



CONTRACEPTIVE SECURITY INDEX 2009

A Tool for Priority Setting and Planning



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A Tool for Priority Setting and Planning

USAID | DELIVER PROJECT, Task Order 1

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Abstract

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. *The Contraceptive Security Index* was first calculated and presented in 2003 and again in 2006; the *Contraceptive Security Index 2009* presents the latest update of these data.

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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 STI/HIV prevention. Referred to as *contraceptive security*, this goal requires sustainable strategies that will ensure and maintain access to and availability of supplies.

As global demand for family planning continues to rise, contraceptive security (CS) will become more challenging to achieve. Adequate financing for reproductive health (RH) and family planning programs is not keeping pace with demand; donor and national resources are more constrained than ever. Despite investments in service delivery and logistics systems, these systems remain inadequate in many countries. At the same time, increased demand—coupled with the impact of the HIV and AIDS pandemic, health sector reforms, limited national and international funding, and the brain drain—leaves countries unable to meet all their populations' RH needs.

It remains critical that stakeholders and program managers focus attention on long-term CS. Programs cannot meet their clients' RH and family planning 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 slowed unless improvements are made in CS. Ensuring contraceptive supply and service availability to clients requires a multi-sectoral 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. The *Contraceptive Security Index* was first calculated and presented in 2003 and again in 2006; the *Contraceptive Security Index 2009* presents the latest update of these data.

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.

Methodological Considerations

This index represents a country's CS situation at a point in time, although the actual data was 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 (e.g., every two to 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 sup-

ply chain indicators (see the *Methodology, Definitions, Component I: Supply Chain* section), comparisons across time from 2003 to 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. From 2006 to 2009, no further changes were made in the data collection methodology; therefore, comparisons of data from 2006 to 2009 at the country level can be considered.

RESULTS

A total of 64 countries are represented in the 2009 index, with 50 countries that have scores for all three indices to date.

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. This represents the most current data available. However, where new values were not available in 2009, raw scores from the 2006 index are included in this index as the most current data available. Data from 2003 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 64 countries presented in the index. The range of possible scores on the weighted *CS Index* is 0 to 100, although actual scores in 2009 range from 37.4 to 74.1. In 2003, the range was 28.1 to 68.1; in 2006, the range of scores was 35.5 to 73.2. Using a paired t-test, the 2009 total scores represent a statistically significant increase from 2003 for the 50 countries scored in both indices, which indicates overall improvement. Figure 2 compares total index scores averaged by region. The observed increases in total index score for countries overlapping in the 2003 and 2009 indices are significant only in Latin America and the Caribbean and in sub-Saharan Africa. The global averages for the components show a significant improvement in finance, health and social environment, and access from 2003 to 2009 for the overlapping countries (see figure 3). In many cases, the component scores by region also showed improvement (excluding Eastern Europe and Central Asia, as there were too few overlapping countries for comparison between 2003 and 2009), although these improvements were only significant in the following cases:

Supply Chain: Middle East and North Africa and sub-Saharan Africa

Finance: Asia and the Pacific 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

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 further 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 contraceptive security.

