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Global Efforts Yield Significant Dividends in Contraceptive Security

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A primary goal of reproductive health and family planning programs is to ensure that people can choose, obtain, and use a wide range of high-quality, affordable contraceptive methods and condoms for sexually transmitted infection (STI)/HIV prevention. Referred to as *contraceptive security,* this goal requires sustainable strategies that will ensure and maintain access to and availability of supplies.

During the past 12 years, many low income countries have registered significant progress toward the goal of contraceptive security (CS), as seen in the results presented here. Yet, as global demand for family planning (FP) continues to rise, ensuring CS remains challenging in many countries. Adequate financing for reproductive health (RH) and FP programs often does not keep pace with demand; donor and national resources remain insufficient. Despite investments in service delivery and logistics systems, these systems are still strained in many countries. Nonetheless, the focused global attention on CS during the past 12 years has yielded significant dividends in all CS components.

It is critical that stakeholders and program managers maintain support to ensure long-term CS. Programs cannot meet their clients' RH and FP needs without the reliable availability of high-quality contraceptive supplies and services. Attaining the poverty reduction and health goals adopted by many countries will be hampered unless the momentum of progress toward CS is accelerated. Ensuring contraceptive supply and service availability to clients requires a multi-sectorial approach. The public- and private-sectors must work together to ensure an enabling policy environment, appropriate forecasting and procurement of commodities, efficient supply chains, well-trained providers, effective service delivery systems, an accepting social environment, and adequate financing. To plan effective interventions to reach this goal, policymakers, program managers, and international donor agencies need to know if and how their programs are progressing toward CS.

This wall chart presents a set of indicators that can be used to measure a country's level of CS and to monitor global progress toward reaching this goal, over time. The indicators are aggregated to establish a composite index, which has been calculated every three years since 2003. The *Contraceptive Security Index 2015* presents the latest update of these data, representing more than a decade of monitoring progress and measuring success.

