year 2000
- Table A-11 Reported and imputed values of indicators on knowledge capital in 109 countries, around the year 2000
- Table A-12 Ranking of 109 countries on knowledge capital indicators, around the year 2000 (sorted by total ranks)
- Table A-13 Values of knowledge outcomes and other development indicators in 109 countries, around the year 2000

Table A-1

NET ENROLMENT RATIOS (%) IN PRE-PRIMARY EDUCATION BY GENDER, ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Males	Females	Total
Arab countries			
Algeria	2.78	2.76	2.77
Bahrain	36.89	35.52	36.22
Comoros	1.79	1.76	1.78
Djibouti	0.32	0.40	0.36
Egypt	10.54	10.00	10.28
Iraq	5.74	5.73	5.74
Jordan	29.21	26.83	28.05
Kuwait	66.03	35.48	65.75
Lebanon	64.92	63.62	64.28
Libya			
Mauritania			
Morocco	59.06	34.21	46.87
Oman	4.54	3.96	4.25
Palestine	34.52	32.45	33.51
Qatar	25.47	24.84	25.16
Saudi Arabia	5.31	4.80	5.06
Somalia			
Sudan			
Syria	8.90	8.03	8.47
Tunisia	11.88	15.71	13.73
UAE	60.77	60.82	60.79
Yemen	0.93	0.76	0.85
Comparator countries			
China			
India			
Israel	75.89	76.07	75.97
Republic of Korea	44.73	44.71	44.73

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-2

NET ENROLMENT RATIOS (%) IN PRIMARY EDUCATION BY GENDER, ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Males	Females	Total
Arab countries			
Algeria	98.79	95.59	97.23
Bahrain	92.56	95.48	93.98
Comoros	59.58	49.87	54.78
Djibouti	34.85	26.29	30.59
Egypt	94.96	89.55	92.32
Iraq	100.00	85.66	93.06
Jordan	93.23	93.93	93.57
Kuwait	68.12	64.56	66.37
Lebanon	70.82	71.08	70.95
Libya			
Mauritania	63.04	59.37	61.21
Morocco	78.97	69.81	74.48
Oman	65.60	64.57	65.09
Palestine	98.91	99.38	99.14
Qatar	94.76	95.75	95.24
Saudi Arabia	60.02	55.78	57.95
Somalia			
Sudan	48.60	40.75	44.74
Syria	95.88	88.85	92.43
Tunisia	99.15	97.14	98.17
UAE	77.94	78.56	78.24
Yemen	75.84	44.82	60.71
Comparator countries			
China	91.80	94.67	93.16
India			
Israel	100.00	100.00	100.00
Republic of Korea	96.71	97.91	97.27

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-3

NET ENROLMENT RATIOS (%) IN SECONDARY EDUCATION BY GENDER,  
ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Males	Females	Total
Arab countries			
Algeria	57.26	59.83	58.52
Bahrain	76.93	86.63	81.64
Comoros			
Djibouti			
Egypt	81.29	76.65	79.03
Iraq	39.61	26.04	32.99
Jordan	73.40	78.46	75.87
Kuwait	49.23	50.23	49.72
Lebanon	67.21	73.34	70.24
Libya			
Mauritania			
Morocco	32.74	27.04	29.94
Oman	58.32	58.77	58.54
Palestine	74.65	79.27	76.90
Qatar	74.55	81.64	78.01
Saudi Arabia			
Somalia			
Sudan			
Syria	39.21	35.92	37.59
Tunisia	65.86	69.95	67.86
UAE	63.38	72.14	67.46
Yemen	52.08	21.07	36.98
Comparator countries			
China			
India			
Israel	87.35	88.86	88.08
Republic of Korea	94.46	94.24	94.35

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-4

GROSS ENROLMENT RATIOS (%) IN TERTIARY EDUCATION BY GENDER,  
ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Males	Females	Total
Arab countries			
Algeria			14.98
Bahrain	19.60	31.13	25.20
Comoros	1.26	0.92	1.09
Djibouti	0.39	0.33	0.36
Egypt			39.00
Iraq	17.46	9.49	13.57
Jordan	26.76	30.63	28.62
Kuwait	13.01	29.98	21.08
Lebanon	35.22	38.15	36.67
Libya	51.74	50.58	51.17
Mauritania			5.60
Morocco	10.59	8.04	9.34
Oman			
Palestine	26.96	24.89	25.95
Qatar	13.68	46.16	27.66
Saudi Arabia	19.59	25.35	22.44
Somalia			
Sudan	7.14	6.56	6.85
Syria			6.09
Tunisia	19.58	19.00	19.30
UAE			12.10
Yemen	16.65	4.58	10.77
Comparator countries			
China			
India			
Israel	41.75	59.38	50.30
Republic of Korea	90.28	51.97	71.69

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-5

PUPILS PER TEACHER RATIO BY EDUCATION LEVEL,  
ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Pre-primary education	Primary education	Secondary education
Arab countries			
Algeria	26.87	28.40	18.06
Bahrain	20.97	17.81	14.27
Comoros	25.93	34.77	10.97
Djibouti	35.67	31.97	21.41
Egypt	24.00	22.98	16.95
Iraq	14.82	21.39	19.74
Jordan	21.88		
Kuwait	15.70	13.78	11.01
Lebanon	14.38	18.69	11.81
Libya	8.36	8.44	7.08
Mauritania		44.99	26.79
Morocco	18.25	28.76	16.97
Oman	19.19	25.08	17.93
Palestine	22.02	31.07	31.61
Qatar	29.05	13.12	10.16
Saudi Arabia	10.48	11.99	12.73
Somalia			
Sudan	29.82	26.72	23.04
Syria	23.54	22.91	14.67
Tunisia	20.41	23.21	19.14
UAE	18.62	16.57	12.81
Yemen	16.55	29.84	14.11
Comparator countries			
China	26.66	19.78	17.11
India		43.00	
Israel		13.39	10.37
Republic of Korea	23.82	32.23	22.13

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-6

PUBLIC EXPENDITURE ON EDUCATION AS A PERCENTAGE OF GNI,  
ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	1999/2000
Arab countries	
Algeria	
Bahrain	3.66
Comoros	3.50
Djibouti	3.40
Egypt	4.05
Iraq	
Jordan	5.09
Kuwait	
Lebanon	1.92
Libya	
Mauritania	4.52
Morocco	5.19
Oman	
Palestine	
Qatar	
Saudi Arabia	9.27
Somalia	
Sudan	
Syria	3.53
Tunisia	7.82
UAE	
Yemen	
Comparator countries	
China	2.12
India	2.88
Israel	7.61
Republic of Korea	3.80

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-7

RELATIVE DISTRIBUTION OF TERTIARY EDUCATION STUDENTS (%) BY LEVELS OF HIGHER EDUCATION, ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Lower than first university degree	First university degree	Higher degrees
Arab countries			
Algeria			
Bahrain	94.48	5.52	0.00
Comoros	64.29	35.71	0.00
Djibouti	31.05	68.95	0.00
Egypt	94.92	4.40	0.68
Iraq			
Jordan	78.83	20.89	0.28
Kuwait	98.34	0.00	1.66
Lebanon	88.83	10.47	0.70
Libya	64.94	32.56	2.50
Mauritania			
Morocco	92.76	2.06	5.19
Oman			
Palestine	92.76	7.24	0.00
Qatar			
Saudi Arabia	92.80	4.67	2.53
Somalia			
Sudan			
Syria			
Tunisia	83.42	10.84	5.74
UAE	100.00	0.00	0.00
Yemen	85.07	14.92	0.01
Comparator countries			
China	51.77	47.49	0.73
India			
Israel	77.75	19.65	2.60
Republic of Korea	58.69	40.29	1.02

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-8

PERCENTAGE OF FEMALES AMONG TERTIARY EDUCATION STUDENTS (%) BY LEVELS OF HIGHER EDUCATION, ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Country	Lower than first university degree	First university degree	Higher degrees	Percentage of females in higher education
Arab countries				
Algeria				
Bahrain				60.01
Comoros	33.77	56.47		41.88
Djibouti	23.73	57.25		46.84
Egypt				
Iraq				34.05
Jordan	47.11	67.98	24.62	51.41
Kuwait	67.96		53.64	67.66
Lebanon	53.35	39.22	32.39	51.72
Libya	50.59	45.23	41.98	48.62
Mauritania				
Morocco	43.13	33.05	31.12	42.30
Oman				
Palestine	45.96	53.69	20.00	46.52
Qatar				71.85
Saudi Arabia	55.64	94.78	36.66	55.93
Somalia				
Sudan				47.20
Syria				
Tunisia	49.28	40.13	49.28	48.29
UAE				
Yemen	22.07	13.26	6.25	20.75
Comparator countries				
China			22.10	
India				
Israel	58.12	54.88	51.11	57.30
Republic of Korea	35.10	35.57	23.83	35.18

\* Data in shaded cells refer to the year 1998/99.

