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CONTRACEPTIVE SECURITY INDEX 2006

A Tool for Priority Setting and Planning

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DELIVER
No Product? No Program. Logistics for Health

CONTRACEPTIVE SECURITY INDEX 2006

A Tool for Priority Setting and Planning

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DELIVER

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Implemented by John Snow, Inc. (JSI) (contract no. HRN-C-00-00-00010-00) and subcontractors (Manoff Group, Program for Appropriate Technology in Health [PATH], and Crown Agents Consultancy, Inc.), DELIVER strengthens the supply chains of health and family planning programs in developing countries to ensure the availability of critical health products for customers. DELIVER also provides technical management of USAID's central contraceptive management information system.

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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. Financing for reproductive health (RH) and family planning (FP) programs is not keeping pace with demand and donor resources are more constrained than ever. Countries are being encouraged to contribute to the procurement of RH and FP commodities from their national and local budgets. 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/AIDS pandemic, health sector reforms, limited national and international funding, and the brain drain—leaves countries unable to meet all of 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 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 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 cooperate to ensure a supportive 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 2006* was first calculated and presented in 2003; the *Contraceptive Security Index 2006* presents an update of those findings.

USES

The *Contraceptive Security Index 2006* is a powerful tool for raising awareness about contraceptive security (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 to support 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 supply chain indicators (see the *Methodology, Definitions, 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 at this time. Nonetheless, although time trends need to be considered with caution in this update, the index's applicability for the other purposes mentioned above remains valid.

RESULTS

A total of 63 countries are represented in the 2006 index, including the 57 countries from the 2003 index plus six additional countries new to the index.

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 2006, raw scores from the 2003 index are included in this index as the most current data available.

Table 2 shows the weighted scores by component and total. Figure 1 shows the total weighted scores for the 63 countries presented in the index. The range of possible scores on the weighted *CS Index* is 0 to 100, although actual scores in 2006 range from 35.5 to 73.2. In 2003, the range was 28.1 to 68.1. Using a paired t-test, the 2006 total scores, averaged across all countries included in both the 2003 and 2006 indices, represent a statistically significant increase from 2003, which indicates aggregate improvement. Figure 2 compares total index scores averaged by region. The observed increases in the total index score are significant only in Asia and the Pacific, the Middle East and North Africa, and sub-Saharan Africa. The global averages for the five components show a significant improvement in every component from 2003 to 2006 (see figure 3). In most cases, averages for 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, Eastern Europe and Central Asia, and Middle East and North Africa