Table 1. Contraceptive Security Index Indicators, Raw Data

	SUPPLY CHAIN					FINANCE			HEALTH & SOCIAL ENVIRONMENT			ACCESS			UTILIZATION		
	Storage and Distribution max=30	LMIS max=12	Forecasting max=8	Procurement max=8	Contraceptive Policy max=4	Gov. Health Expenditure max=35	Per Capita GNI, PPP max=$20,000	Poverty Level max=100	Governance max=30	Women's Education max=100	Adult HIV Prevalence max=50	Access to FP Methods max=4	Public Sector Targeting max=10	Spread of Access to FP Methods max=1	Method Mix max=1	Unmet Need for FP max=50	CPR max=100
ASIA & THE PACIFIC																	
Bangladesh	24.0	11.0	8.0	8.0	3.3	9.4	3,340	31.5	9.5	57.2	<0.1	3.0	1.8	0.02	0.42	12.2	56.7
Cambodia	28.0	12.0	8.0	8.0	2.5	12.4	3,080	17.7	10.6	36.0	0.6	2.4	1.4	0.03	0.35	12.5	40.4
India	24.3	10.3	7.4	7.0	2.2	7.2	5,760	29.8	12.9	69.4	0.3	2.4		0.06		13.1	52.4
Indonesia	26.5	12.0	4.0	8.0	2.3	7.8	10,250	12.0	12.9	82.1	0.5	2.4	1.6	0.02	0.48	11.3	59.0
Malaysia					2.4	10.2	23,850	1.7	17.3	68.5	0.5	2.8		0.03		15.4	41.7
Nepal	27.7	8.9	8.0	5.4	2.1	13.6	2,420	25.2	10.1	68.3	0.2	2.4	1.1	0.04	0.17	23.9	48.0
Pakistan	22.8	9.0	8.0	7.0	2.1	5.4	5,100	22.3	8.2	32.2	<0.1	2.0	0.6	0.07	0.23	20.4	27.9
Philippines	19.5	6.0	5.7	4.0	2.4	8.2	8,300	26.5	13.1	88.4	<0.1	2.1	1.5	0.07	0.41	17.8	38.4
Thailand					3.0	17.1	13,950	8.1	13.2	89.1	1.1	3.3		0.01		5.7	76.5
Timor-Leste					1.8	4.7	5,680	49.9	10.3	55.0		1.6	0.6	0.08	0.68	26.3	26.4
Viet Nam	18.1	8.2	5.4	5.3	2.8	7.8	5,350	14.5	11.9	64.0	0.5	2.9		0.03		6.5	65.3
EASTERN EUROPE & CENTRAL ASIA																	
Afghanistan		7.9	3.8		1.3	4.3	1,980		5.5	38.3	<0.1	1.5		0.05		27.1	24.1
Albania	24.7	10.0	7.3	8.0			10,260	14.3	13.6	73.0			1.5		0.23	12.8	18.9
Armenia	9.2	6.9	1.7	6.0	1.3	8.2	8,550	32.4	14.0	94.0	0.2	1.3	0.8	0.16	0.48	13.3	29.6
Azerbaijan	0.0	0.0	0.0	0.0	1.4	5.4	16,910	6.0	10.8	99.5	0.1	1.5		0.10		13.8	21.7
Georgia	30.0	10.0	7.4	7.3	2.7	6.5	7,510	14.8	16.2	100.9	0.3	2.3		0.04		16.8	36.7
Kazakhstan					2.9	15.7	21,580	3.8	10.9	101.2	0.2	1.8		0.03		15.6	52.3
Kyrgyz Republic	23.3	12.0	8.0	7.4	1.3	18.3	3,220	38.0	10.2	88.2	0.3	2.3	1.4	0.04	0.61	17.1	38.5
Moldova					1.9	16.1	5,480	21.9	13.2	88.9	0.6	2.2		0.04		12.7	44.7
Romania					2.2	13.3	19,030	10.7	15.9	94.2	0.1	1.5		0.17		9.5	53.7
Tajikistan					2.7	6.1	2,630	46.7	7.8	82.1	0.4	3.0	0.8	0.02	0.63	21.9	30.0
Ukraine	10.5	6.9	0.6	2.0	2.6	10.1	8,560	2.9	10.7	97.3	1.2	1.8		0.08		10.2	50.7
LATIN AMERICA & THE CARIBBEAN																	
Bolivia	21.8	12.0	4.6	2.0	2.7		6,130	60.1	11.7	80.1	0.3	2.2	1.1	0.02	0.14	18.0	40.4
Colombia	29.3	12.0	4.0	8.0		20.6	12,600	32.7	13.2	96.6	0.4		1.1		0.37	8.2	71.7
Costa Rica					3.1	27.8	13,900	20.6	18.9	112.8	0.3	2.6		0.04		6.2	75.7
Dominican Rep.	14.7	9.5	7.4	7.4	2.7	15.5	12,450	40.9	13.3	80.2	1.0	2.3	1.8	0.04	0.51	10.7	68.6
Ecuador	10.7	5.4	6.3	3.7	1.6	7.3	11,120	27.3	11.5	105.7	0.3	2.4		0.00		9.1	61.2
El Salvador	7.2	9.4	8.0	2.7	2.0	20.5	7,720	34.5	14.1	70.5	0.5	2.8		0.04	0.46	11.9	64.3
Guatemala	7.2	4.3	5.7	2.7	1.4	17.3	7,260	51.0	11.3	62.3	0.5	1.9		0.04	0.35	17.3	47.8
Guyana	9.7	10.0	6.3	0.7		14.9	6,930		12.6	108.7	1.8		1.2		0.14	26.5	43.5
Haiti	16.5	8.9	7.4	7.0	3.1	4.5	1,750	58.5	8.6		1.9	2.2	1.0	0.03	0.53	32.9	33.6
Honduras	10.2	4.9	6.9	3.3	2.4	17.9	4,120	66.5	10.9	78.0	0.4	2.6	1.5	0.02	0.16	10.6	63.7
Jamaica	25.0	12.0	8.0	6.7	3.3	9.6	8,490	9.9	15.1	79.3	1.6	2.6		0.02	0.17	9.7	67.9
Mexico					2.6	12.1	16,710	52.3	14.1	90.9	0.2	2.9		0.02		10.5	67.4
Nicaragua	28.3	12.0	8.0	6.7	2.0	28.8	4,670	46.2	11.8	72.0	0.3	3.2		0.01		7.2	75.4