Source: UNESCO 2003. UNESCO web site (www.unesco.org).

Table A-9

## RELATIVE DISTRIBUTION OF TERTIARY EDUCATION STUDENTS (%) BY LEVELS OF HIGHER EDUCATION, ARAB\* AND COMPARATOR COUNTRIES, 1999/2000

Gender	Country/Region	1960	1965	1970	1975	1980	1985	1990	1995	2000	
<b>MALES</b>	Algeria	1.19	0.50	1.53	1.77	2.34	2.97	3.95	4.93	5.74	
	Bahrain	1.73	1.86	2.37	3.20	3.52	4.12	5.05	5.75	6.27	
	Egypt	0.00	0.30	1.16	2.02	3.12	4.22	4.91	5.58	6.32	
	Iraq	0.35	0.64	1.19	2.03	2.70	3.38	4.45	5.15	5.41	
	Jordan	2.11	2.58	3.36	4.11	4.13	5.33	6.72	7.31	8.34	
	Kuwait	2.26	2.34	3.34	3.43	4.60	5.26	6.06	6.68	7.19	
	Sudan	0.54	0.58	0.67	0.82	1.02	1.49	1.85	2.20	2.47	
	Syria	1.62	2.13	2.66	3.37	4.26	5.06	5.92	6.75	7.12	
	Tunisia	0.94	1.13	1.48	1.85	2.83	3.50	4.06	4.60	5.14	
	Hong Kong	6.65	6.78	6.82	7.13	7.97	8.53	9.18	10.00	10.09	
	Korea	4.58	5.81	6.23	7.22	8.26	9.36	10.47	11.23	11.54	
	Taiwan	4.64	5.23	5.86	6.27	7.48	8.07	8.64	9.04	9.32	
	<b>Average</b>	Arab countries	0.56	0.67	1.35	1.95	2.72	3.57	4.34	5.01	5.61
		Hong Kong, Korea and Taiwan	4.80	5.72	6.16	6.92	7.98	8.88	9.78	10.45	10.73
<b>FEMALES</b>	Algeria	0.76	0.79	0.23	0.49	0.86	1.32	2.07	2.89	3.70	
	Bahrain	0.89	0.94	1.08	1.43	2.36	3.16	4.56	5.26	5.81	
	Egypt	0.00	0.00	0.01	0.63	1.33	1.67	2.24	2.89	3.76	
	Iraq	0.08	0.16	0.33	0.62	0.96	1.29	1.93	2.83	3.25	
	Jordan	0.65	0.79	1.19	1.66	1.70	2.52	4.00	5.48	6.35	
	Kuwait	1.42	1.34	2.06	2.44	3.76	5.31	5.87	6.40	6.89	
	Sudan	0.04	0.04	0.08	0.15	0.28	0.42	0.68	1.05	1.35	
	Syria	0.35	0.55	0.67	0.96	1.44	2.03	2.79	3.68	4.38	
	Tunisia	0.13	0.26	0.40	0.65	1.01	1.46	1.98	2.57	3.26	
	Hong Kong	2.83	3.10	3.44	4.13	5.39	6.42	7.52	8.64	8.83	
	Korea	2.04	3.16	3.38	4.38	5.42	6.76	8.08	8.99	9.42	
	Taiwan	1.84	2.19	2.63	3.60	5.12	5.56	6.14	6.93	7.69	
	<b>Average</b>	Arab countries	0.19	0.22	0.20	0.59	1.06	1.46	2.05	2.75	3.46
		Hong Kong, Korea and Taiwan	2.06	2.90	3.18	4.15	5.33	6.39	7.48	8.38	8.88
<b>TOTAL</b>	Algeria	0.97	0.65	0.82	1.08	1.55	2.14	3.01	3.91	4.72	
	Bahrain	1.37	1.42	1.82	2.44	3.12	3.78	4.87	5.57	6.09	
	Egypt	0.00	0.00	0.57	1.32	2.21	2.93	3.57	4.24	5.05	
	Iraq	0.21	0.40	0.76	1.33	1.83	2.34	3.20	4.00	4.34	
	Jordan	1.40	1.70	2.29	2.91	2.93	3.94	5.39	6.42	7.37	
	Kuwait	2.59	2.41	2.88	3.03	4.29	5.28	5.99	6.54	7.05	
	Sudan	0.29	0.31	0.37	0.48	0.64	0.95	1.26	1.62	1.91	
	Syria	0.99	1.34	1.67	2.17	2.86	3.54	4.35	5.21	5.74	
	Tunisia	0.54	0.71	0.91	1.25	1.92	2.48	3.02	3.58	4.20	
	Hong Kong	4.74	4.90	5.11	5.66	6.73	7.51	8.37	9.33	9.47	
	Korea	3.23	4.43	4.76	5.77	6.81	8.03	9.25	10.09	10.46	
	Taiwan	3.32	3.80	4.39	5.04	6.37	6.87	7.44	8.03	8.53	
	<b>Average</b>	Arab countries	0.38	0.39	0.76	1.26	1.88	2.51	3.20	3.88	4.54
		Hong Kong, Korea and Taiwan	3.40	4.30	4.68	5.55	6.67	7.64	8.63	9.41	9.80

Source: Barro, R. J. and Jong-Wha Lee (2000). "International Data on Educational Attainment: Updates and Implications". Harvard University, April 2000 (<http://www.cid.harvard.edu/ciddata/ciddata.htm>, visited on 24 October 2002).

Table A-10

VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	Quality Adjusted MYS 15+, 2000*	Daily newspapers (per 1000 people), 1996**	Radios (per 1000 people), 1997**	Television sets (per 1000 people), 1998**	Scientists and engineers in R&D (per million people), 1990-2000***	Patent applications filed (per million people) 1997**	Number of book titles (per million people), 1990s****	Number of tele-phones mainline, (per 1000 people), 2000***	Cellular mobile subscribers (per 1000 people), 2000***	Internet hosts (per 1000 people), 2000****
Algeria	Arab	2.3	38	241	105		7.9	4.4	57.0	3.0	0.3
Argentina	Other	4.9	123	681	289	711	158.4	324.1	213.0	163.0	7.4
Armenia	Other		23	224	218	1308	6611.1	135.8	152.0	5.0	0.8
Australia	Other	5.7	293	1376	639	3320	2524.1		525.0	447.0	85.7
Austria	Other	4.4	296	753	516	1605	13731.4	994.57a	467.0	762.0	59.0
Azerbaijan	Other		27	23	254	2735	3038.5	55.5	104.0	56.0	0.2
Bangladesh	Other	0.7	9	50	6	51	1.6		4.0	1.0	0.3
Belarus	Other		174	296	314	2296	2552.5	595.4	269.0	5.0	0.2
Belgium	Other	5.0	160	793	510	2307	8494.6		498.0	525.0	29.4
Benin	Other	0.7	2	108	10	174		1.4	8.0	9.0	0.0
Bolivia	Other	2.4	55	675	116	171	14.8		60.0	70.0	0.2
Botswana	Other	3.2	27	156	20		62.0		93.0	123.0	1.5
Brazil	Other	2.1	40	444	316	168	187.7	127.3	182.0	136.0	5.2
Bulgaria	Other		257	543	398	1289	3544.3	629.2	350.0	90.0	2.2
Burkina Faso	Other		1	33	9	17		0.4	4.0	2.0	0.3
Burundi	Other		3	71	4	21	0.8		3.0	2.0	0.0
Cameroon	Other	1.5	7	163	32			3.5	6.0g	10.0	0.3
Canada	Other	6.0	159	1077	715	3009	1767.7	744.8	677.0	285.0	77.4
Central African Rep.	Other	0.7	2	83	5	47			3.0	1.0	0.3
Chile	Other	4.0	98	354	232	370	129.0	94.9	221.0	222.0	4.9
China	Comparator	4.7		333	272	459	48.1		112.0	66.0	0.1
Colombia	Other	2.0	46	581	217		29.9	125.9	169.0	53.0	1.1
Congo	Other	2.2	8	124	12	34			7.0	24.0	0.3
Congo, Dem. Rep.	Other	1.3	3	375	135		0.6	2.2	0.3	0.3	0.3
Costa Rica	Other	3.1	94	271	387	533		366.0	249.0	52.0	1.9
Croatia	Other		115	336	272	1494	151.5	694.7	365.0g	231.0	3.7
Czech Rep..	Other		254	803	447	1317	2968.6	1218.5	378.0	424.0	15.4
Denmark	Other	4.6	309	1141	585	3240	20577.6	2727.4	720.0	631.0	62.9
Dominican Republic	Other	2.1	52	178	95			120.6b	105.0	82.0	0.9
Ecuador	Other	3.3	70	419	293	140	24.6	83.3	100.0	38.0	0.3
Egypt	Arab	2.3	40	324	122	493	17.8	20.8	86.0	21.0	0.3
El Salvador	Other	2.2	48	464	675	19	10.6	105.2	100.0	118.0	0.1
Estonia	Other		174	693	480	2164	19031.4	2332.1	363.0	387.0	28.4
Ethiopia	Other		1	195	5		0.1	7.1	4.0	0.3	0.3
Finland	Other	5.2	455	1496	640		21045.6	2533.3	550.0	720.0	102.3