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

Access: Eastern Europe and Central Asia and sub-Saharan Africa

Utilization: Asia and the Pacific and Latin America and the Caribbean

Table 1. Contraceptive Security Index Indicators, Raw Data

	SUPPLY CHAIN					FINANCE			HEALTH & SOCIAL ENVIRONMENT			ACCESS			UTILIZATION		
	Storage and Distribution	LMIS	Forecasting	Procurement	Contraceptive Policy	Gov. Health Expenditure	Per Capita GNI, PPP	Poverty Level	Governance	Women's Education	Adult HIV Prevalence	Access to FP Methods	Public Sector Targeting	Spread of Access to FP Methods	Method Mix	Unmet Need for FP	CPR
	max=30	max=12	max=8	max=8	max=4	max=30	max=$20,000	max=100	max=30	max=100	max=50	max 4	max=10	max=1	max=1	max=50	max=100
ASIA & THE PACIFIC																	
Bangladesh	30	12	8	8	3.3	12	1969	50	9.3	50	0.1	3.3	1.5	0.08	0.44	11.2	47
Cambodia	-	-	-	-	3.1	21	2311	36	10.5	20	2.6	2.5	0.6	0.19	0.25	29.7	19
India	-	-	-	-	4.0	8	3116	29	13.4	47	0.9	2.5	0.9	0.06	0.75	15.8	46
Indonesia	18	4	6	3	3.5	7	3485	27	10.6	60	0.1	2.6	1.4	0.10	0.38	8.6	57
Nepal	30	12	8	8	3.1	-	1485	31	9.3	39	0.5	3.1	0.7	0.08	0.25	27.8	35
Pakistan	12	5	5	6	3.8	4	2174	33	8.9	19	0.1	2.7	-	0.07	-	33.0	20
Philippines	21	10	3	8	2.0	8	4946	37	12.5	88	0.1	2.6	1.2	0.06	0.27	17.3	33
Vietnam	22	10	6	5	3.6	6	2702	29	11.4	70	0.4	3.7	1.2	0.02	0.56	4.8	66
EASTERN EUROPE AND CENTRAL ASIA																	
Armenia	-	-	-	-	1.9	7	4156	51	12.4	88	0.1	1.4	-	0.23	0.30	11.8	20
Azerbaijan	6	1	0	0	2.0	-	3811	49	9.2	81	0.1	2.1	-	0.12	0.41	12.0	12
Georgia	-	-	-	-	1.7	9	2895	55	10.2	80	0.1	2.2	-	0.08	0.39	21.3	27
Kazakhstan	-	-	-	-	3.8	14	6933	35	10.1	92	0.2	2.6	1.0	0.04	0.67	8.7	53
Kyrgyzstan	-	-	-	-	2.6	13	1856	48	10.2	92	0.1	2.8	0.9	0.07	0.74	11.6	49
Turkey	-	-	-	-	4.0	9	7724	27	14.0	67	0.1	3.1	1.1	0.03	0.41	10.1	43
Turkmenistan	-	-	-	-	0.6	-	6910	12	5.8	-	0.1	3.1	0.8	0.07	0.70	10.1	53
Ukraine	-	-	-	-	2.8	13	6330	20	11.2	96	1.4	2.9	-	0.29	0.41	14.9	38
Uzbekistan	-	-	-	-	2.8	-	1862	28	6.2	94	0.1	2.6	1.0	0.03	0.86	13.7	63
LATIN AMERICA & THE CARIBBEAN																	
Bolivia	21	10	7	8	2.0	15	2600	63	12.4	85	0.1	2.3	0.8	0.12	0.11	22.7	35
Brazil	-	-	-	-	2.7	13	7935	22	15.1	100	0.7	2.0	1.3	0.10	0.51	7.3	70
Colombia	17	1	6	3	4.0	28	6945	64	11.7	74	0.7	3.6	1.3	0.03	0.24	6.1	68
Dominican Republic	14	2	2	1	3.2	18	6863	29	13.5	65	1.7	2.5	1.3	0.09	0.66	10.9	66
Ecuador	20	5	6	7	2.8	-	3768	46	11.1	60	0.3	3.5	1.7	0.03	0.24	7.4	59
El Salvador	22	10	8	7	3.0	24	4894	48	14.6	59	0.7	3.0	1.9	0.07	0.43	9.0	61
Guatemala	24	12	7	8	1.6	17	4263	56	11.1	41	1.1	2.5	1.2	0.10	0.41	23.1	34
Guyana	21	7	1	4	2.9	-	4244	35	13.9	97	2.5	2.0	-	0.20	-	-	36