Paraguay	16.3	8.0	8.0	4.6	1.4	19.5	8,010	25.8	11.1	77.5	0.4	2.1		0.01	0.07	6.4	68.0
Peru	13.8	6.9	2.3	4.3	2.6	18.8	11,510	25.2	13.5	92.9	0.4	1.9	1.4	0.03	0.17	9.1	52.4
MIDDLE EAST & NORTH AFRICA																	
Egypt	28.3	10.0	5.7	5.7	1.9	6.3	11,020		9.5	87.8	<0.1	2.2	1.2	0.02	0.38	12.3	57.8
Jordan	23.2	12.0	4.0	4.7	2.4	18.5	11,910	13.3	14.0	89.0		2.6	1.4	0.05	0.32	12.0	42.7
Morocco					3.6	6.3	7,180	9.0	12.9	63.4	0.1	2.4		0.05		9.7	58.0
Yemen	14.5	4.4	6.3	4.7	2.5	4.3	3,820	34.8	7.0	39.9	<0.1	2.3	0.4	0.05	0.26	27.1	27.6
SUB-SAHARAN AFRICA																	
Benin	10.7	4.5	6.3	3.0	2.5	20.5	1,850	39.0	13.0	42.9	1.1	2.3	0.4	0.02	0.09	30.6	10.4
Botswana	18.0	10.0	6.9	6.0		10.8	17,460	14.7	19.0	84.0	25.2					16.8	54.7
Burkina Faso	25.0	11.0	8.0	7.3		24.7	1,660	46.7	12.1	26.0	0.9		0.3		0.20	26.6	17.8
Burundi					3.2	8.1	790	66.9	8.3	29.2	1.1	2.4	0.8	0.01	0.45	29.8	23.3
Cameroon	15.9	6.8	4.9	6.4	2.0	8.5	2,940	39.9	9.4	48.1	4.8	1.9	0.3	0.19	0.40	22.3	17.3
Chad	14.0	6.9	6.3	7.3	1.8	3.3	2,130	55.0	7.3	14.3	2.5	1.9		0.04		23.1	2.9
Congo, Dem. Rep.					1.3	25.8	700	71.3	5.6	33.1	1.0	1.4	0.4	0.14	0.35	27.2	8.5
Congo, Rep. of					1.8	5.3	5,120	50.1	8.5	49.8	2.8	1.7	0.5	0.10	0.48	17.7	22.7
Côte d'Ivoire	13.3	12.0	6.3	5.4	3.0	12.9	3,350	42.7	9.7	31.5	3.5	1.6	0.4	0.09	0.42	23.8	14.5
Ethiopia	19.2	4.0	6.9	6.4	3.1	13.5	1,500	38.9	9.5	30.0	1.2	2.2	0.6	0.02	0.68	25.0	35.7
Gabon	14.7	6.3	6.3	2.3			16,500	32.7	12.1	45.0	3.9		0.6		0.59	25.4	21.4
Gambia	12.3	6.0	5.1	3.0	2.5	11.3	1,580	48.4	11.3	49.0	1.8	2.4	0.5	0.05	0.41	28.2	9.8
Ghana	21.6	12.0	7.8	5.8	2.3	17.2	3,960	24.2	15.5	58.2	1.5	2.0	0.9	0.08	0.23	34.0	20.3
Guinea	26.5	10.4	4.9	6.2		1.8	1,140	55.2	7.9	26.0	1.6		0.4		0.02	24.6	4.6
Guinea-Bissau					1.5	4.1	1,430	69.3	7.0	14.0	3.7	2.0		0.05		22.1	12.8
Kenya	15.8	12.0	8.0	7.4	2.6	9.3	2,890	45.9	11.0	64.5	5.3	2.1	0.6	0.01	0.43	18.5	56.0
Lesotho					1.9		3,260	56.6	14.6	62.3	23.4	1.9	0.5	0.03	0.22	18.2	59.0
Liberia	26.0	8.0	6.3	5.4	2.5	13.1	820	63.8	10.2	27.0	1.2	1.8	0.6	0.09	0.48	31.6	19.5
Madagascar	25.0	11.9	7.4	8.0	1.9		1,400	68.7	10.1	37.7	0.3	2.1	0.8	0.02	0.56	18.8	36.9
Malawi	28.0	12.0	8.0	8.0	2.3	14.2	780	52.4	12.5	34.9	10.0	2.1	0.9	0.03	0.55	18.8	55.5
Mali	23.3	12.0	7.5	5.4	3.0	15.6	1,660	47.4	10.2	39.8	1.4	2.1	0.3	0.07	0.15	26.9	11.4
Mauritania	12.7	7.0	6.9	6.4	1.9	7.3	3,700	42.0	9.8	28.6	0.7	1.5		0.05		30.9	12.5
Mozambique	21.0	11.4	6.3	4.4	0.6	11.6	1,170	54.7	11.9	24.8	10.6	2.1	0.2	0.06	0.35	27.5	16.0
Namibia	18.0	9.4	3.7	4.0	2.5	12.1	9,880	38.0	17.1	71.0	16.0	2.4	0.8	0.03	0.36	16.9	56.7
Niger	22.0	7.1	6.9	7.4	3.2		950	59.5	10.7	14.9	0.5	2.0	0.2	0.04	0.29	17.6	9.8
Nigeria	20.0	11.4	6.9	7.4	2.2	22.0	5,680	54.7	8.1	27.0	3.2	1.7	0.2	0.09	0.14	21.9	10.8
Rwanda	29.3	12.0	6.9	8.0	3.4	45.6	1,530	44.9	14.3	33.7	2.8	3.1	1.0	0.01	0.44	19.9	47.1
Senegal	28.3	11.0	6.3	8.0	2.4	12.8	2,290	50.8	13.9	27.0	0.5	2.6	0.5	0.04	0.34	30.0	16.8
Sierra Leone	18.0	12.0	8.0	6.0		9.5	1,830	70.0	10.9	41.7	1.4		0.5		0.33	26.2	14.7
South Africa					2.7	13.3	12,700	23.0	16.4	114.4	18.9	2.8		0.03		12.2	64.0
South Sudan	8.3	7.4	8.0	4.7	1.1		2,030	50.6	6.0		2.7	0.9		0.19		29.8	2.6
Tanzania	21.3	10.0	7.4	5.0	2.4	15.8	2,530	33.4	12.3	31.6	5.3	2.3	0.7	0.03	0.26	22.9	33.5
Togo	22.2	7.1	7.4	7.0	2.7	23.3	1,310	61.7	9.2	28.0	2.4	2.4	1.5	0.01	0.28	33.5	18.7
Uganda	20.3	12.0	6.9	4.4	2.5	34.7	1,690	9.1	11.4	25.0	7.3	2.0	0.6	0.02	0.43	33.4	27.5
Zambia					2.5	14.4	3,860	59.3	13.6	44.0	12.4	1.9	0.7	0.09	0.31	20.0	45.3
Zimbabwe					3.1		1,710		7.1	46.5	16.7	2.3	1.0	0.05	0.67	11.4	64.7