Table A-10

VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	Quality Adjusted MYS 15+, 2000*	Daily newspapers (per 1000 people), 1996**	Radios (per 1000 people), 1997**	Television sets (per 1000 people), 1998**	Scientists and engineers in R&D (per million people), 1990-2000***	Patent applications filed (per million people) 1997**	Number of book titles (per million people), 1990s****	Number of tele-phones mainline, (per 1000 people), 2000***	Cellular mobile subscribers (per 1000 people), 2000***	Internet hosts (per 1000 people), 2000****+
France	Other	3.9	218	937	601	2686	1902.6	660.2	579.0	493.0	19.1
Germany	Other	5.2	311	948	580	2873	2141.4	951.7	611.0	586.0	24.8
Ghana	Other	1.6	14	238	99		1767.0	0.4	12.0	6.0	0.3
Greece	Other	4.1	153	477	466	1045	7777.6	383.7	532.0	557.0	10.5
Guatemala	Other	1.5	33	79	126	103	11.8		57.0	61.0	0.5
Haiti	Other	0.8	3	55	5		1.1	42.0	9.0	3.0g	0.3
Honduras	Other	2.0	55	386	90		21.3	4.1	46.0	24.0	0.3
Hong Kong	Comparator	5.1	792	684	431	93	345.7		583.0	809.0	34.3
Hungary	Other	4.8	186	689	437	1249	3010.5	1035.2	372.0	302.0	10.4
India	Comparator	2.1	121	121	69	158	10.1	14.0	32.0	4.0	0.3
Indonesia	Other	2.1	24	156	136		21.3	0.6	31.0	17.0	0.1
Iran	Other	2.3	28	265	157	590	6.0	210.3	149.0	15.0	0.3
Ireland	Other	4.8	150	699	403	2132	21955.3		420.0	658.0	29.7
Israel	Comparator	5.7	290	520	318	1570	5057.3	328.2	482.0	702.0	29.5
Italy	Other	4.8	104	878	486	1322	1589.7	562.9	474.0	737.0	17.8
Japan	Other	5.4	578	955	707	4960	3288.5	442.3cd	586.0	526.0	36.5
Jordan	Arab	3.4	58	287	52			5.1	92.0	58.0	0.1
Kenya	Other	1.8	9	104	21		1627.4		10.0	4.0	0.1
Korea, Rep. Of	Comparator	6.2	393	1033	346	2139	2783.3	652.8cd	464.0	567.0	8.5
Kuwait	Arab	2.9	374	660	491	214		115.3	244.0	249.0	1.8
Kyrgystan	Other		15	112	45	574	5123.1	85.7	77.0	2.0	0.4
Latvia	Other		247	710	492	1090	11259.6	907.5	303.0	166.0	10.7
Lesotho	Other	1.8	8	49	25		24741.5		10.0	10.0	0.3
Lithuania	Other		93	513	459	2031	7242.7	1107.3	321.0	142.0	4.8
Macedonia	Other		21	200	250	387	13076.5		255.0	57.0	0.8
Madagascar	Other		5	192	21	12	1635.9	6.8	3.0	4.0	0.3
Malawi	Other	1.4	3	249	2		4418.9		4.0	5.0	0.3
Malaysia	Other	3.5	158	420	166	154	290.6	229.0	199.0	213.0	3.1
Mali	Other	0.3	1	54	12			2.9	3.0	1.0	0.3
Mexico	Other	3.8	97	325	261	213	363.3	70.3	125.0	142.0	5.7
Moldova	Other		60	740	297	334	5889.5	271.2	133.0	32.0	0.4
Mongolia	Other		27	151	63	468	10553.2		56.0	45.0	0.1
Morocco	Arab		26	241	160		10.9	13.0	50.0	83.0	0.1
Myanmar	Other	0.8	10	95	7			4.8	6.0	0.3	0.3
Netherlands	Other	5.0	306	978	543	2490	5699.9		618.0	670.0	101.9
New Zealand	Other	5.8	216	990	508	2197	9246.6	1422.4	500.0	563.0	90.6

Table A-10

## VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	Quality Adjusted MYS 15+, 2000*	Daily newspapers (per 1000 people), 1996**	Radios (per 1000 people), 1997**	Television sets (per 1000 people), 1998**	Scientists and engineers in R&D (per million people), 1990-2000***	Patent applications filed (per million people) 1997**	Number of book titles (per million people), 1990s****	Number of tele-phones mainline, (per 1000 people), 2000***	Cellular mobile subscribers (per 1000 people), 2000***	Internet hosts (per 1000 people), 2000***+
Nicaragua	Other	1.9	30	285	190	203			31.0	18.0	0.3
Nigeria	Other		24	223	66	15		11.5	4.0	0.3	0.3
Norway	Other	5.9	588	915	579	4095	7112.7	1107.8	532.0	751.0	101.1
Pakistan	Other	1.6	23	98	88	78	5.7		22.0	2.0	0.3
Panama	Other	4.7	62	299	187		59.7		151.0	145.0	5.4
Peru	Other	4.0	0	273	144	229	31.3	75.6	67.0	50.0	0.4
Philippines	Other	4.6	79	159	108	156	47.1	18.2	40.0	84.0	0.3
Poland	Other	5.2	113	523	413	1460	843.0	497.2	282.0	174.0	8.8
Portugal	Other	2.6	75	304	542	1583	10668.7	218.6	430.0	665.0	6.2
Romania	Other		300	319	233	1393	1297.1	351.5	175.0	112.0	1.9
Russian Federation	Other		105	418	420	3397	331.4	249.1	218.0	22.0	2.2
Saudi Arabia	Arab		57	321	262		52.1	186.2	137.0	64.0	0.2
Senegal	Other	0.7	5	142	41	2			22.0	26.0	0.2
Sierra Leone	Other	0.7	4	253	13		2160.5		4.0	2.0	0.3
Singapore	Other	4.2	360	822	348	2182	9413.8		484.0	684.0	45.2
Slovakia	Other		185	580	402	1706	5223.5	583.9	314.0	205.0	7.0
Slovenia	Other		199	406	356	2161	13723.5	1725.0	386.0	612.0	11.0
South Africa	Other	2.1	32	317	125	992		125.1	114.0	190.0	4.4
Spain	Other	3.5	100	333	506	1562	2851.3	1483.1	421.0	609.0	11.3
Sri Lanka	Other	3.6	29	209	92	188	1397.0	246.3	40.0	23.0	0.1
Sweden	Other	5.8	445	932	531	4507	13068.2	1425.8	682.0	717.0	67.3
Switzerland	Other	5.4	337	1000	535	3058	15673.9	2537.9	727.0	644.0	36.7
Syria	Arab	2.4	20	278	70	29			103.0	2.0	0.3
Tajikistan	Other		20	142	285	660	4059.8	1.5	36.0	0.3	0.3
Thailand	Other	3.3	63	232	236	102	86.7	129.7	92.0	50.0	1.1
Togo	Other	1.4	4	218	18	102		1.1	9.0	11.0	0.3
Tunisia	Arab	2.1	31	223	198	124	18.3	132.6	90.0g	6.0g	0.3
Turkey	Other	2.2	111	180	286	303	423.1	43.8	280.0	246.0	1.1
Uganda	Other	1.5	2	128	27	25	2135.6	12.4	3.0	8.0	0.3
Ukraine	Other		54	884	490	2121	659.8	126.7	206.0	16.0	0.7
United Kingdom	Other	4.8	329	1436	645	2678	2495.1	1868.1	589.0	727.0	28.2
United States	Other	6.1	215	2146	847	4103	835.8	240.7def	700.0	398.0	295.2
Uruguay	Other	4.0	293	607	241		121.8	204.2	278.0	132.0	16.3
Uzbekistan	Other		3	465	275	1754	1096.7	40.3	67.0	2.0	0.3
Venezuela	Other	3.4	206	468	185	194	104.3	159.1c	108.0	217.0	0.7
Vietnam	Other		4	107	47	274	351.3		32.0	10.0	0.3
Zambia	Other	2.3	12	121	137		9.2		8.0	9.0	0.1
Zimbabwe	Other	2.3	19	93	30		1743.6		18.0	23.0	0.3

## Notes:

- Quality adjusted MYS15+: Calculated by multiplying the mean years of schooling and the average test scores.

The average test scores is the average of the test scores data available from both sources (Barro & Lee, 1997 and TIMSS).