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=30	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	27	12	7	5	2.0	10	1330	40	9.5	45	0.1	2.5	1.5	0.06	0.49	4.6	48
Cambodia																	
India	23	9	7	7	2.6	22	1720	35	10.3	36	0.8	2.1	1.1	0.05	0.30	25.1	27
Indonesia	22	9	7	7	2.5	7	3570	17	12.0	49	0.3	2.1	1.0	0.06	0.72	12.8	49
Mongolia																	
Nepal	22	12	8	8	2.1	16	3170	36	12.0	74	0.2	2.3	1.5	0.05	0.47	9.1	57
Pakistan	3	2	2	4	2.7		1060	31	9.7	41	0.5	2.6	0.9	0.02	0.27	14.0	61
Philippines	7	7	7	5	1.4	6	3710	25	12.1	87	0.1	1.1	1.2	0.09	0.27	17.3	22
Viet Nam																	
EASTERN EUROPE & CENTRAL ASIA																	
Albania	18	11	8	8	1.7	10	7240	25	13.9	91	0.1	1.2	0.6	0.37	1.3	22	22
Armenia	11	7	2	5	1.4	12	5870	51	13.7	91	0.1	1.2	0.6	0.44	13.3	20	20
Azerbaijan	6	1	0	0	1.7		6570	50	10.6	87	0.2	1.6	0.6	0.05	0.57	22.7	14
Georgia																	
Kyrgyzstan																	
Turkey																	
Ukraine	9	4	3	2	2.1	11	6810	20	12.6	94	1.6	2.1	0.6	0.06	0.46	10.3	48
LATIN AMERICA & THE CARIBBEAN																	
Bolivia	29	12	2	5	1.7	17	4150	65	10.6	81	0.2	2.4	0.8	0.01	0.11	22.7	35
Colombia	14	0	2	2	3.1	25	8260	64	12.7	90	0.6	2.9	1.3	0.02	0.27	5.8	68
Dominican Republic	14	8	6	3	3.2	12	6350	42	13.4	86	1.1	2.5	1.7	0.09	0.59	11.4	60
Ecuador	20	5	6	7	2.8		7110	46	7.0	70	0.3	2.8	1.7	0.01	0.24	7.4	59
El Salvador	25	10	8	7	2.7	21	5640	66	14.5	66	0.8	2.3	1.9	0.01	0.47	9.0	66
Guatemala	25	12	8	8	2.4	14	4520	56	11.7	53	0.8	2.1	1.2	0.01	0.47	28.0	34
Guayana	14	4	7	6	2.9		4244		12.7	100	2.5	2.0	0.7	0.20	0.28	37.5	25
Haiti	12	6	7	4	1.9		1050	65	8.2	71	2.2	1.8	0.7	0.25	0.21	16.9	56
Honduras	21	11	7	5	2.5	15	1180	51	11.8	71	0.7	2.4	1.1	0.02	0.21	16.9	56
Mexico	25	10	7	6	2.8		13910	18	14.2	90	0.3	2.7	0.3	0.03	0.19	10.7	70
Nicaragua	20	10	8	5	2.1	26	2510	48	11.5	73	0.2	2.3	1.5	0.03	0.06	6.6	71
Paraguay	17	9	7	7	2.1	17	4520	20	10.8	66	0.6	2.2	2.3	0.02	0.06	6.6	71
Peru	14	2	6	3	2.3	19	7200	53	13.2	100	0.5	1.9	0.9	0.06	0.13	8.1	48
MIDDLE EAST & NORTH AFRICA																	
Egypt																	