Table 2. Weighted Component Scores

	Supply Chain max=20	Finance max=20	Health & Social Environment max=20	Access max=20	Utilization max=20	Total 2015 max=100
ASIA & THE PACIFIC						
Bangladesh	18.2	7.5	12.6	12.7	12.7	63.6
Cambodia	18.2	8.9	11.3	11.4	12.0	61.8
India	16.1	8.0	14.1	11.2	12.5	61.9
Indonesia	15.8	10.8	14.9	11.6	12.6	65.7
Malaysia	7.9	15.2	15.0	12.2	13.2	63.5
Nepal	15.4	8.4	13.4	11.1	12.2	60.6
Pakistan	15.6	7.9	10.6	10.0	10.9	55.1
Philippines	11.9	9.2	15.5	10.6	10.8	58.0
Thailand	12.9	14.0	15.4	13.4	15.3	71.0
Timor-Leste	12.0	6.1	12.0	9.2	7.1	46.4
Viet Nam	13.3	9.0	13.5	12.3	14.7	62.7
Regional Average	14.3	9.5	13.5	11.4	12.2	60.9
EASTERN EUROPE & CENTRAL ASIA						
Afghanistan	11.4	5.2	10.4	9.2	9.0	45.3
Albania	16.7	11.6	14.6	10.6	11.4	64.8
Armenia	8.6	8.9	16.0	8.3	10.3	52.2
Azerbaijan	1.4	12.9	15.7	9.1	12.4	51.4
Georgia	17.4	9.4	16.9	11.2	11.3	66.1
Kazakhstan	4.8	16.1	15.7	10.5	13.3	60.4
Kyrgyz Republic	16.1	8.7	14.8	11.1	9.6	60.2
Moldova	13.1	10.1	15.5	10.9	12.3	61.8
Romania	8.1	14.8	16.5	9.0	13.9	62.2
Tajikistan	11.6	5.6	13.8	12.1	8.2	51.3
Ukraine	7.5	11.3	15.4	9.9	13.9	58.0
Regional Average	10.6	10.4	15.0	10.2	11.4	57.6
LATIN AMERICA & THE CARIBBEAN						
Bolivia	12.9	8.2	14.6	11.0	12.7	59.3
Colombia	16.3	12.6	16.0	11.0	14.6	70.5
Costa Rica	13.3	15.2	17.5	12.1	15.6	73.6
Dominican Rep.	15.2	11.0	14.8	11.5	13.1	65.7
Ecuador	9.8	9.9	15.9	11.7	14.3	61.6
El Salvador	11.5	10.8	14.4	12.0	13.0	61.7
Guatemala	8.0	9.0	13.3	10.2	11.9	52.3
Guyana	10.2	10.1	15.9	10.7	11.8	58.7
Haiti	15.5	4.2	10.7	10.7	7.7	48.8
Honduras	10.5	7.0	14.2	11.8	15.1	58.7
Jamaica	17.9	10.7	15.1	11.9	15.4	71.1
Mexico	9.7	11.1	15.8	12.7	14.4	63.7
Nicaragua	17.1	10.6	14.1	13.2	15.0	70.1
Paraguay	12.6	11.3	14.3	11.1	16.5	65.8
Peru	10.0	12.4	15.8	10.5	14.5	63.2
Regional Average	12.7	10.3	14.8	11.5	13.7	63.0
MIDDLE EAST & NORTH AFRICA						
Egypt	14.7	11.0	14.6	11.1	13.0	64.4
Jordan	13.8	13.3	15.4	11.5	12.4	66.5
Morocco	17.0	9.7	13.8	11.3	13.5	65.1
Yemen	11.4	6.4	10.9	10.3	9.8	48.9
Regional Average	14.2	10.1	13.7	11.1	12.2	61.2
SUB-SAHARAN AFRICA						
Benin	10.1	8.6	12.3	10.6	9.3	51.0
Botswana	13.9	13.6	13.1	8.8	10.8	60.3
Burkina Faso	17.3	8.8	11.0	10.3	9.6	57.1
Burundi	14.7	4.0	10.3	11.1	7.9	48.0
Cameroon	12.0	6.6	11.3	8.7	8.8	47.5
Chad	12.8	4.3	8.9	9.6	8.2	43.9
Congo, Dem. Rep.	13.2	7.1	10.0	8.4	7.9	46.5
Congo, Rep. of	12.5	6.0	11.5	9.1	9.3	48.4
Côte d'Ivoire	14.6	7.4	10.5	9.1	8.3	49.8
Ethiopia	13.6	7.1	10.6	10.6	7.8	49.8
Gabon	11.0	12.1	11.8	8.9	7.4	51.2
Gambia	10.2	6.1	12.2	10.6	7.5	46.7
Ghana	16.0	9.6	13.8	10.1	8.6	58.2
Guinea	14.4	3.7	9.9	9.7	10.2	48.0
Guinea-Bissau	12.8	3.3	8.7	9.8	9.0	43.6
Kenya	16.4	6.3	12.7	10.5	11.7	57.7
Lesotho	11.5	7.1	11.0	9.9	13.4	52.8
Liberia	14.4	5.2	10.6	9.5	7.2	46.9
Madagascar	17.0	5.7	11.4	10.5	9.6	54.1
Malawi	18.0	6.1	10.4	10.6	10.9	56.0
Mali	16.5	7.0	11.4	9.9	9.5	54.3
Mauritania	12.6	6.5	10.7	9.0	7.4	46.2
Mozambique	12.5	5.6	9.6	9.8	8.4	45.9
Namibia	11.9	9.7	13.1	11.0	12.5	58.1
Niger	15.7	6.5	10.0	9.8	9.7	51.6
Nigeria	15.8	9.1	9.8	9.0	10.2	54.0
Rwanda	18.8	10.9	11.7	12.3	10.9	64.5
Senegal	17.0	6.5	11.5	11.0	8.2	54.2
Sierra Leone	15.6	4.4	11.7	9.7	8.6	50.1
South Africa	9.6	11.9	14.5	11.8	12.8	60.5
South Sudan	11.0	4.8	10.0	6.9	6.6	39.3
Tanzania	14.8	8.3	10.8	10.7	10.8	55.3
Togo	15.2	7.4	10.3	11.6	8.2	52.7
Uganda	14.8	13.2	9.9	10.4	7.8	56.2
Zambia	14.2	6.7	11.0	9.7	11.6	53.3
Zimbabwe	15.8	4.8	9.1	10.9	11.7	52.2
Regional Average	14.1	7.3	11.0	10.0	9.4	51.8
Overall Average	13.4	8.8	12.8	10.6	11.1	56.6

RESULTS

A total of **77 countries** are represented in the 2015 index; to-date, **47 countries have scores for all five indices**.

Table 1 shows the raw data for the 17 indicators, grouped into the five components that were used to construct the *CS Index*: supply chain, finance, health and social environment, access, and utilization. These represent the most current data available. However, if new values were not available in 2015, raw scores from the 2012 index are included in this index as the most current data available. Data from 2003, 2006, and 2009 were not carried forward to this version.

Table 2 shows the weighted scores by component and total. Figure 1 shows the total weighted scores for the 77 countries included in the index. The range of possible scores in the weighted *CS Index* is 0 to 100, although **actual scores in 2015 range from 39.3 to 73.6**. In 2003, the range was 28.1 to 68.1; in 2006, the range was 35.5 to 73.2; in 2009, the range was 37.4 to 74.1; and in 2012, the range was from 39.1 to 70.8. The lowest score in 2015 represents a 40 percent increase over the lowest score in 2003 (see figure 2). While total scores from the highest-performing countries remained relatively flat, scores from the **lowest-performing countries increased dramatically** over the past 12 years; average scores across sub-Saharan African countries increased 17 percent from 2003 to 2015.

Using a paired t-test, the **2015 overall global average scores represent a statistically significant ($p<0.05$) increase** from the 2003 scores for the 47 countries scored in both indices, which indicates overall improvement. Figure 3 compares total index scores, averaged by region. The observed increases in total index score for countries overlapping in the 2003 and 2015 indices are significant for all regions—excluding Eastern Europe and Central Asia, as there were too few overlapping countries for comparison between 2003 and 2015. For the overlapping countries, the **global averages for all components**—supply chain, finance, health and social environment, access, and utilization—also **show a significant improvement from 2003 to 2015** (see figure 4). In most cases, the component scores by region also showed improvement, although these improvements were only significant in the following cases:

Supply Chain: sub-Saharan Africa

Finance: Asia and the Pacific, Middle East and North Africa, and sub-Saharan Africa

Health and Social Environment: Asia and the Pacific, Latin America and the Caribbean, and sub-Saharan Africa

Access: sub-Saharan Africa

Utilization: Latin America and the Caribbean, Middle East and North Africa, and sub-Saharan Africa.