Test scores used from Barro & Lee, 1997 refer to the years 1990-91 & 1993-98.

Countries were categorised by level of mean years of schooling and missing data of average test scores was filled by the average test scores available for

other countries in the same category.

- Source of Population (in millions), 2000 used to compute Patents applications filed per million people and Number of book titles per million people was the HDR 2002,

- Book titles data for Qatar and Malawi were considered missing because the figures refer to School textbooks, Children's books or government publications only.

- Missing data for Cellular mobile subscribers and Internet hosts from HDR 2002, and referred to as "less than half the unit shown" by the symbol (.), was replaced by 0.25.

+ Data refer to the most recent year available during the period specified for all countries except Malta, Nicaragua, Guatemala, Nigeria, Benin and Burundi.

Their data refer to a year before 1990.

^ Patent applications filed figures are for residents and non-residents of the the country. Missing figures for residents are considered zero.

**Table A-10**

VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES, AROUND THE YEAR 2000

- (a) Not including school textbooks or yearbooks.
- (b) Partial data
- (c) First editions only.
- (d) Not including pamphlets.
- (e) Not including government publications and university theses but including juvenile titles for which a class breakdown is not available .
- (f) Not including school textbooks.
- (g) Data refer to 1999.

Sources:

- \* MYS: Barro and Lee, 2000. "International Data on educational Attainment: Updates and Implications, CID Working Paper no. 42, April.  
Test Scores: Barro and Lee, 1997. "Schooling Quality in a Cross-section of Countries", August.  
Test Scores: International Association for the Evaluation of Educational Achievement (1996), Science (Mathematics)  
  
Achievement in the Middle School Years: IEA's Third International Mathematics and Science Study (TIMSS),  
  
TIMSS International Study Centre, Boston College, Chestnut Hill, MA, USA, November.
- "
- \*\* World Bank, 2000. "World Development Report 2000/2001: Attacking Poverty", Oxford University Press,  
  
New York.
- \*\*\* UNDP, 2002. "2002 Human Development Report", Oxford University Press, New York.
- \*\*\*\* UNESCO, 2002. UNESCO Web site ([www.unesco.org](http://www.unesco.org)).

Table A-11

REPORT AND IMPUTED VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES,  
AROUND THE YEAR 2000

Country	Group	Quality Adjusted MYS 15+, 2000	Daily newspapers (per 1000 people), 1996	Radios (per 1000 people), 1997	Television sets (per 1000 people), 1998	Scientists and engineers in R&D (per million people), 1990-2000	Patent applications filed (per million people) 1997	Number of book titles (per million people), 1990s	Number of tele-phones mainline, (per 1000 inhabitant), 2000	Cellular mobile subscribers (per 1000 people), 2000	Internet hosts (per 1000 people), 2000
Algeria	Arab	2.3	38.0	241.0	105.0	-59.7	7.9	4.4	57.0	3.0	0.3
Argentina	Other	4.9	123.0	681.0	289.0	711.0	158.4	324.1	213.0	163.0	7.4
Armenia	Other	2.6	23.0	224.0	218.0	1308.0	6611.1	135.8	152.0	5.0	0.8
Australia	Other	5.7	293.0	1376.0	639.0	3320.0	2524.1	1020.3	525.0	447.0	85.7
Austria	Other	4.4	296.0	753.0	516.0	1605.0	13731.4	994.6	467.0	762.0	59.0
Azerbaijan	Other	2.4	27.0	23.0	254.0	2735.0	3038.5	55.5	104.0	56.0	0.2
Bangladesh	Other	0.7	9.0	50.0	6.0	51.0	1.6	-204.0	4.0	1.0	0.3
Belarus	Other	3.6	174.0	296.0	314.0	2296.0	2552.5	595.4	269.0	5.0	0.2
Belgium	Other	5.0	160.0	793.0	510.0	2307.0	8494.6	1284.4	498.0	525.0	29.4
Benin	Other	0.7	2.0	108.0	10.0	174.0	1848.0	1.4	8.0	9.0	0.0
Bolivia	Other	2.4	55.0	675.0	116.0	171.0	14.8	482.4	60.0	70.0	0.2
Botswana	Other	3.2	27.0	156.0	20.0	-190.5	62.0	-51.7	93.0	123.0	1.5
Brazil	Other	2.1	40.0	444.0	316.0	168.0	187.7	127.3	182.0	136.0	5.2
Bulgaria	Other	4.2	257.0	543.0	398.0	1289.0	3544.3	629.2	350.0	90.0	2.2
Burkina Faso	Other	2.4	1.0	33.0	9.0	17.0	1921.9	0.4	4.0	2.0	0.3
Burundi	Other	2.4	3.0	71.0	4.0	21.0	0.8	-165.1	3.0	2.0	0.0
Cameroon	Other	1.5	7.0	163.0	32.0	-212.1	1159.5	3.5	6.0	10.0	0.3
Canada	Other	6.0	159.0	1077.0	715.0	3009.0	1767.7	744.8	677.0	285.0	77.4
Central Arican Rep.	Other	0.7	2.0	83.0	5.0	47.0	1858.8	-32.6	3.0	1.0	0.3
Chile	Other	4.0	98.0	354.0	232.0	370.0	129.0	94.9	221.0	222.0	4.9
China	Comparator	4.7	76.1	333.0	272.0	459.0	48.1	139.4	112.0	66.0	0.1
Colombia	Other	2.0	46.0	581.0	217.0	290.5	29.9	125.9	169.0	53.0	1.1
Congo	Other	2.2	8.0	124.0	12.0	34.0	1490.4	-51.2	7.0	24.0	0.3
Congo, Dem. Rep..	Other	1.3	3.0	375.0	135.0	-473.1	0.6	2.2	0.3	0.3	0.3
Costa Rica	Other	3.1	94.0	271.0	387.0	533.0	2478.9	366.0	249.0	52.0	1.9
Croatia	Other	4.1	115.0	336.0	272.0	1494.0	151.5	694.7	365.0	231.0	3.7
Czech Rep.	Other	4.6	254.0	803.0	447.0	1317.0	2968.6	1218.5	378.0	424.0	15.4
Denmark	Other	4.6	309.0	1141.0	585.0	3240.0	20577.6	2727.4	720.0	631.0	62.9
Dominican Republic	Other	2.1	52.0	178.0	95.0	277.6	2025.4	120.6	105.0	82.0	0.9
Ecuador	Other	3.3	70.0	419.0	293.0	140.0	24.6	83.3	100.0	38.0	0.3
Egypt	Arab	2.3	40.0	324.0	122.0	493.0	17.8	20.8	86.0	21.0	0.3
El Salvador	Other	2.2	48.0	464.0	675.0	19.0	10.6	105.2	100.0	118.0	0.1
Estonia	Other	3.3	174.0	693.0	480.0	2164.0	19031.4	2332.1	363.0	387.0	28.4
Ethiopia	Other	2.4	1.0	195.0	5.0	-243.8	0.1	7.1	4.0	0.3	0.3
Finland	Other	5.2	455.0	1496.0	640.0	3340.8	21045.6	2533.3	550.0	720.0	102.3
France	Other	3.9	218.0	937.0	601.0	2686.0	1902.6	660.2	579.0	493.0	19.1

Table A-11

REPORT AND IMPUTED VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES,  
AROUND THE YEAR 2000