Haiti	26	5	8	8	1.9	23	1680	65	5.5	20	5.6	1.8	1.0	0.25	0.39	39.6	22
Honduras	8	1	2	3	3.5	-	2760	48	12.0	37	1.8	2.9	1.9	0.09	0.16	11.2	51
Jamaica	-	-	-	-	4.0	7	3950	19	14.7	85	1.2	3.1	2.5	0.13	0.18	10.8	63
Mexico	28	10	7	7	3.1	16	9645	20	15.2	83	0.3	3.5	-	0.03	-	19.0	59
Nicaragua	24	12	8	8	2.1	18	3481	48	13.1	66	0.2	3.0	0.7	0.08	0.17	14.6	66
Paraguay	10	5	7	4	2.3	17	4817	22	10.3	66	0.5	2.6	2.3	0.06	0.06	6.6	61
Peru	25	11	7	5	2.7	12	5395	49	12.9	86	0.5	2.4	1.1	0.15	0.11	10.2	47
MIDDLE EAST & NORTH AFRICA																	
Egypt	-	-	-	-	2.6	3	4200	17	12.2	82	0.1	2.7	1.4	0.08	0.55	9.5	57
Jordan	26	9	7	5	3.3	14	4765	12	15.2	87	0.1	2.8	1.6	0.03	0.49	11.0	41
Morocco	26	11	7	8	4.0	4	4253	19	13.9	41	0.1	2.7	1.5	0.12	0.68	10.0	55
Yemen	13	10	6	5	3.8	8	809	42	8.7	29	0.1	1.5	0.1	0.15	0.25	38.6	13
SUB-SAHARAN AFRICA																	
Benin	8	3	6	4	2.9	-	1085	29	13.2	17	1.9	2.8	0.5	0.09	0.11	27.2	7
Burkina Faso	17	10	7	4	3.9	3	1168	46	12.6	9	4.2	2.8	0.2	0.11	0.05	28.8	9
Cameroon	20	7	6	7	3.3	7	2117	40	9.8	28	6.9	2.5	0.2	0.15	0.50	20.2	13
Chad	-	-	-	-	3.8	-	1337	64	8.3	7	4.8	1.5	0.2	0.28	-	9.7	2
Côte d'Ivoire	5	1	1	0	2.8	6	1474	15	6.7	18	7.0	1.8	0.1	0.21	0.29	27.7	7
Eritrea	18	7	3	3	3.0	-	962	53	9.1	22	2.7	1.8	0.1	0.18	0.16	27.0	5
Ethiopia	12	4	6	2	1.8	13	750	44	8.9	16	4.4	1.6	0.3	0.28	0.44	35.2	14
Gabon	-	-	-	-	1.3	-	5699	-	12.2	42	8.1	1.7	0.7	0.17	0.35	28.0	12
Gambia	7	1	4	-	2.4	-	1885	58	13.2	28	1.2	2.5	-	0.21	-	-	9
Ghana	20	10	7	5	3.8	8	2221	40	14.5	38	3.1	2.9	0.7	0.08	0.13	34.0	19
Guinea	-	-	-	-	2.1	9	2158	40	9.2	15	3.2	2.1	0.7	0.24	0.36	24.2	6
Kenya	13	11	7	4	3.3	10	1130	52	10.6	32	6.7	2.8	0.5	0.11	0.32	24.5	32
Madagascar	22	11	7	4	2.7	3	843	71	14.3	14	1.7	2.7	0.7	0.16	0.47	23.6	17
Malawi	19	9	7	8	2.0	-	631	65	11.7	29	14.2	2.9	0.6	0.12	0.52	29.7	28
Mali	16	10	7	6	3.7	-	953	64	14.0	14	1.9	2.6	0.2	0.22	0.43	28.5	6
Mauritania	-	-	-	-	1.6	-	2048	46	13.8	20	0.6	2.3	0.0	0.11	0.35	31.6	5
Mozambique	12	5	6	3	3.7	-	1168	69	12.6	13	12.2	2.7	0.3	0.11	0.21	18.4	12
Namibia	-	-	-	-	3.9	15	7515	35	17.1	66	21.3	2.8	0.4	0.17	0.25	22.1	43
Nigeria	12	7	6	5	2.4	3	966	34	7.7	32	5.4	2.3	0.4	0.16	0.02	16.9	8
Rwanda	19	10	7	7	3.8	-	1241	60	10.7	15	5.1	2.3	0.3	0.24	0.19	35.6	10
Senegal	15	10	7	4	3.5	15	1662	33	13.9	16	0.8	2.6	0.1	0.11	0.21	34.8	10
South Africa	-	-	-	-	3.4	12	10964	11	17.6	91	21.5	2.6	0.8	0.23	0.23	15.0	55
Tanzania	25	10	8	7	3.3	-	671	36	12.3	5	8.8	2.6	0.4	0.10	0.21	21.8	20
Togo	15	9	7	6	3.0	-	1508	32	9.2	22	4.1	3.1	0.5	0.04	0.13	32.3	9
Uganda	19	9	7	5	3.3	10	1448	38	11.2	18	4.1	1.7	0.3	0.24	0.18	34.6	19
Zambia	22	10	7	5	2.6	3	890	73	11.9	25	16.5	2.1	0.4	0.27	0.32	27.4	23
Zimbabwe	25	8	7	8	3.5	3	2041	35	5.8	35	24.6	3.0	2.2	0.12	0.65	12.9	50