Jordan	26	9	7	5	2.8	9	5370	17	11.8	82	0.1	2.2	1.2	0.04	0.52	10.3	68
Morocco																	
Yemen	12	5	6	5	1.8	4	4050	19	13.3	51	0.1	2.5	1.5	0.05	0.68	11.0	55
SUB-SAHARAN AFRICA																	
Benin	14	6	6	6	2.5	14	1310	29	13.8	17	1.2	1.3	0.3	0.20	0.19	29.9	6
Burkina Faso	17	10	7	4	2.5	31	1120	46	12.8	13	1.6	2.1	0.2	0.08	0.22	28.8	9
Cameroon	20	7	6	7	3.3		2120	40	10.1	22	5.1	2.5	0.2	0.15	0.64	20.2	13
Chad																	
Congo, DR	11	6	2	5	1.4	14	290	64	5.9	12	3.5	1.4	0.2	0.13	0.00	20.7	2
Congo, Rep. of																	
Côte d'Ivoire																	
Eritrea	7	4	2	3	3.3	5	1620	15	8.4	27	3.5	1.7	0.5	0.07	0.71	16.2	13
Ethiopia	7	4	2	3	2.5	13	780	44	9.4	24	2.1	1.7	0.3	0.01	0.12	29.0	5
Gambia	7	1	4	0	2.6		1140	61	11.9	46	0.9	2.0	0.7	0.09	0.67	33.8	14
Ghana	15	10	7	4	2.5	8	1320	28	15.4	46	1.9	2.0	0.7	0.07	0.23	34.0	17
Guinea																	
Kenya	13	10	6	4	2.3	10	1550	52	6.3	27	1.6	1.7	0.3	0.04	0.16	21.2	6
Lesotho	17	8	1	3	1.9	9	1940	68	10.9	49	6.7	2.0	0.5	0.06	0.32	24.5	32
Liberia	2	3	2	2	2.6		280		9.2	41	23.2	2.3	0.4	0.04	0.16	31.0	35
Madagascar	17	11	8	4	2.4	17	930	71	12.9	26	0.1	2.5	0.7	0.02	0.47	23.6	17
Malawi	21	7	7	7	1.6		760	65	12.9	26	11.9	1.9	0.7	0.04	0.52	27.6	39
Mali	12	11	7	5	3.7	19	1040	64	13.1	25	1.5	2.6	0.4	0.22	0.34	31.2	6
Mozambique	15	2	8	6	2.7		5100	54	13.2	15	12.5	1.9	0.3	0.06	0.21	18.4	12
Namibia																	
Niger	17	9	5	6	1.3	33	630	63	10.9	8	0.8	1.7	0.3	0.29	0.56	15.8	5
Nigeria	29	12	7	7	3.4		1760	34	8.7	28	3.1	1.2	0.4	0.16	0.20	16.9	8
Rwanda	25	12	7	7	2.8		860	51	12.5	17	2.8	2.9	0.6	0.01	0.49	37.9	27
Senegal	25	12	7	7	2.8	15	1650	33	13.5	23	1.0	1.9	0.3	0.07	0.16	31.6	10
South Africa	29	10	7	7	3.1	10	9450	99	17.4	99	18.1	2.3	0.7	0.07	0.16	15.0	60
Swaziland																	
Tanzania	14	10	7	5	3.3		1200	69	11.9	51	26.1	2.3	0.9	0.05	0.29	24.0	48
Togo	15	9	7	6	3.0		770	32	9.5	27	3.3	3.1	0.5	0.04	0.22	21.8	20
Uganda	16	6	5	6	2.5		1040	38	11.8	20	5.4	1.8	0.5	0.05	0.35	40.6	18
Zambia	17	6	6	6	2.4	24	1190	68	13.2	41	15.2	2.2	0.6	0.37	0.10	26.5	33
Zimbabwe	25	11	7	5	3.1		2041	35	5.0	38	15.3	2.4	1.0	0.04	0.65	12.8	58