Country	Group	Quality Adjusted MYS 15+, 2000	Daily newspapers (per 1000 people), 1996	Radios (per 1000 people), 1997	Television sets (per 1000 people), 1998	Scientists and engineers in R&D (per million people), 1990-2000	Patent applications filed (per million people) 1997	Number of book titles (per million people), 1990s	Number of tele-phones mainline, (per 1000 inhabitant), 2000	Cellular mobile subscribers (per 1000 people), 2000	Internet hosts (per 1000 people), 2000
Germany	Other	5.2	311.0	948.0	580.0	2873.0	2141.4	951.7	611.0	586.0	24.8
Ghana	Other	1.6	14.0	238.0	99.0	-371.2	1767.0	0.4	12.0	6.0	0.3
Greece	Other	4.1	153.0	477.0	466.0	1045.0	7777.6	383.7	532.0	557.0	10.5
Guatemala	Other	1.5	33.0	79.0	126.0	103.0	11.8	-187.7	57.0	61.0	0.5
Haiti	Other	0.8	3.0	55.0	5.0	-392.3	1.1	42.0	9.0	3.0	0.3
Honduras	Other	2.0	55.0	386.0	90.0	-132.0	21.3	4.1	46.0	24.0	0.3
Hong Kong	Comparator	5.1	792.0	684.0	431.0	93.0	345.7	-166.1	583.0	809.0	34.3
Hungary	Other	4.8	186.0	689.0	437.0	1249.0	3010.5	1035.2	372.0	302.0	10.4
India	Comparator	2.1	45.1	121.0	69.0	158.0	10.1	14.0	32.0	4.0	0.3
Indonesia	Other	2.1	24.0	156.0	136.0	-175.4	21.3	0.6	31.0	17.0	0.1
Iran	Other	2.3	28.0	265.0	157.0	590.0	6.0	210.3	149.0	15.0	0.3
Ireland	Other	4.8	150.0	699.0	403.0	2132.0	21955.3	2331.4	420.0	658.0	29.7
Israel	Comparator	5.7	290.0	520.0	318.0	1570.0	5057.3	328.2	482.0	702.0	29.5
Italy	Other	4.8	104.0	878.0	486.0	1322.0	1589.7	562.9	474.0	737.0	17.8
Japan	Other	5.4	578.0	955.0	707.0	4960.0	3288.5	442.3	586.0	526.0	36.5
Jordan	Arab	3.4	58.0	287.0	52.0	197.8	-371.4	5.1	92.0	58.0	0.1
Kenya	Other	1.8	9.0	104.0	21.0	-307.6	1627.4	-18.4	10.0	4.0	0.1
Korea(Rep. of)	Comparator	6.2	393.0	1033.0	346.0	2139.0	2783.3	652.8	464.0	567.0	8.5
Kuwait	Arab	2.9	374.0	660.0	491.0	214.0	352.1	115.3	244.0	249.0	1.8
Kyrgyzstan	Other	2.8	15.0	112.0	45.0	574.0	5123.1	85.7	77.0	2.0	0.4
Latvia	Other	3.6	247.0	710.0	492.0	1090.0	11259.6	907.5	303.0	166.0	10.7
Lesotho	Other	1.8	8.0	49.0	25.0	973.6	24741.5	1954.0	10.0	10.0	0.3
Lithuania	Other	3.2	93.0	513.0	459.0	2031.0	7242.7	1107.3	321.0	142.0	4.8
Macedonia	Other	2.7	21.0	200.0	250.0	387.0	13076.5	1103.7	255.0	57.0	0.8
Madagascar	Other	2.9	5.0	192.0	21.0	12.0	1635.9	6.8	3.0	4.0	0.3
Malawi	Other	1.4	3.0	249.0	2.0	-161.8	4418.9	352.3	4.0	5.0	0.3
Malaysia	Other	3.5	158.0	420.0	166.0	154.0	290.6	229.0	199.0	213.0	3.1
Mali	Other	0.3	1.0	54.0	12.0	-170.1	2725.5	2.9	3.0	1.0	0.3
Mexico	Other	3.8	97.0	325.0	261.0	213.0	363.3	70.3	125.0	142.0	5.7
Moldova	Other	3.1	60.0	740.0	297.0	334.0	5889.5	271.2	133.0	32.0	0.4
Mongolia	Other	2.5	27.0	151.0	63.0	468.0	10553.2	727.6	56.0	45.0	0.1
Morocco	Arab	2.5	26.0	241.0	160.0	119.4	10.9	13.0	50.0	83.0	0.1
Myanmar	Other	0.8	10.0	95.0	7.0	-147.8	2139.6	4.8	6.0	0.3	0.3
Netherlands	Other	5.0	306.0	978.0	543.0	2490.0	5699.9	675.1	618.0	670.0	101.9
New Zealand	Other	5.8	216.0	990.0	508.0	2197.0	9246.6	1422.4	500.0	563.0	90.6
Nicaragua	Other	1.9	30.0	285.0	190.0	203.0	-615.5	-57.8	31.0	18.0	0.3
Nigeria	Other	2.6	24.0	223.0	66.0	15.0	878.7	11.5	4.0	0.3	0.3
Norway	Other	5.9	588.0	915.0	579.0	4095.0	7112.7	1107.8	532.0	751.0	101.1

Table A-11

REPORT AND IMPUTED VALUES OF INDICATORS ON KNOWLEDGE CAPITAL IN 109 COUNTRIES,  
AROUND THE YEAR 2000

Country	Group	Quality Adjusted MYS 15+, 2000	Daily newspapers (per 1000 people), 1996	Radios (per 1000 people), 1997	Television sets (per 1000 people), 1998	Scientists and engineers in R&D (per million people), 1990-2000	Patent applications (per million people) 1997	Number of book titles (per million people), 1990s	Number of tele-phones mainline, (per 1000 inhabitant), 2000	Cellular mobile subscribers (per 1000 people), 2000	Internet hosts (per 1000 people), 2000
Pakistan	Other	1.6	23.0	98.0	88.0	78.0	5.7	-148.7	22.0	2.0	0.3
Panama	Other	4.7	62.0	299.0	187.0	428.9	59.7	106.6	151.0	145.0	5.4
Peru	Other	4.0	0.0	273.0	144.0	229.0	31.3	75.6	67.0	50.0	0.4
Philippines	Other	4.6	79.0	159.0	108.0	156.0	47.1	18.2	40.0	84.0	0.3
Poland	Other	5.2	113.0	523.0	413.0	1460.0	843.0	497.2	282.0	174.0	8.8
Portugal	Other	2.6	75.0	304.0	542.0	1583.0	10668.7	218.6	430.0	665.0	6.2
Romania	Other	4.1	300.0	319.0	233.0	1393.0	1297.1	351.5	175.0	112.0	1.9
Russian Federation	Other	3.1	105.0	418.0	420.0	3397.0	331.4	249.1	218.0	22.0	2.2
Saudi Arabia	Arab	2.8	57.0	321.0	262.0	730.4	52.1	186.2	137.0	64.0	0.2
Senegal	Other	0.7	5.0	142.0	41.0	2.0	1685.4	13.9	22.0	26.0	0.2
Sierra Leone	Other	0.7	4.0	253.0	13.0	-320.8	2160.5	136.8	4.0	2.0	0.3
Singapore	Other	4.2	360.0	822.0	348.0	2182.0	9413.8	1139.9	484.0	684.0	45.2
Slovakia	Other	3.7	185.0	580.0	402.0	1706.0	5223.5	583.9	314.0	205.0	7.0
Slovenia	Other	3.7	199.0	406.0	356.0	2161.0	13723.5	1725.0	386.0	612.0	11.0
South Africa	Other	2.1	32.0	317.0	125.0	992.0	1286.3	125.1	114.0	190.0	4.4
Spain	Other	3.5	100.0	333.0	506.0	1562.0	2851.3	1483.1	421.0	609.0	11.3
Sri Lanka	Other	3.6	29.0	209.0	92.0	188.0	1397.0	246.3	40.0	23.0	0.1
Sweden	Other	5.8	445.0	932.0	531.0	4507.0	13068.2	1425.8	682.0	717.0	67.3
Switzerland	Other	5.4	337.0	1000.0	535.0	3058.0	15673.9	2537.9	727.0	644.0	36.7
Syria	Arab	2.4	20.0	278.0	70.0	29.0	420.1	165.4	103.0	2.0	0.3
Tajikistan	Other	2.2	20.0	142.0	285.0	660.0	4059.8	1.5	36.0	0.3	0.3
Thailand	Other	3.3	63.0	232.0	236.0	102.0	86.7	129.7	92.0	50.0	1.1
Togo	Other	1.4	4.0	218.0	18.0	102.0	473.5	1.1	9.0	11.0	0.3
Tunisia	Arab	2.1	31.0	223.0	198.0	124.0	18.3	132.6	90.0	6.0	0.3
Turkey	Other	2.2	111.0	180.0	286.0	303.0	423.1	43.8	280.0	246.0	1.1
Uganda	Other	1.5	2.0	128.0	27.0	25.0	2135.6	12.4	3.0	8.0	0.3
Ukraine	Other	3.1	54.0	884.0	490.0	2121.0	659.8	126.7	206.0	16.0	0.7
United Kingdom	Other	4.8	329.0	1436.0	645.0	2678.0	2495.1	1868.1	589.0	727.0	28.2
United States	Other	6.1	215.0	2146.0	847.0	4103.0	835.8	240.7	700.0	398.0	295.2
Uruguay	Other	4.0	293.0	607.0	241.0	1908.0	121.8	204.2	278.0	132.0	16.3
Uzbekistan	Other	2.7	3.0	465.0	275.0	1754.0	1096.7	40.3	67.0	2.0	0.3
Venezuela	Other	3.4	206.0	468.0	185.0	194.0	104.3	159.1	108.0	217.0	0.7
Vietnam	Other	2.5	4.0	107.0	47.0	274.0	351.3	-96.0	32.0	10.0	0.3
Zambia	Other	2.3	12.0	121.0	137.0	-194.2	9.2	-144.4	8.0	9.0	0.1
Zimbabwe	Other	2.3	19.0	93.0	30.0	-248.1	1743.6	-8.3	18.0	23.0	0.3
Percentage imputed		25.7	1.8	0.0	0.0	22.9	15.6	25.7	0.0	0.0	0.0