Table 2. Weighted Component Scores

	Supply Chain (20 points)	Finance (20 points)	Health & Social Environment (20 points)	Access (20 points)	Utilization (20 points)	Total (max=100 points)
ASIA & THE PACIFIC						
Bangladesh	19.3	6.6	12.0	12.7	12.0	62.7
Cambodia	12.5	9.6	10.0	10.0	9.0	51.1
India	14.2	7.5	12.7	11.0	9.3	54.6
Indonesia	19.4	8.2	15.4	12.6	14.9	70.5
Nepal	19.1	7.6	11.3	11.8	10.3	60.2
Pakistan	12.8	6.1	9.9	11.3	9.0	49.1
Philippines	13.6	7.6	15.3	11.3	11.4	59.2
Vietnam	15.4	6.9	13.8	13.4	13.3	62.9
AVERAGE	15.8	7.5	12.6	11.8	11.2	58.8
EASTERN EUROPE & CENTRAL ASIA						
Armenia	12.0	6.3	15.3	7.7	11.1	52.4
Azerbaijan	3.0	6.2	14.1	9.7	9.8	42.8
Georgia	15.3	6.0	14.2	10.2	9.7	55.5
Kazakhstan	10.2	9.9	15.0	11.5	11.2	57.8
Kyrgyzstan	17.1	7.0	15.0	11.5	10.1	60.7
Turkey	10.5	9.4	14.2	12.3	12.1	58.6
Turkmenistan	10.5	13.0	14.3	11.8	10.9	60.4
Ukraine	10.3	10.3	15.4	10.2	11.1	57.3
Uzbekistan	17.2	8.1	14.3	11.4	10.0	61.0
AVERAGE	11.8	8.5	14.7	10.7	10.7	56.3
LATIN AMERICA & THE CARIBBEAN						
Bolivia	15.9	6.7	15.1	10.2	11.9	59.8
Brazil	9.8	10.6	16.6	10.2	13.6	60.9
Colombia	11.2	11.0	14.1	13.4	15.5	65.2
Dominican Republic	6.9	11.0	13.8	11.1	11.9	54.6
Ecuador	13.3	7.8	13.1	13.4	14.7	62.3
El Salvador	16.9	10.5	13.8	12.4	13.3	66.9
Guatemala	16.6	8.1	11.7	11.1	9.8	57.2
Guyana	10.5	5.8	15.9	9.1	10.6	51.9
Haiti	15.0	8.0	8.5	8.6	6.9	47.0
Honduras	7.3	4.4	11.5	12.1	14.1	49.5
Jamaica	19.4	8.2	15.4	12.6	14.9	70.5
Mexico	17.2	12.0	15.5	13.8	14.7	73.2
Nicaragua	17.3	8.7	13.9	11.6	14.7	66.3
Paraguay	11.0	10.6	13.3	12.1	16.1	63.1
Peru	15.7	7.9	15.2	10.4	14.4	63.6
AVERAGE	13.6	8.8	13.8	11.5	13.1	60.8
MIDDLE EAST & NORTH AFRICA						
Egypt	13.8	7.6	14.8	11.6	12.2	60.0
Jordan	15.8	10.7	15.8	12.1	11.3	65.8
Morocco	18.6	7.7	12.5	11.4	11.1	61.3
Yemen	14.0	5.9	10.5	8.2	7.4	46.0
AVERAGE	15.6	8.0	13.4	10.8	10.5	58.3
SUB-SAHARAN AFRICA						
Benin	10.0	7.9	10.5	11.0	9.4	48.8
Burkina Faso	15.2	4.6	9.5	10.8	9.8	49.9
Cameroon	14.8	6.2	9.8	9.9	8.2	48.8
Chad	7.3	2.8	8.3	7.4	9.6	35.5
Côte d'Ivoire	4.3	7.4	8.4	8.4	8.2	36.7
Eritrea	10.7	3.5	9.8	8.5	9.0	41.5
Ethiopia	8.6	6.8	9.1	7.7	6.6	38.9
Gabon	8.4	10.1	11.1	8.8	8.1	46.4
Gambia	5.7	6.0	11.3	9.6	9.1	41.7
Ghana	15.5	6.5	12.0	11.4	9.2	54.6
Guinea	11.4	6.8	9.3	9.1	8.1	44.6
Kenya	14.2	5.7	10.3	10.9	10.1	51.2
Madagascar	14.9	2.9	10.5	10.6	8.2	47.1
Malawi	15.4	6.1	9.3	11.1	7.7	49.6
Mali	15.8	3.5	10.5	9.7	7.1	46.4
Mauritania	12.1	7.1	11.0	9.7	7.1	47.0
Mozambique	11.6	3.6	8.7	10.5	10.3	44.7
Namibia	10.8	10.2	12.0	10.4	11.6	55.1
Nigeria	12.3	5.4	9.8	9.7	11.4	48.6
Rwanda	17.1	4.6	9.4	9.1	8.0	48.1
Senegal	14.5	8.4	10.7	10.4	8.0	51.9
South Africa	7.0	12.2	13.8	10.0	13.5	56.4
Tanzania	17.6	5.3	8.6	10.6	10.4	52.4
Togo	15.1	8.5	9.6	11.9	8.8	53.8
Uganda	14.9	6.8	9.8	8.1	8.8	48.5
Zambia	15.2	2.7	8.8	8.6	9.1	44.4
Zimbabwe	17.3	5.7	7.0	12.4	10.6	52.9
AVERAGE	12.5	6.2	10.0	9.9	9.1	47.6
OVERALL AVERAGE	13.3	7.4	12.1	10.7	10.6	54.1