Table 2. Weighted Component Scores

	Supply Chain (20 points)	Finance (20 points)	Health & Social Environment (20 points)	Access (20 points)	Utilization (20 points)	Total 2009 (max=100 points)
ASIA & THE PACIFIC						
Bangladesh	15.6	6.7	11.8	11.4	12.7	58.0
Cambodia	12.7	9.8	11.2	10.5	9.8	54.2
India	15.9	7.1	13.0	10.4	10.1	56.6
Indonesia	15.2	8.3	14.2	11.2	12.8	61.7
Mongolia	16.2	8.9	16.1	12.0	14.6	67.7
Nepal	17.1	8.2	11.5	11.4	11.2	59.4
Pakistan	6.7	9.0	10.4	9.5	9.7	45.2
Philippines	10.6	7.5	15.1	8.7	11.5	53.5
Viet Nam	17.7	7.6	13.9	12.2	13.4	64.8
Regional Average	14.2	8.1	13.0	10.8	11.7	57.9
EASTERN EUROPE & CENTRAL ASIA						
Albania	15.3	9.6	16.4	7.3	12.2	60.8
Armenia	8.5	7.8	15.8	7.1	10.0	49.2
Azerbaijan	2.7	7.5	14.8	9.4	7.4	41.8
Georgia	11.8	6.9	15.8	10.1	10.4	54.9
Kyrgyzstan	11.3	8.6	14.7	10.2	14.2	59.0
Turkey	7.6	12.2	14.7	11.0	10.8	56.2
Ukraine	7.2	10.0	15.5	10.1	12.1	55.0
Regional Average	9.2	8.9	15.4	9.3	11.0	53.9
LATIN AMERICA & THE CARIBBEAN						
Bolivia	13.1	7.4	14.4	11.1	11.9	57.9
Colombia	6.8	10.7	15.4	12.2	15.3	60.4
Dominican Republic	11.9	8.6	15.2	11.4	11.9	59.0
Ecuador	13.3	10.2	13.5	12.4	14.7	64.1
El Salvador	16.8	10.8	14.2	11.7	13.4	66.8
Guatemala	17.8	7.6	12.7	10.9	10.7	59.7
Guyana	12.6	6.6	15.8	9.1	11.4	55.5
Haiti	11.4	7.0	11.0	8.5	8.1	46.1
Honduras	15.1	7.8	13.9	11.3	13.4	61.5
Mexico	16.3	14.1	15.8	12.4	15.5	74.1
Nicaragua	14.5	10.1	14.1	11.3	15.3	65.3
Paraguay	14.8	10.6	13.4	11.7	16.8	67.2
Peru	9.7	9.7	16.2	10.0	14.6	60.3
Regional Average	13.4	9.3	14.3	11.1	13.3	61.4
MIDDLE EAST & NORTH AFRICA						
Egypt	11.6	9.4	14.7	10.9	13.0	59.6
Jordan	15.1	10.0	16.1	11.1	11.8	64.2
Morocco	15.3	7.6	13.0	11.5	11.0	58.3
Yemen	10.8	10.2	10.5	9.1	6.1	46.7
Regional Average	13.2	9.3	13.6	10.6	10.5	57.2
SUB-SAHARAN AFRICA						
Benin	12.4	8.3	10.7	7.8	8.5	47.7
Burkina Faso	13.8	10.8	10.2	9.8	8.6	53.2
Cameroon	14.8	6.4	9.7	10.0	7.2	48.0
Chad	9.1	8.6	8.3	8.2	10.7	44.9
Congo, DR	8.2	5.5	8.7	8.7	6.3	37.4
Congo, Rep. of	8.0	6.1	9.9	9.4	7.3	40.6
Côte d'Ivoire	6.7	7.4	8.9	9.9	5.0	37.9
Eritrea	11.3	8.4	9.6	9.1	9.0	47.4
Ethiopia	7.1	6.8	10.1	9.6	5.3	38.9
Gambia	5.9	7.1	12.3	9.4	7.2	41.9
Ghana	13.5	7.0	12.9	10.0	8.4	51.8
Guinea	11.1	8.2	9.6	9.4	9.8	48.3
Kenya	12.7	5.9	11.5	9.9	10.1	50.1
Lesotho	8.7	4.7	9.4	10.5	10.5	43.8
Liberia	5.6	9.1	9.8	8.2	9.1	41.6
Madagascar	14.2	6.0	11.3	11.2	8.2	50.8
Malawi	13.9	5.2	9.7	10.1	8.8	47.7
Mali	15.5	6.9	11.1	9.8	7.3	50.6
Mozambique	12.1	5.7	8.9	9.6	10.3	46.6
Namibia	11.7	7.9	12.9	10.6	11.7	54.8
Niger	11.3	10.1	9.5	7.8	7.8	46.5
Nigeria	12.8	7.3	10.1	7.9	10.3	48.4
Rwanda	18.7	7.1	10.2	11.9	6.8	54.6
Senegal	17.1	8.4	11.1	9.5	8.7	54.9
South Africa	17.7	8.6	14.7	10.9	14.8	66.7
Swaziland	7.1	6.4	9.2	10.8	11.4	44.9
Tanzania	14.6	8.1	10.2	10.6	10.3	53.9
Togo	15.1	6.1	10.1	11.9	6.3	49.5
Uganda	12.4	7.3	9.9	9.7	6.8	46.0
Zambia	12.8	7.8	10.3	8.3	11.3	50.4
Zimbabwe	16.6	5.0	8.3	11.1	11.2	52.1
Regional Average	12.0	7.2	10.3	9.7	8.9	48.1
Overall Average	12.4	8.1	12.2	10.2	10.5	53.4