Table A-12

RANKING OF 109 COUNTRIES ON KNOWLEDGE CAPITAL INDICATORS AROUND THE YEAR 2000  
(SORTED BY TOTAL RANKS)

Country	Group	Quality Adjusted MYS 15+, 2000	Daily newspapers (per 1000 people), 1996	Radios (per 1000 people), 1997	Television sets (per 1000 people), 1998	Scientists and engineers in R&D (per million people), 1990-2000	Patent applications filed (per million people) 1997	Number of book titles (per million people), 1990s	Number of tele-phones mainline (per 1000 people), 2000	Cellular mobile subscribers (per 1000 people), 2000	Internet hosts (per 1000 people), 2000	Total Rank
Finland	Other	11.0	4.0	2.0	6.0	6.0	3.0	3.0	12.0	6.0	2.0	55.0
Sweden	Other	6.0	5.0	14.0	15.0	2.0	10.0	10.0	4.0	7.0	8.0	81.0
Switzerland	Other	9.5	9.0	8.0	14.0	9.0	6.0	2.0	1.0	13.0	12.0	83.5
Denmark	Other	25.5	12.0	5.0	9.0	8.0	4.0	1.0	2.0	14.0	9.0	89.5
Norway	Other	4.0	2.0	15.0	11.0	4.0	19.0	15.0	13.5	3.0	4.0	90.5
United Kingdom	Other	21.0	10.0	3.0	5.0	14.0	38.0	7.0	8.0	5.0	19.0	130.0
Netherlands	Other	15.0	13.0	10.0	12.0	15.0	22.0	26.0	6.0	10.0	3.0	132.0
Japan	Other	9.5	3.0	11.0	3.0	1.0	29.0	35.0	9.0	21.0	13.0	134.5
New Zealand	Other	5.0	23.0	9.0	18.0	18.0	15.0	11.0	16.0	19.0	5.0	139.0
Australia	Other	8.0	16.5	4.0	7.0	7.0	37.0	19.0	15.0	24.0	6.0	143.5
Germany	Other	12.0	11.0	12.0	10.0	11.0	41.0	21.0	7.0	17.0	20.0	162.0
Canada	Other	3.0	32.0	6.0	2.0	10.0	49.0	23.0	5.0	29.0	7.0	166.0
Austria	Other	27.0	15.0	21.0	16.0	29.0	7.0	20.0	21.0	2.0	10.0	168.0
United States	Other	2.0	24.0	1.0	1.0	3.0	64.0	45.0	3.0	26.0	1.0	170.0
Singapore	Other	28.0	8.0	18.0	37.0	19.0	14.0	14.0	18.0	9.0	11.0	176.0
Belgium	Other	16.0	31.0	20.0	17.0	16.0	16.0	12.0	17.0	22.0	17.0	184.0
Ireland	Other	18.5	35.0	24.0	32.0	23.0	2.0	5.0	25.0	12.0	15.0	191.5
Korea (Rep. of)	Comparator	1.0	6.0	7.0	38.0	22.0	34.0	28.0	22.0	18.0	31.0	207.0
France	Other	36.0	22.0	13.0	8.0	13.0	46.0	27.0	11.0	23.0	21.0	220.0
Estonia	Other	49.0	29.5	25.0	24.0	20.0	5.0	4.0	30.0	27.0	18.0	231.5
Israel	Comparator	7.0	18.0	36.0	39.0	31.0	25.0	40.0	19.0	8.0	16.0	239.0
Czech Rep.	Other	24.0	20.0	19.0	27.0	37.0	32.0	13.0	27.0	25.0	24.0	248.0
Slovenia	Other	39.0	26.0	46.0	36.0	21.0	8.0	8.0	26.0	15.0	26.0	251.0
Italy	Other	20.0	41.0	17.0	23.0	36.0	55.0	32.0	20.0	4.0	22.0	270.0
Hungary	Other	18.5	27.0	26.0	28.0	40.0	31.0	18.0	28.0	28.0	29.0	273.5
Latvia	Other	41.0	21.0	23.0	20.0	41.0	11.0	22.0	34.0	39.0	27.0	279.0
Greece	Other	32.0	34.0	38.0	25.0	42.0	17.0	36.0	13.5	20.0	28.0	285.5
Spain	Other	43.5	42.0	51.5	19.0	32.0	33.0	9.0	24.0	16.0	25.0	295.0
Slovakia	Other	38.0	28.0	33.0	33.0	28.0	23.0	31.0	33.0	36.0	33.0	316.0
Lithuania	Other	51.0	46.0	37.0	26.0	25.0	18.0	16.0	32.0	42.5	39.0	332.5
Bulgaria	Other	29.0	19.0	34.0	34.0	39.0	28.0	29.0	31.0	49.0	43.5	335.5
Portugal	Other	62.0	49.0	58.0	13.0	30.0	12.0	47.0	23.0	11.0	34.0	339.0
Poland	Other	13.0	38.0	35.0	31.0	34.0	63.0	33.0	35.0	38.0	30.0	350.0
Hong Kong	Comparator	14.0	1.0	27.0	29.0	81.0	72.0	107.0	10.0	1.0	14.0	356.0

Table A-12

RANKING OF 109 COUNTRIES ON KNOWLEDGE CAPITAL INDICATORS AROUND THE YEAR 2000  
(SORTED BY TOTAL RANKS)

Country	Group	Quality Adjusted MYS 15+, 2000	Daily newspapers (per 1000 people), 1996	Radios (per 1000 people), 1997	Television sets (per 1000 people), 1998	Scientists and engineers in R&D (per million people), 1990-2000	Patent applications filed (per million people) 1997	Number of book titles (per million people), 1990s	Number of tele-phones mainline (per 1000 people), 2000	Cellular mobile subscribers (per 1000 people), 2000	Internet hosts (per 1000 people), 2000	Total Rank
Uruguay	Other	34.0	16.5	31.0	54.0	26.0	79.0	49.0	37.0	45.0	23.0	394.5
Croatia	Other	31.0	37.0	50.0	48.5	33.0	77.0	25.0	29.0	32.0	41.0	403.5
Argentina	Other	17.0	36.0	28.0	44.0	46.0	76.0	41.0	44.0	40.0	32.0	404.0
<b>Kuwait</b>	<b>Arab</b>	<b>56.0</b>	<b>7.0</b>	<b>30.0</b>	<b>21.0</b>	<b>63.0</b>	<b>70.0</b>	<b>63.0</b>	<b>41.0</b>	<b>30.0</b>	<b>47.0</b>	<b>428.0</b>
Romania	Other	30.0	14.0	56.0	56.0	35.0	58.0	39.0	48.0	48.0	45.5	429.5
Russian Federation	Other	54.0	40.0	45.0	30.0	5.0	73.0	43.0	43.0	72.0	43.5	448.5
Costa Rica	Other	52.0	45.0	65.0	35.0	50.0	39.0	37.0	40.0	61.0	45.5	469.5
Moldavia	Other	55.0	53.0	22.0	42.0	57.0	21.0	42.0	54.0	66.0	59.0	471.0
Ukraine	Other	53.0	58.0	16.0	22.0	24.0	65.0	59.0	45.0	76.0	55.5	473.5
Belarus	Other	40.0	29.5	60.0	41.0	17.0	36.0	30.0	38.0	88.0	96.0	475.5
Chile	Other	35.0	43.0	49.0	57.0	56.0	78.0	66.0	42.0	33.0	38.0	497.0
Malaysia	Other	43.5	33.0	43.0	64.0	74.0	74.0	46.0	46.0	35.0	42.0	500.5
Macedonia	Other	60.0	80.0	78.0	53.0	55.0	9.0	17.0	39.0	58.0	53.5	502.5
Venezuela	Other	45.0	25.0	39.0	63.0	67.0	80.0	52.0	58.0	34.0	55.5	518.5
Mexico	Other	37.0	44.0	53.0	51.0	64.0	69.0	70.0	55.0	42.5	35.0	520.5
Panama	Other	22.0	52.0	59.0	62.0	54.0	83.0	64.0	51.0	41.0	36.0	524.0
Turkey	Other	79.0	39.0	81.0	45.0	58.0	67.0	72.0	36.0	31.0	50.0	558.0
Brazil	Other	87.5	63.5	42.0	40.0	71.0	75.0	58.0	47.0	44.0	37.0	565.0
<b>China</b>	<b>Comparator</b>	<b>23.0</b>	<b>48.0</b>	<b>51.5</b>	<b>48.5</b>	<b>53.0</b>	<b>85.0</b>	<b>53.0</b>	<b>57.0</b>	<b>54.0</b>	<b>103.0</b>	<b>576.0</b>
Armenia	Other	63.0	78.5	73.0	58.0	38.0	20.0	55.0	50.0	88.0	53.5	577.0
SouthAfrica	Other	87.5	67.0	57.0	72.0	43.0	59.0	61.0	56.0	37.0	40.0	579.5
<b>Saudi Arabia</b>	<b>Arab</b>	<b>58.0</b>	<b>55.0</b>	<b>55.0</b>	<b>50.0</b>	<b>45.0</b>	<b>84.0</b>	<b>50.0</b>	<b>53.0</b>	<b>55.0</b>	<b>96.0</b>	<b>601.0</b>
Colombia	Other	89.0	61.0	32.0	59.0	59.0	88.0	60.0	49.0	60.0	50.0	607.0
Thailand	Other	47.5	51.0	72.0	55.0	79.5	81.0	57.0	65.5	62.5	50.0	621.0
Ecuador	Other	47.5	50.0	44.0	43.0	75.0	89.0	68.0	62.5	65.0	78.5	622.5
Azerbaijan	Other	71.0	73.0	109.0	52.0	12.0	30.0	71.0	60.0	59.0	96.0	633.0
Dominican Republic	Other	86.0	59.0	82.0	78.0	60.0	44.0	62.0	59.0	52.0	52.0	634.0
Mongolia	Other	65.0	73.0	87.0	85.0	52.0	13.0	24.0	75.0	64.0	103.0	641.0
El Salvador	Other	81.0	60.0	41.0	4.0	89.0	97.0	65.0	62.5	47.0	103.0	649.5
Bolivia	Other	72.0	56.5	29.0	74.0	70.0	94.0	34.0	72.0	53.0	96.0	650.5
Philippines	Other	25.5	47.0	84.0	75.0	73.0	86.0	76.0	78.5	50.0	62.0	657.0
Uzbekistan	Other	61.0	100.0	40.0	47.0	27.0	61.0	74.0	70.5	98.0	78.5	657.0
Lesotho	Other	92.0	90.5	107.0	93.0	44.0	1.0	6.0	89.5	80.0	78.5	681.5
Peru	Other	33.0	109.0	64.0	67.0	62.0	87.0	69.0	70.5	62.5	59.0	683.0
Iran	Other	76.0	71.0	66.0	66.0	48.0	101.0	48.0	52.0	77.0	78.5	683.5
Sri Lanka	Other	42.0	70.0	77.0	79.0	68.0	57.0	44.0	78.5	70.5	103.0	689.0
Kyrgyzstan	Other	59.0	84.0	94.0	88.0	49.0	24.0	67.0	69.0	98.0	59.0	691.0