In every *CS Index* to date, the **highest average component scores were in supply chain management** and the lowest in finance; however, the **most progress was made in the finance component** during the past decade (i.e., average finance scores across the 47 countries increased 25 percent since 2003). Component scores for an individual country can be compared within a year (maximum weighted score of 20 for each component), enabling users to identify components that need attention and additional assessment. Countries can score similarly overall, but have strengths or weaknesses in different components. This highlights the need for the indicators to be reviewed within the broader context of a country, including aspects not captured in the *CS Index* because of data limitations. Finally, it is important to note that movement in rank up or down by a few places at the country level may not represent significant differences or changes in the level of CS.

Figure 1. Total Weighted Scores: 77 Countries

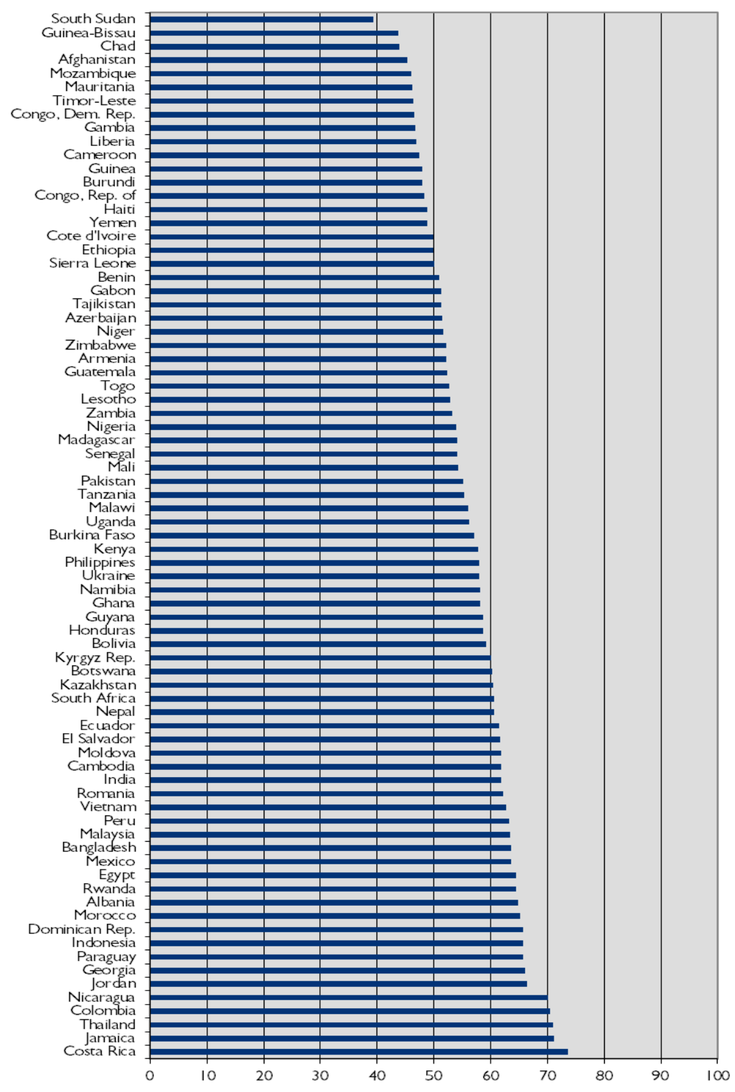


Figure 2. Highest and Lowest Total Scores per Year

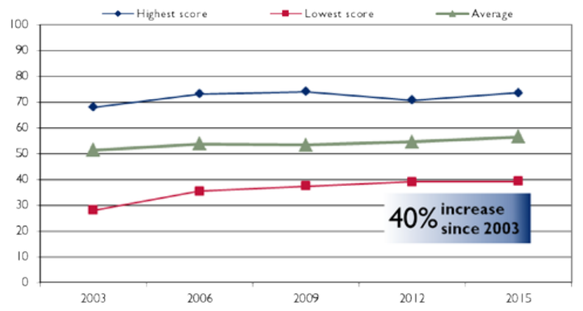


Figure 3. Total Scores Averaged by Region*

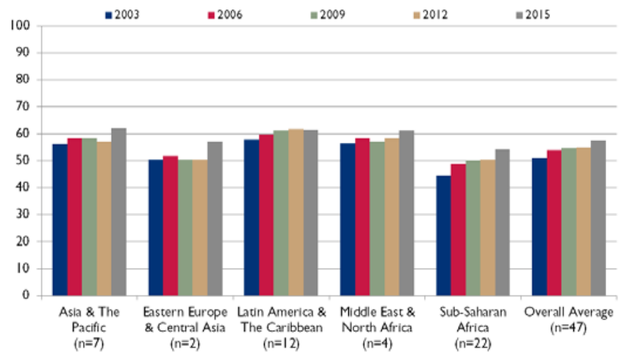
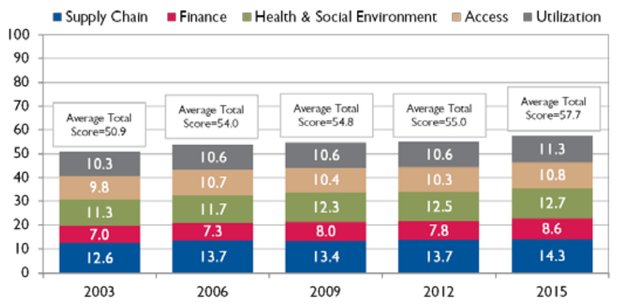