Figure I. Total Weighted Scores: 64 Countries

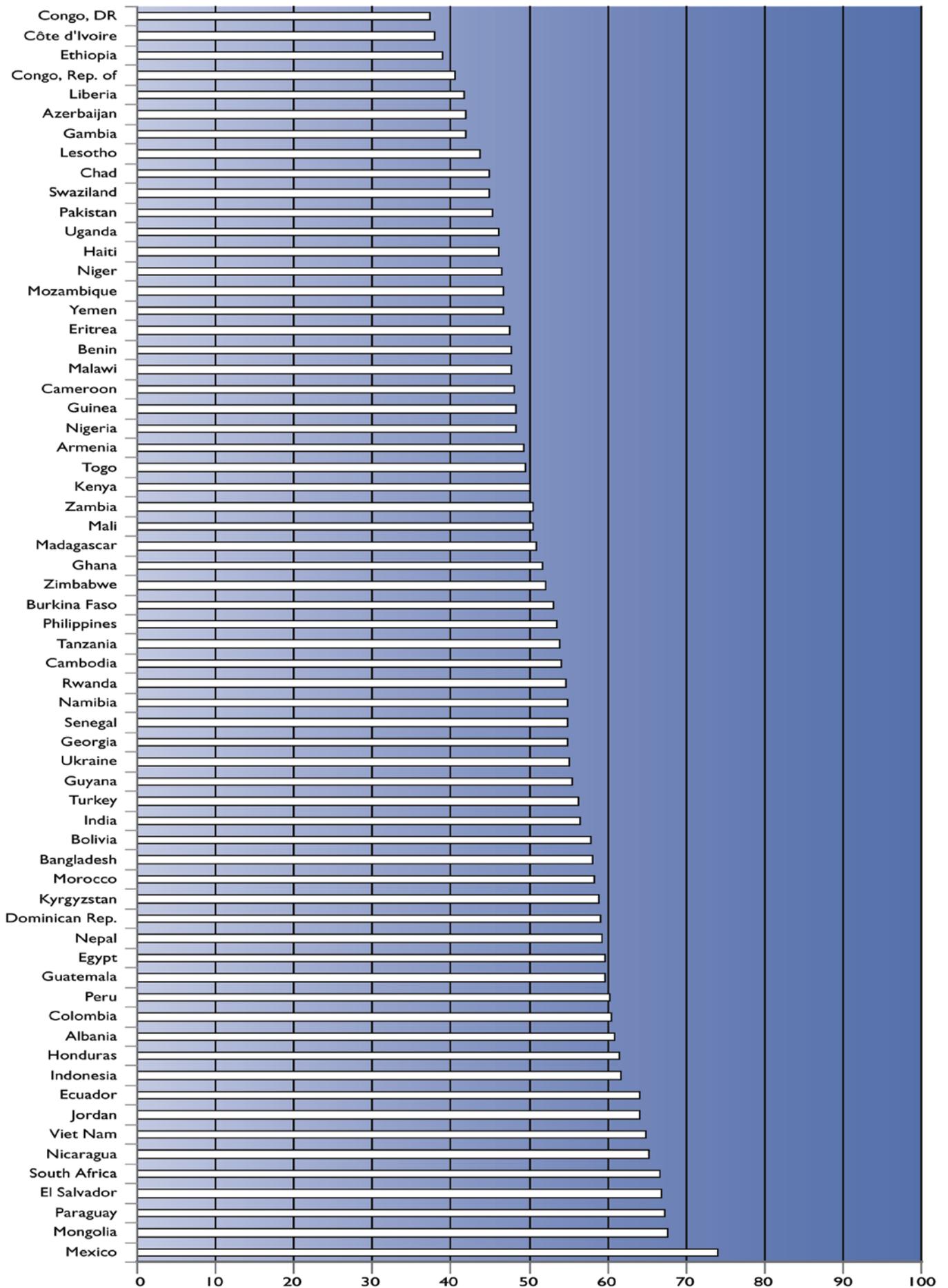