Table A-12

RANKING OF 109 COUNTRIES ON KNOWLEDGE CAPITAL INDICATORS AROUND THE YEAR 2000  
(SORTED BY TOTAL RANKS)

Country	Group	Quality Adjusted MYS 15+, 2000	Daily newspapers (per 1000 people), 1996	Radios (per 1000 people), 1997"	Television sets (per 1000 people), 1998	Scientists and engineers in R&D (per million people), 1990-2000	Patent applications filed (per million people) 1997	Number of book titles (per million people), 1990s	Number of tele-phones mainline (per 1000 people), 2000	Cellular mobile subscribers (per 1000 people), 2000	Internet hosts (per 1000 people), 2000	Total Rank
Egypt	Arab	74.0	63.5	54.0	73.0	51.0	93.0	75.0	68.0	73.0	78.5	703.0
Tajikistan	Other	80.0	81.5	88.5	46.0	47.0	27.0	91.0	80.0	107.0	78.5	726.5
Jordan	Arab	46.0	54.0	61.0	86.0	66.0	108.0	84.0	65.5	57.0	103.0	730.5
Syria	Arab	68.0	81.5	63.0	82.0	86.0	68.0	51.0	61.0	98.0	78.5	737.0
Tunisia	Arab	84.0	68.0	74.5	60.0	76.0	92.0	56.0	67.0	85.5	78.5	741.5
Botswana	Other	50.0	73.0	85.5	96.0	100.0	82.0	101.0	64.0	46.0	48.0	745.5
Morocco	Arab	66.0	75.0	69.5	65.0	77.0	96.0	79.0	76.0	51.0	103.0	757.5
Honduras	Other	90.0	56.5	47.0	80.0	95.0	91.0	87.0	77.0	68.5	78.5	770.5
Nicaragua	Other	91.0	69.0	62.0	61.0	65.0	109.0	102.0	83.5	74.0	62.0	778.5
Guatemala	Other	98.0	66.0	102.0	71.0	78.0	95.0	108.0	73.5	56.0	57.0	804.5
Malawi	Other	100.0	100.0	68.0	109.0	97.0	26.0	38.0	100.5	88.0	78.5	805.0
Algeria	Arab	77.0	65.0	69.5	76.0	94.0	100.0	86.0	73.5	93.5	78.5	813.0
India	Comparator	83.0	62.0	92.5	83.0	72.0	98.0	77.0	81.5	91.0	78.5	818.5
Nigeria	Other	64.0	76.5	74.5	84.0	91.0	62.0	81.0	100.5	107.0	78.5	819.0
Vietnam	Other	67.0	96.0	96.0	87.0	61.0	71.0	103.0	81.5	80.0	78.5	821.0
Zimbabwe	Other	78.0	83.0	100.0	91.0	104.0	51.0	97.0	87.0	70.5	62.0	823.5
Madagascar	Other	57.0	93.5	80.0	94.5	92.0	53.0	83.0	106.0	91.0	78.5	828.5
Ghana	Other	94.0	85.0	71.0	77.0	107.0	50.0	96.0	88.0	85.5	78.5	832.0
Sierra Leone	Other	107.0	96.0	67.0	98.0	106.0	40.0	54.0	100.5	98.0	78.5	845.0
Congo	Other	82.0	90.5	91.0	99.5	85.0	56.0	100.0	95.0	68.5	78.5	846.0
Senegal	Other	105.5	93.5	88.5	89.0	93.0	52.0	78.0	85.5	67.0	96.0	848.0
Togo	Other	99.0	96.0	76.0	97.0	79.5	66.0	93.0	91.5	78.0	78.5	854.5
Indonesia	Other	85.0	76.5	85.5	69.0	99.0	90.0	94.0	83.5	75.0	103.0	860.5
Uganda	Other	97.0	104.0	90.0	92.0	87.0	43.0	80.0	106.0	84.0	78.5	861.5
Cameroon	Other	96.0	92.0	83.0	90.0	102.0	60.0	88.0	96.5	80.0	78.5	866.0
Burkina Faso	Other	73.0	107.0	108.0	102.0	90.0	45.0	95.0	100.5	98.0	78.5	897.0
Myanmar	Other	103.0	87.0	99.0	103.0	96.0	42.0	85.0	96.5	107.0	78.5	897.0
Benin	Other	108.0	104.0	95.0	101.0	69.0	48.0	92.0	93.5	82.5	108.5	901.5
Pakistan	Other	95.0	78.5	98.0	81.0	82.0	102.0	105.0	85.5	98.0	78.5	903.5
Zambia	Other	75.0	86.0	92.5	68.0	101.0	99.0	104.0	93.5	82.5	103.0	904.5
Kenya	Other	93.0	88.5	97.0	94.5	105.0	54.0	98.0	89.5	91.0	103.0	913.5
Congo, Dem. Rep.	Other	101.0	100.0	48.0	70.0	109.0	106.0	90.0	109.0	107.0	78.5	918.5
Mali	Other	109.0	107.0	105.0	99.5	98.0	35.0	89.0	106.0	103.0	78.5	930.0
Central African Rep.	Other	105.5	104.0	101.0	106.0	84.0	47.0	99.0	106.0	103.0	78.5	934.0
Ethiopia	Other	70.0	107.0	79.0	106.0	103.0	107.0	82.0	100.5	107.0	78.5	940.0
Haiti	Other	102.0	100.0	104.0	106.0	108.0	104.0	73.0	91.5	93.5	78.5	960.5
Bangladesh	Other	104.0	88.5	106.0	104.0	83.0	103.0	109.0	100.5	103.0	78.5	979.5
Burundi	Other	69.0	100.0	103.0	108.0	88.0	105.0	106.0	106.0	98.0	108.5	991.5