Figure 1. Total Weighted Scores: 63 Countries

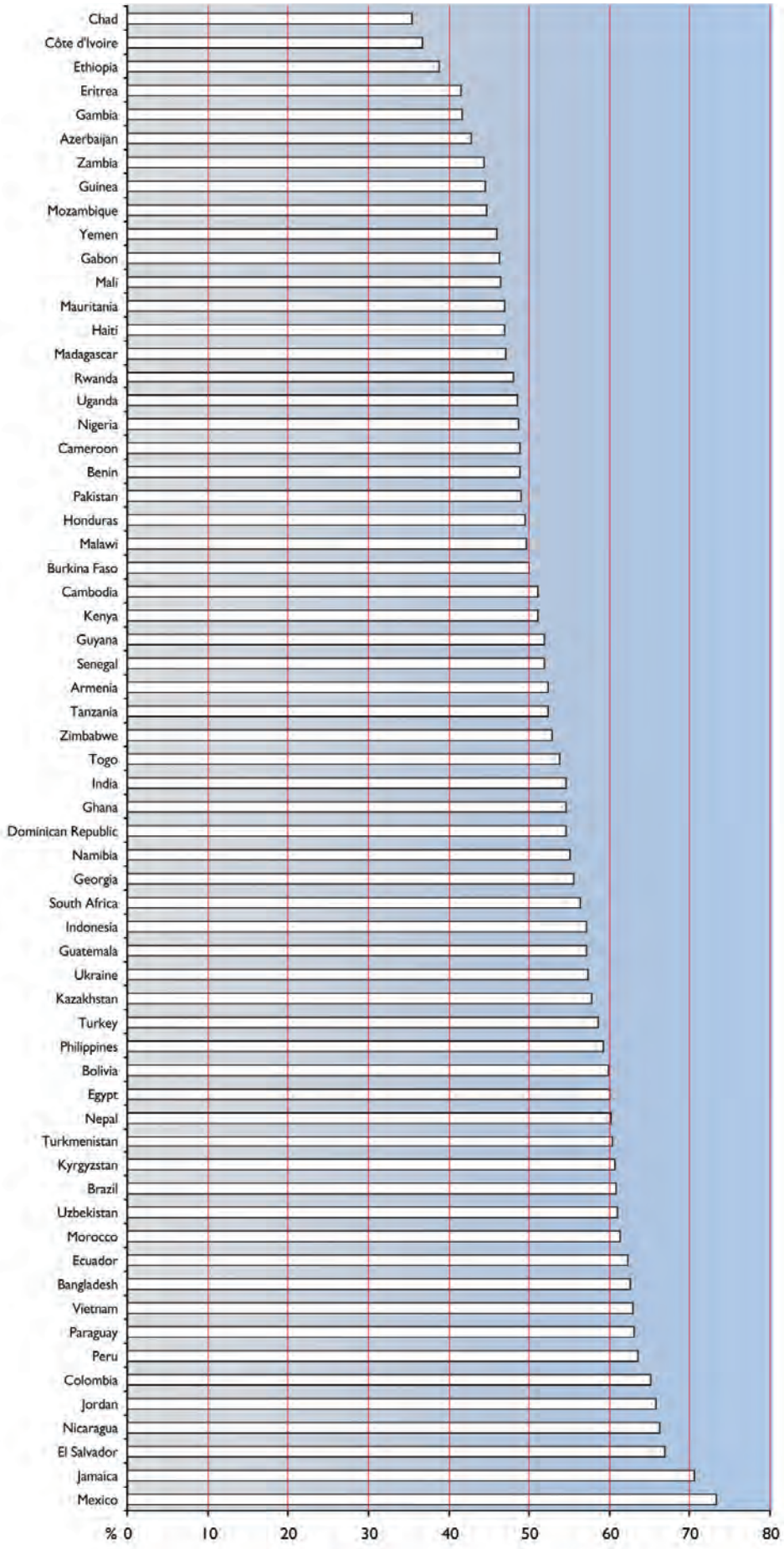


Figure 2. Total Scores Averaged by Region

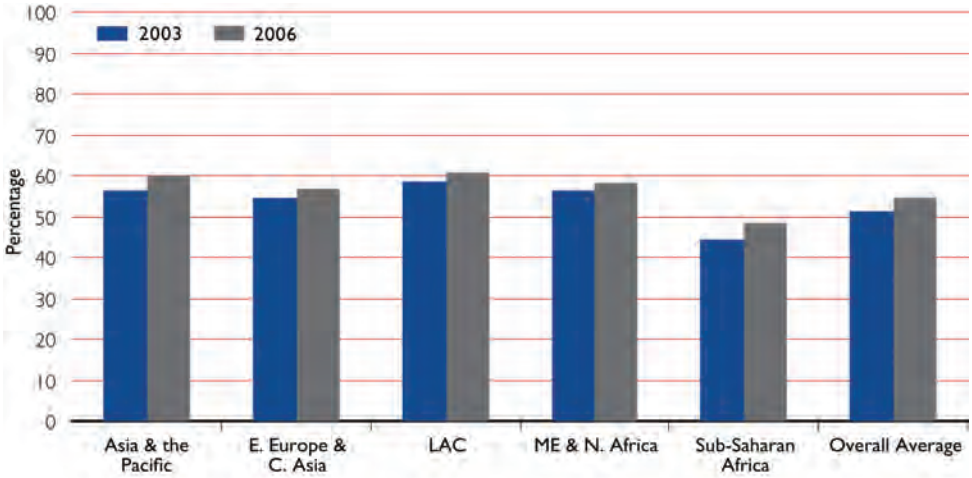
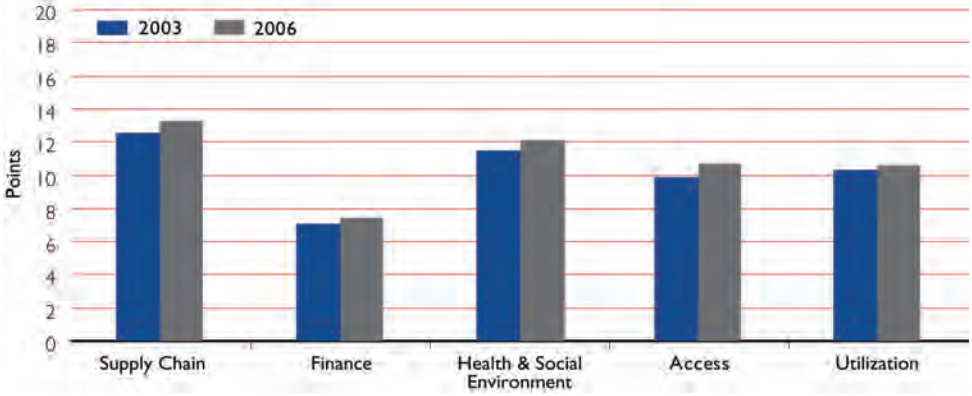