Figure 4. Global Average Total Scores By Component*

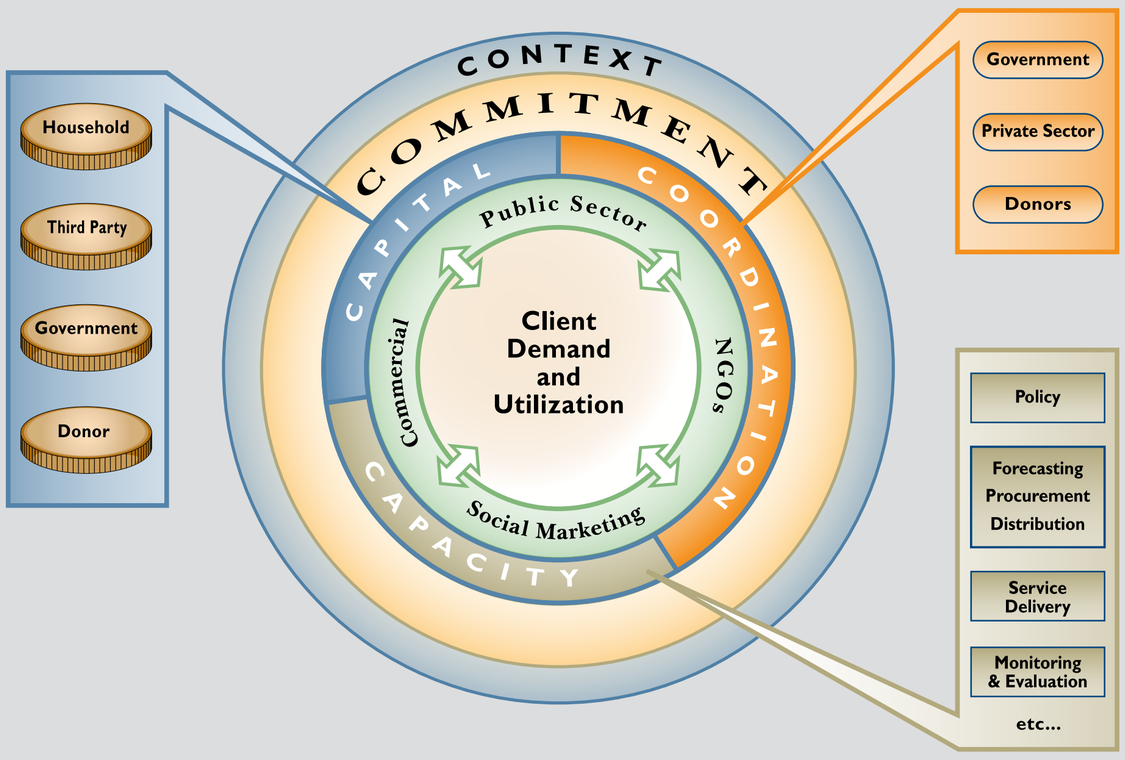


*N.B. Figures 3 and 4 present results for the 47 countries scored in all 5 indices only.

BACKGROUND

The *CS Index 2015* updates the findings from the 2003, 2006, 2009, and 2012 versions. The framework at the core of the *Strategic Pathway to Reproductive Health Commodity Security* (SPARHCS) was used as a conceptual guide in developing the *CS Index*. It defines the program and program environment components that are required to achieve RH commodity security, whether for contraceptives or for other RH commodities (see figure 5).

Figure 5. SPARHCS Framework for Reproductive Health Commodity Security



The *CS Index* and other efforts that promote and advance contraceptive security have drawn much-needed attention to these issues and have led to a global movement around contraceptive security.

USES

The *Contraceptive Security Index* is a powerful tool for raising awareness about CS and the interrelationships between program components, different sectors, and program outcomes. At the national- and international-levels, the index can be used to set priorities; and to plan and advocate for supportive policies and other interventions that promote progress toward CS. At the country level, it can help identify areas of relative strength and weakness to help stakeholders target their resources more effectively and appropriately. However, because the *CS Index* presents a broad picture of CS in a country, in-depth assessments of specific components are required to identify issues that need to be addressed in national CS strategic plans.

The *CS Index* is also a useful guide for helping global donors and lenders determine the countries most in need of assistance and to determine what kind of assistance they need. The index can help country governments, donors, and lenders improve resource allocation by giving them a way to track where countries are on a continuum of CS.

With repeated measures taken over time, the index can provide a measure of progress toward the goal of CS. By drawing attention to the importance of CS, this tool can help donors and governments focus on meeting the growing contraceptive needs into the future.

METHODOLOGY

The original *CS Index* was developed in 2003 by a team of CS experts from USAID, the John Snow, Inc./DELIVER project, the POLICY Project of the Futures Group, and Commercial Market Strategies (CMS). Using the same methodology as the 2003 index, the *CS Index* was updated in 2006, in 2009, in 2012; and, again, with this version in 2015. Using the latest version of all reference documents, the same indicators were maintained for the 2015 index. However, some data sources changed in the 2015 index if the original reference document was no longer available, or if an updated and more comprehensive data source became available. If new indicator values were not available since the publication of the 2012 index, the 2012 data are preserved as the most current data available. Data from 2003, 2006, and 2009 were not carried forward to this version.

The process of constructing the *CS Index* minimized data collection costs (using only secondary data), and maximized data reliability, validity, and replicability. The selected indicators are a mix of inputs and outputs, and programmatic and macro-level issues. Together, they paint a picture of CS and promote a cross-sectorial approach to addressing CS. Although some indicators are highly correlated, each represents an important aspect of CS. The 17 indicators are arrayed across the five CS components described below; the components are aggregated to create the index. For detailed information about how missing data were filled in to calculate the index, how indicators were weighted, and other technical issues, please refer to the *Contraceptive Security Index Technical Manual* (USAID | DELIVER PROJECT 2009).

Methodological Considerations

This index represents a country's CS situation at this point in time, although the actual data were collected over a period of years. It is unavoidable that indicators will be updated for different countries at different intervals. Ideally, to use the results to monitor progress toward the goal of CS over time, the index will be updated periodically (i.e., every three years).

Comparisons can be drawn, over time, between the 2003 and 2006 findings at the aggregate level (i.e., by region, component, and total score), as presented in the *Results* section. However, because of a change in the data collection methodology for some of the supply chain indicators (see the *Methodology, Definitions, Component I: Supply Chain* section), comparisons across time between 2003 and 2006 at the country level, and at the individual supply chain indicator level, are not advisable. Nonetheless, the index's applicability for the other purposes mentioned above remains valid. After 2006, no changes were made to the data collection methodology; therefore, comparisons of data at the country level from 2006 into the future can be considered.