Figure 2. Total Scores Averaged by Region

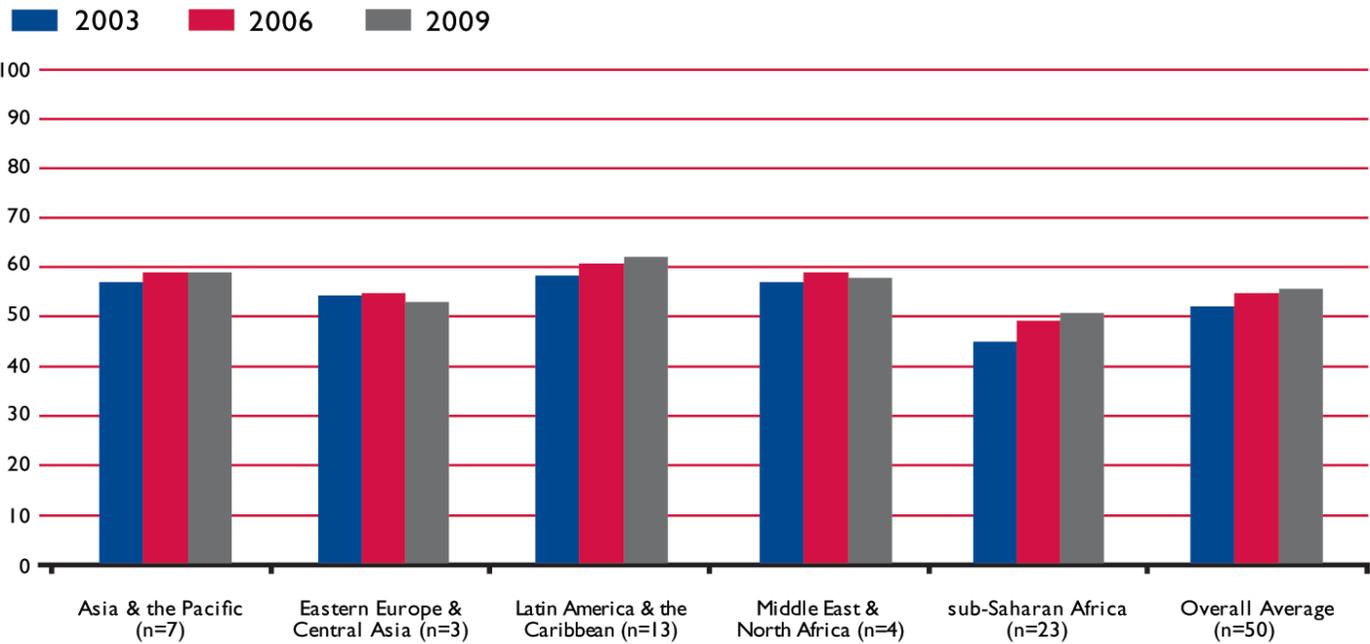