Table A-13

VALUES OF KNOWLEDGE OUTCOMES AND OTHER DEVELOPMENT INDICATORS IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	High-technology exports (% of total goods exports), 1999	Nuclear Facilities* <sub>-</sub>	Space programs*	TAI value, 1999	AHDI rank	HDI value, 2000	GDP per capita (PPP\$), 2000
Algeria	Arab	0.3	1	0	0.221	97	0.697	5308
Argentina	Other	3.0	1	1	0.381	32	0.844	12377
Armenia	Other	4.0	1	0			0.754	2559
Australia	Other	5.0	1	1	0.587	8	0.939	25693
Austria	Other	12.0	1	0	0.544	9	0.926	26765
Azerbaijan	Other	1.0	0	0			0.741	2936
Bangladesh	Other	0.3	1	0		83	0.478	1602
Belarus	Other	5.0	0	0			0.788	7544
Belgium	Other	11.0	1	0	0.553	16	0.939	27178
Benin	Other		0	0		78	0.420	990
Bolivia	Other	21.0	0	0	0.277	60	0.653	2424
Botswana	Other		0	0		62	0.572	7184
Brazil	Other	9.0	1	1	0.311	53	0.757	7625
Bulgaria	Other	6.0	1	0	0.411	34	0.779	5710
Burkina Faso	Other		0	0		91	0.325	976
Burundi	Other		0	0		104	0.313	591
Cameroon	Other	1.0	0	0		95	0.512	1703
Canada	Other	11.0	1	1	0.589	3	0.940	27840
Central African Rep..	Other	0.3	0	0		96	0.375	1172
Chile	Other	1.0	1	1	0.357	31	0.831	9417
China	Comparator	21.0	1	1	0.299	72	0.726	3976
Colombia	Other	2.0	1	0	0.274	40	0.772	6248
Congo	Other		0	0		111	0.512	825
Congo, Dem. Rep..	Other		1	0			0.431	765
Costa Rica	Other	44.0	0	0	0.358	23	0.820	8650
Croatia	Other	8.0	0	0	0.391		0.809	8091
Czech Rep..	Other	12.0	1	0	0.465		0.849	13991
Denmark	Other	19.0	1	0		10	0.926	27627
Dominican Republic	Other	0.3	0	0	0.244	37	0.727	6033
Ecuador	Other	1.0	0	0	0.253	49	0.732	3203
Egypt	Arab	2.0	1	1	0.236	92	0.642	3635
El Salvador	Other	6.0	0	0	0.253	48	0.706	4497
Estonia	Other	17.0	0	0			0.826	10066

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VALUES OF KNOWLEDGE OUTCOMES AND OTHER DEVELOPMENT INDICATORS IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	High-technology exports (% of total goods exports), 1999	Nuclear Facilities	Space programs	TAI value, 1999	AHDI rank	HDI value, 2000	GDP per capita (PPPS), 2000
Ethiopia	Other		0	0		101	0.327	668
Finland	Other	27.0	1	0	0.744	7	0.930	24996
France	Other	22.0	1	1	0.535	15	0.928	24223
Germany	Other	18.0	1	1	0.583		0.925	25103
Ghana	Other	2.0	1	0	0.139	71	0.548	1964
Greece	Other	5.0	1	0	0.437	29	0.885	16501
Guatemala	Other	4.0	0	0		64	0.631	3821
Haiti	Other	3.0	0	0		87	0.471	1467
Honduras	Other	1.0	0	0	0.208	56	0.638	2453
Hong Kong	Comparator	24.0	0	0	0.455		0.888	25153
Hungary	Other	24.0	1	0	0.464	24	0.835	12416
India	Comparator	5.0	1	1	0.201	80	0.577	2358
Indonesia	Other	7.0	1	0	0.211	69	0.684	3043
Iran	Other	0.3	1	0	0.260	101	0.721	5884
Ireland	Other	42.0	0	0		17	0.925	29866
Israel	Comparator	29.0	1	1	0.514		0.896	20131
Italy	Other	11.0	1	0	0.471	15	0.913	23626
Japan	Other	30.0	1	1	0.698	18	0.933	26755
Jordan	Arab		0	0		68	0.717	3966
Kenya	Other	2.0	0	0	0.129		0.513	1022
Korea(Rep. of)	Comparator	33.0	1	0	0.666	38	0.882	17380
Kuwait	Arab	0.3	0	0		70	0.813	15799
Kyrgystan	Other	4.0	0	0			0.712	2711
Latvia	Other	6.0	1	0			0.800	7045
Lesotho	Other		0	0			0.535	2031
Lithuania	Other	7.0	1	0			0.808	7106
Macedonia	Other	3.0	0	0			0.772	5086
Madagascar	Other	2.0	0	0			0.469	840
Malawi	Other		0	0		83	0.400	615
Malaysia	Other	52.0	1	0	0.396	59	0.782	9068
Mali	Other		0	0		86	0.386	797
Mexico	Other	28.0	1	0	0.389	45	0.796	9023
Moldova	Other	2.0	0	0			0.701	2109
Mongolia	Other	0.3	0	0			0.655	1783
Morocco	Arab	0.3	0	0		79	0.602	3546

Table A-13

VALUES OF KNOWLEDGE OUTCOMES AND OTHER DEVELOPMENT INDICATORS IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	High-technology exports (% of total goods exports), 1999	Nuclear Facilities	Space programs	TAI value, 1999	AHDI rank	HDI value, 2000	GDP per capita (PPP\$), 2000
Myanmar	Other		0	0			0.552	1027
Netherlands	Other	26.0	1	0	0.630	4	0.935	25657
New Zealand	Other	5.0	0	0	0.548	6	0.917	20070
Nicaragua	Other	0.3	0	0	0.185	51	0.635	2366
Nigeria	Other	0.3	0	0		107	0.462	896
Norway	Other	5.0	1	0	0.579	5	0.942	29918
Pakistan	Other	1.0	1	0	0.167	90	0.499	1928
Panama	Other	2.0	0	0	0.321	35	0.787	6000
Peru	Other	1.0	0	0	0.271	54	0.747	4799
Philippines	Other	26.0	1	0	0.300	33	0.754	3971
Poland	Other	8.0	1	0	0.407	30	0.833	9051
Portugal	Other	7.0	1	0	0.419	19	0.880	17290
Romania	Other	4.0	1	0	0.371	44	0.775	6423
Russian Federation	Other	3.0	1	1			0.781	8377
Saudi Arabia	Arab	0.3	0	0			0.759	11367
Senegal	Other	7.0	0	0	0.158	89	0.431	1510
Sierra Leone	Other		0	0			0.275	490
Singapore	Other	58.0	0	0	0.585	43	0.885	23356
Slovakia	Other	7.0	1	0	0.447		0.835	11243
Slovenia	Other	12.0	1	0	0.458		0.879	17367
South Africa	Other	4.0	1	0	0.340		0.695	9401
Spain	Other	10.0	1	0	0.481	13	0.913	19472
Sri Lanka	Other	3.0	0	0	0.203	46	0.741	3530
Sweden	Other	26.0	1	0	0.703	1	0.941	24277
Switzerland	Other	26.0	1	0		2	0.928	28769
Syria	Arab	0.3	0	0	0.240	103	0.691	3556
Tajikistan	Other		0	0			0.667	1152
Thailand	Other	30.0	1	0	0.337	52	0.762	6402
Togo	Other	0.3	0	0		94	0.493	1442
Tunisia	Arab	3.0	0	0	0.255	93	0.722	6363
Turkey	Other	7.0	1	1		67	0.742	6974
Uganda	Other	0.3	0	0			0.444	1208
Ukraine	Other		0	0			0.748	3816
United Kingdom	Other	29.0	1	1	0.606	12	0.928	23509
United States	Other	32.0	1	1	0.733	11	0.939	34142

Table A-13

VALUES OF KNOWLEDGE OUTCOMES AND OTHER DEVELOPMENT INDICATORS IN 109 COUNTRIES, AROUND THE YEAR 2000

Country	Group	High-technology exports (% of total goods exports), 1999	Nuclear Facilities	Space programs	TAI value, 1999	AHDI rank	HDI value, 2000	GDP per capita (PPP\$), 2000
Uruguay	Other	2.0	1	0	0.343	21	0.831	0.831
Uzbekistan	Other		0	0			0.727	0.727
Venezuela	Other	0.3	1	0		47	0.770	0.770
Vietnam	Other		1	0			0.688	0.688
Zambia	Other		0	0		84	0.433	0.433
Zimbabwe	Other	1.0	0	0	0.220	76	0.551	0.551

## Notes

\* "1" means "exist" and "0" means does not exist.

\_ A country is identified to have a nuclear capability (taking the value "1") if it has either power reactor(s), constructed or under construction, or research reactor(s), constructed or under construction, or both.

## Sources:

AHDI: Arab Human Development Report, 2001.

HDI value &

GDP per capita (PPP\$) UNDP, 2002. "2002 Human Development Report", Oxford University Press, New York.

TAI value &

High-Technology exports UNDP, 2001. "2001 Human Development Report", Oxford University Press, New York.

Nuclear facilities

Compiled by Ted Flaherty, 19 September 1996 ([www.cdi.org/issues/proliferation/reactab.html](http://www.cdi.org/issues/proliferation/reactab.html)) from: "Nuclear Non-Proliferation Treaty". Arms Control reporter (1996), pp.602.A.7-602.A.10. "World List of Nuclear Power Plants". Nuclear News, September 1993, pp. 43-62.

Space Programs

Indicator was identified through an internet search.