Definitions

Component I: Supply Chain—Each of the five indicators of logistics management represents a key function in the supply chain for contraceptive supplies. An effective supply chain ensures the continuous supply of sufficient quantities of high-quality contraceptives needed to achieve security. More effective management of supplies is associated with better prospects for contraceptive security.

When the *CS Index 2003* was calculated, the largest database available with the first four indicators listed below was from the application of the Family Planning Logistics Management (FPLM) project's *Composite Indicators for Contraceptive Logistics Management* (JSI/FPLM and EVALUATION Project 1999).[1] This tool was updated and improved under the John Snow, Inc./DELIVER project; it became the *Logistics System Assessment Tool* (USAID | DELIVER PROJECT 2009),[2] which is the source of the updated data for the first four indicators for the *CS Index 2006, 2009, 2012, and 2015*. The two tools are comparable because the *Logistics System Assessment Tool* (LSAT) came directly from the *Composite Indicators*; however, the maximum possible score for each indicator changed in the new tool. Because of the change in the data collection tool and methodology, comparisons, over time, between the *CS Index 2003 and 2006* at the country level are discouraged. From 2006 forward, country-level comparisons can be made.

- **Storage and distribution**—Assesses storage capacity and conditions, standards for maintaining product quality, inventory control, stockouts, how system losses are tracked, and distribution and transportation systems.
- **Logistics Management Information Systems (LMIS)**—Assesses reporting systems, validation of data, information management, and use in decisionmaking.
- **Forecasting**—Assesses how forecasts of consumption are prepared, updated, validated, and incorporated into cost analysis and budgetary planning.
- **Procurement**—Assesses how forecasts are used to determine short-term procurement plans and the degree to which the correct amount of contraceptives are obtained in an appropriate time frame.

The fifth supply-related indicator is drawn from the results of the *Family Planning Effort* (FPE) Survey (Kuang and Brodsky 2015).

- **Contraceptive policy**—Under some circumstances, locally manufactured contraceptives can provide an affordable and sustainable option for clients. In many countries, it will be more effective to have policies and regulations that facilitate open markets and the importation of competitively priced, high-quality products. This indicator measures the extent to which import laws and legal regulations facilitate the importation of contraceptive supplies that are not manufactured locally, or the extent to which contraceptives are manufactured within the country.

Component II: Finance—Sustainable and adequate financing for procuring contraceptives, service delivery, and other program components from international donors and lenders, national or local governments, households, and third parties is critical for ensuring contraceptive security. Without a commitment of financing, program quality and access will suffer and CS will not be sustainable. Data are not widely or readily available to obtain an adequate country-level picture of contraceptive financing by donors/lenders, third parties (e.g., insurers, employers), or the private sector. Three indicators are used to capture the prospects for government and household financing of family planning services and contraceptives in a country. The World Bank's *World Development Indicators 2015* (WDI) are the primary data source for these indicators.

- **Government health expenditures as a percentage of total government spending**—A national government's commitment to public health, specifically to RH and FP, is critical for CS. The poorest segments of a population depend on free or subsidized health services, often provided by the government for essential preventive and curative health services. This indicator is a measure of political commitment to public health spending as a proxy for government commitment to family planning programs. Greater commitment to health spending means more potential resources for family planning programs, as part of overall government health programs. This indicator is derived from two indicators in the WDI: public expenditures on health as a percentage of the gross domestic product (GDP), divided by total government expenditures as a percentage of GDP:

  (Gov Exp on Health/GDP) ÷ (Total Gov Exp/GDP) = (Gov Exp on Health/Total Gov Exp)

For countries where WDI values were not available for these two indicators, values for government health expenditure as a percentage of total government spending were supplemented from the World Health Organization's Global Health Expenditure Database.

- **Per capita gross national income (GNI)**—A greater ability to pay for contraceptives at the household level is associated with better prospects for CS. To allow for a better comparison across countries, this indicator represents the average consumer's potential ability to pay for family planning services and contraceptives expressed in purchasing power parity (PPP), which corrects for the differences in the market price of goods in each country.
- **Poverty level**—While per capita income measures the average consumer's ability to pay, there are always inequalities in the distribution of income. High poverty rates can threaten CS if provisions are not made to ensure access to services and commodities for the poor. Higher poverty rates can indicate a greater reliance of the population on the public sector, adding stress to already overburdened systems. Because higher poverty rates are associated with lower household incomes and poorer access to healthcare, higher poverty rates are also associated with poorer prospects for contraceptive security. This indicator is expressed as the percentage of the national population living below the nationally defined poverty line.

Component III: Health and Social Environment—This component comprises three indicators; this component is included because it is widely recognized that other factors in the broader health and social environment can affect prospects for contraceptive security at both the country and individual levels, as described below.

- **Governance**—A healthy political environment improves prospects for contraceptive security. An accountable, stable, effective, and transparent government is more likely to be committed to the health and well being of its population and to use its resources appropriately for the public good. International donors are also more likely to provide financial and material support to such a government. The private sector is more likely to invest in creating new or expanding existing markets for contraceptives. This indicator is a composite measure that includes six dimensions of governance: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. It is derived from the World Bank's *The Worldwide Governance Indicators, 2014 Update* (Kaufmann, Kraay, and Mastruzzi 2014).
- **Women's education**—Women's educational attainment is one of the best predictors of contraceptive use. Women who are educated beyond primary school are more likely to use a contraceptive method. In addition, in countries where women's status is good, educated women are more likely to advocate for the protection of FP programs. This indicator is expressed as the percentage of females enrolled in secondary school, which is defined as the ratio of the number of students enrolled in secondary school to the population in the applicable age group (gross enrollment ratio). Secondary school enrollment rates (for 2013) were obtained from UNESCO's Institute for Statistics UIS.STAT database.
- **Adult HIV prevalence**—It is increasingly recognized that a higher burden of HIV in a population can erode prospects for contraceptive security. HIV and AIDS contribute to higher levels of poverty and the pandemic has put new, competing demands on health financing. This indicator is expressed as the percentage of adults aged 15–49[3] who were infected with the HIV virus at the end of 2014. Adult HIV prevalence rates were obtained from the UNAIDS *How AIDS Changed Everything Report - 2015*.