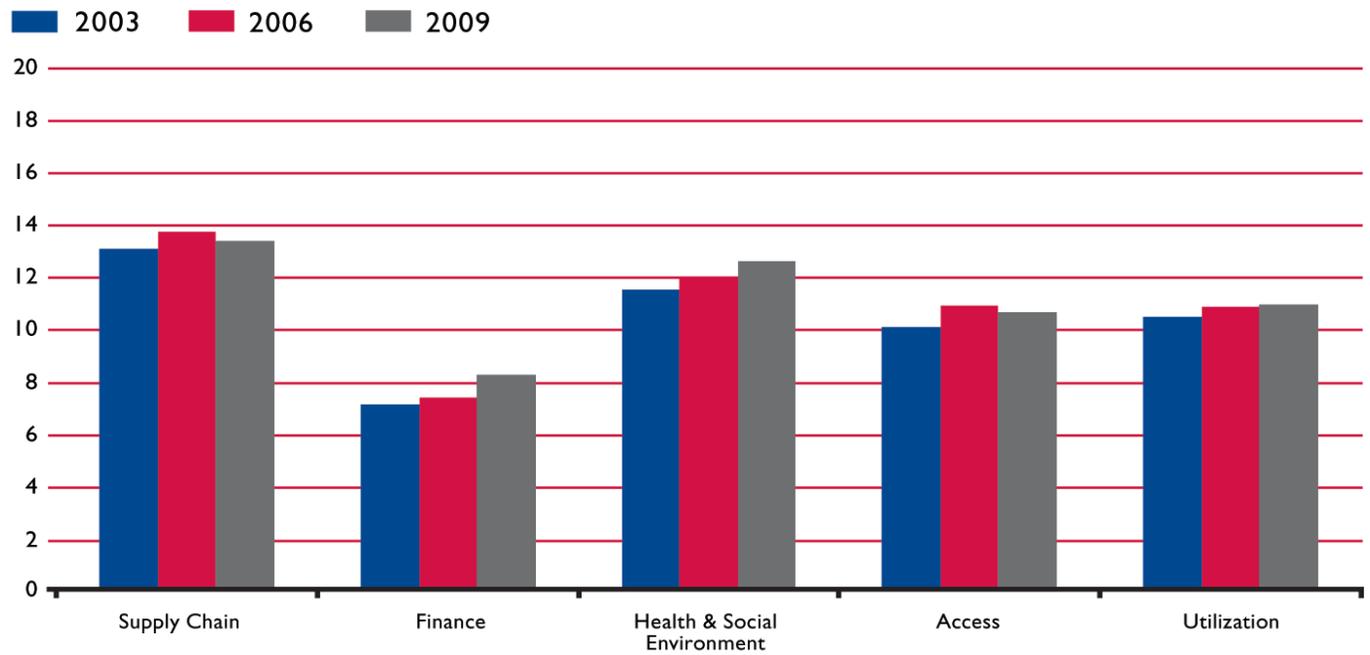
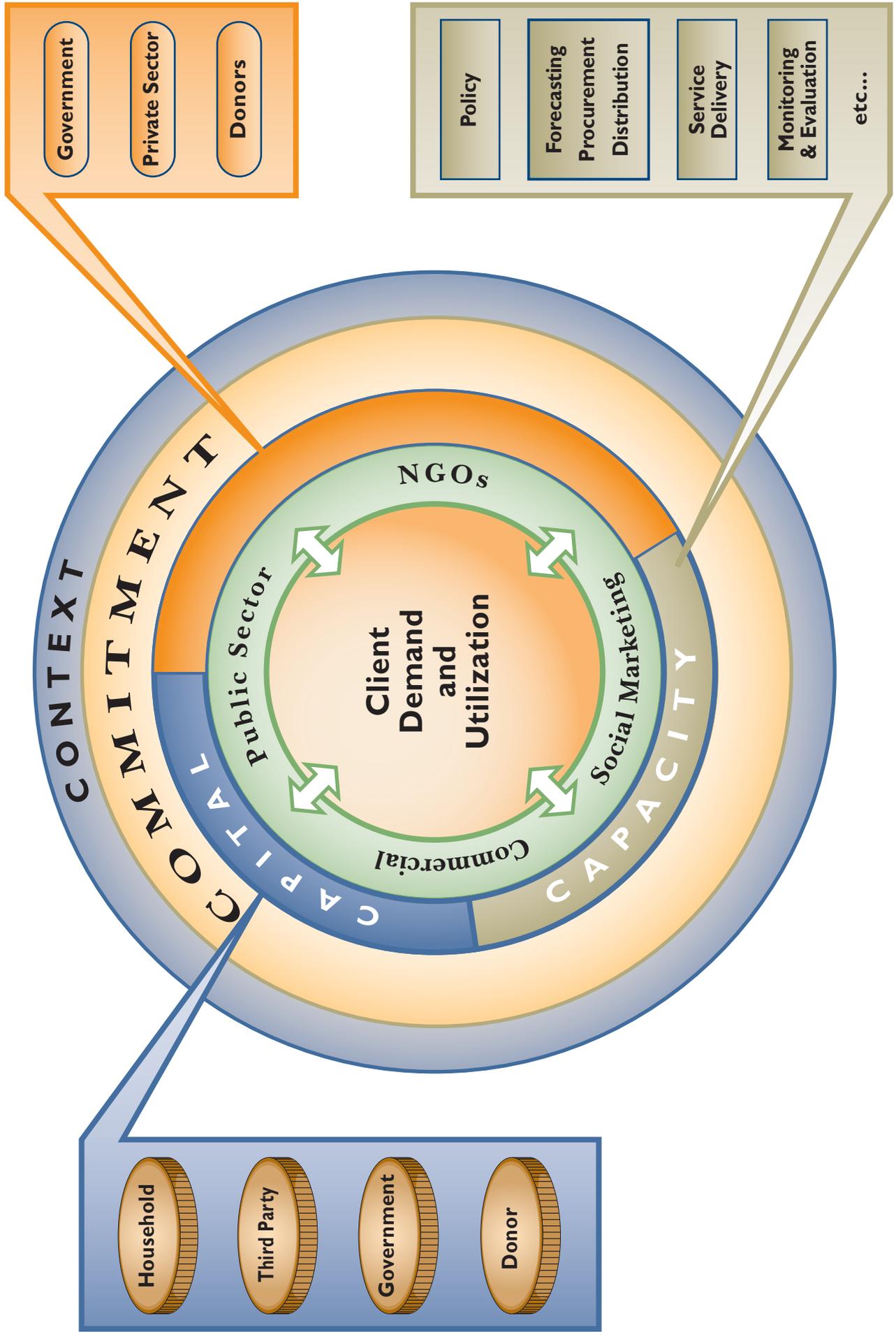