Component IV: Access—The three access indicators measure aspects of availability and access to modern methods of contraception—the degree to which clients can choose and obtain their method of choice. Family planning and reproductive health programs should strive to offer a variety of methods to meet the needs of all clients.

- **Access to modern family planning methods**—Ready and easy access by clients to a wide range of contraceptive methods is associated with better prospects for contraceptive security. When family planning services are widely available, it is very difficult to reverse progress in access and availability of these services and supplies. This indicator from the *FPE Survey* measures the percentage of a country's population that has ready and easy access to male and female sterilization, pills, injectables, condoms, spermicides, and IUDs (Kuang and Brodsky 2015).[4]
- **Public sector targeting**—Public sector family planning programs that offer heavily subsidized—and sometimes free—services and commodities are designed to meet the needs of the poor and near-poor segments of a population. This public sector funding is limited in virtually every country. The degree to which the poorest people benefit from these subsidized services, while wealthier clients who can afford to pay for services and commodities have and use other options, reflects on the long-term CS in a country. This indicator measures the proportion of a country's contraceptives distributed through public sector channels that go to poor and near-poor family planning clients. Poor and near-poor are clients in the lowest 40 percent of the population, as defined by a standard of living index (SLI). Data from the Demographic and Health Surveys (DHS) and Reproductive Health Surveys (RHS) are used both to compute the SLI and the distribution of public sector family planning users across SLI categories.[5]
- **Spread of access to modern family planning methods**—Access to a wide range of family planning methods represents a choice for clients. Access to a range of methods can also mean that if one method becomes unavailable, other methods are available to clients in the interim. This concept of choice is key to contraceptive security, regardless of what methods clients choose (reflected in *Component V: Utilization*). This indicator is related to the access indicator above and it uses the same data from the *FPE Survey*. It measures whether clients have ready and easy access to a broad range of at least three contraceptive methods by selecting the highest-scored method, minus the third-highest scored method, divided by the sum of access scores for all methods (Kuang and Brodsky 2015).

Component V: Utilization—This component comprises three indicators that measure clients' behavior in terms of contraceptive use within the country program context.

- **Method mix**—While the access indicators (see *Component IV: Access*) measure the extent to which consumers have ready and easy access to methods, this indicator measures the degree to which consumers use a range of methods. The broader the range of methods used, the better the prospects for contraceptive security, because it demonstrates that women have a choice and they are choosing from a range of methods. This indicator was measured as the difference in prevalence rates between the most prevalent modern method in a country and the third-most prevalent method, divided by the total modern method prevalence. A higher value indicates a higher concentration of use on a limited number of methods, which is interpreted as not being conducive to contraceptive security. This indicator was derived from the most recently available DHS or RHS dataset for each country.
- **Unmet need for family planning**—Unmet need is indicative of barriers to accessing and using family planning. The higher the percentage of women with unmet need for contraception, the poorer the prospects for contraceptive security, because unmet need represents clients who express a need to use family planning but cannot or do not. This indicator measures the percentage of women who express a desire to space or limit their next pregnancy, or who would have preferred to avoid or delay their current pregnancy, but are not using a contraceptive method. These 2015 estimates come from the United Nations, Population Division 2015 *Estimates and Projections of Family Planning Indicators*.
- **Contraceptive prevalence rate (CPR)**—This indicator is the most obvious outcome of contraceptive security—women actually using contraception. Higher contraceptive use is indicative of better access and availability of contraceptives for the population. Increased contraceptive use will also encourage the improved availability in both the public and private sectors through political pressures and market forces. This indicator measures the percentage of married women of reproductive age currently using a modern method of family planning. These 2015 estimates come from the United Nations, Population Division 2015 *Estimates and Projections of Family Planning Indicators*.

[1] Staff from the Family Planning Logistics Management (FPLM) project (the predecessor project to DELIVER) and Ministry of Health counterparts scored the *Composite Indicators for Contraceptive Logistics Management* during a participatory focus group discussion held in each country in 1999–2000.

[2] Staff from the John Snow Inc./DELIVER (2006) or the USAID | DELIVER PROJECT (2009 and 2012) and Ministry of Health counterparts scored these indicators in 2006, 2009, and 2012 for public sector contraceptive logistics systems based on expert opinion in each country.

[3] HIV prevalence among adults of reproductive age (15–49) is used as the indicator for the *CS Index* because this population is most likely to use contraceptives and avail themselves of services from family planning programs, making it the most relevant population for contraceptive security. They are also the most widely available data.

[4] This indicator uses the mean access score for these contraceptive methods.

[5] DHSs are generally conducted with oversight from a USAID centrally funded project. In some countries, RHSs, similar to a DHS but overseen by the Centers for Disease Control and Prevention, have been used where a recent DHS dataset was not available. In some instances, data from other population-based surveys were used.

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The USAID Contraceptive Security Team works to advance and support planning and implementation for contraceptive security in countries. The team provides technical assistance to USAID missions, country partners, donors, and international partners. The team can be contacted c/o Mark Rilling or Alan Bornbusch, Commodities Security and Logistics Division, Office of Population and Reproductive Health, Bureau for Global Health, mrilling@usaid.gov or abornbusch@usaid.gov.

The Reproductive Health Supplies Coalition is a coalition of donors, multilateral organizations, private foundations, nongovernmental organizations, low- and middle-income country governments, and others dedicated to improving global health and the quality of life by ensuring access to high-quality reproductive health (RH) supplies. The coalition works to synthesize and share information, knowledge, and experience; improve coordination and harmonization of programs; and develop new tools and approaches to address the challenges of inadequate and unreliable financing for RH supplies, inefficiencies in supply systems; and inequities in access to RH supplies. More information can be found at (www.rhsupplies.org.)

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