Figure 3. Global Average Scores by Component



N.B. These figures present results for the 50 countries scored in all 3 indices only.

Figure 4. SPARHCS Framework for Reproductive Health Commodity Security



BACKGROUND

The *CS Index 2009* presents an update of the findings from the 2003 and 2006 versions of the *CS Index*.

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 4).

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.

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 Futures Group, and Commercial Market Strategies (CMS). Using the same methodology as the 2003 index, the *CS Index* was updated in 2006 and, again with this version, in 2009, with input from many of the same partners. The same indicators and data sources were maintained for the 2009 index using the latest version of all the reference documents. (Refer to notes by indicator below.) If new indicator values were not available since the publication of the 2006 index, the 2006 data are preserved as the most current data available. Data from 2003 were not carried forward to this version.

The process of constructing the *CS Index* was planned to minimize data collection costs (using only secondary data), and to maximize 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-sectoral 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).

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 and it became the *Logistics System Assessment Tool* (JSI/DELIVER 2004),² which is the source of the updated data for the first four indicators for the *CS Index 2006* and the *CS Index 2009*. The two tools are comparable because the LSAT was directly derived from the *Composite Indicators*; however, the maximum possible score for each indicator changed in the new tool. Due to the change in the data collection tool and methodology, comparisons over time between the 2003 and 2006 *CS Index* at the country level are discouraged. From 2006 to 2009, country-level comparisons are possible.

- **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 decision making.
- **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 amounts 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* (Ross and Smith 2009).³

- **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 the procurement of 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 2009 *World Development Indicators* (WDI) are the source for these indicators.

- **Government health expenditures as a percentage of total government spending**—A national government’s commitment to public health, specifically to reproductive health and family planning, 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:

$$\frac{(\text{Gov Exp on Health/GDP})}{(\text{Total Gov Exp/GDP})} = \frac{(\text{Gov Exp on Health/Total Gov Exp})}{(\text{Total Gov Exp/GDP})}$$

- **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 health care, 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—

The health and social environment 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 healthier 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 *Governance Matters* (Kaufmann, Kraay, and Mastruzzi 2009).

- **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 family planning 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 were obtained from the UNESCO Institute for Statistics, which is the source for the Population Reference Bureau's online DataFinder database 2009.
- **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 15–49⁴ who were infected with the HIV virus at the end of 2007. Adult HIV prevalence rates were obtained from the UNAIDS *Report on the Global HIV/AIDS Epidemic 2008*.

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 (Ross and Smith 2009).⁵
- **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 who are 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.⁶
- **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 (Ross and Smith 2009).

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 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 being not conducive to contraceptive security. This indicator was derived from the most recently available DHS or RHS data set 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. This indicator was derived from the most recently available DHS or RHS data set for each country.
- **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. This data is from the Population Reference Bureau's *2009 World Population Data Sheet*.

- 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* through 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 Ministry of Health counterparts scored these indicators in 2006 and 2009 for public sector contraceptive logistics systems based on expert opinion in each country.
- ³ The FPE survey is conducted periodically around the world by administering a questionnaire to expert respondents from each country.
- ⁴ 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. It is also the most widely available data.
- ⁵ This indicator uses the mean access score for these contraceptive methods.
- ⁶ 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 data set was not available.

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ADDITIONAL RESOURCES

Additional contraceptive security resources are available at the following web sites:

Department for International Development (DFID): www.dfid.gov.uk

DKT International: www.dktinternational.org

Extending Service Delivery (ESD) Project: www.esdproj.org

Health Systems 20/20: www.healthsystems2020.org

Implementing Best Practices (IBP) Knowledge Gateway: www.ibpinitiative.org/

International Planned Parenthood Federation: www.ippf.org

Knowledge for Health Project (K4Health): www.k4health.org/node/2

Marie Stopes International: www.mariestopes.org

Maximizing Access and Quality (MAQ) Initiative: www.maqweb.org

PATH: www.path.org

POLICY Project: www.policyproject.com

Population Action International: www.populationaction.org

Population Reference Bureau: www.prb.org

Population Services International (PSI): www.psi.org

PSP-*One* Project (formerly Commercial Market Strategies Project): www.psp-one.com

Reproductive Health Interchange: rhi.rhsupplies.org/

Reproductive Health Supplies Coalition: www.rhsupplies.org

RESPOND Project (formerly the ACQUIRE Project): www.respond-project.org

UNFPA: www.unfpa.org

USAID: www.usaid.gov

USAID | DELIVER PROJECT: www.deliver.jsi.com

USAID | Health Policy Initiative (HPI): www.healthpolicyinitiative.com

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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