Figure 2. Total Scores Averaged by Region



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.

BACKGROUND

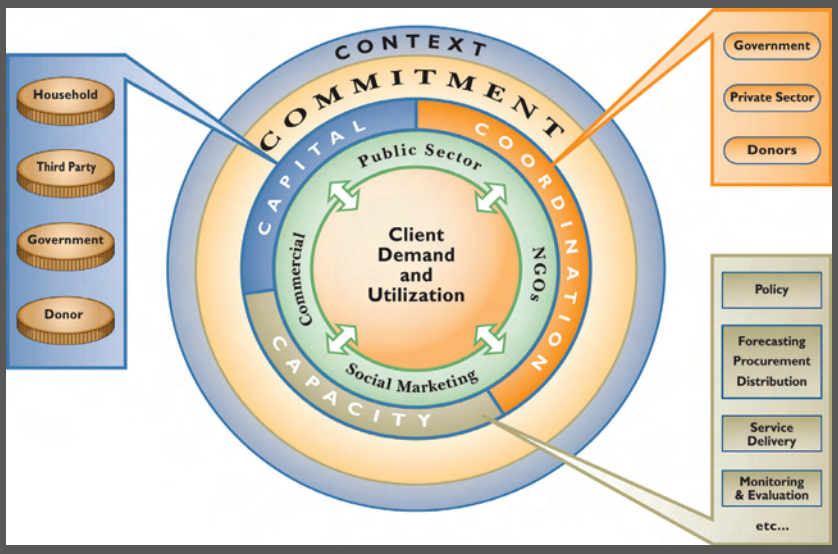
The *Contraceptive Security Index 2006* presents an update of the findings from the *Contraceptive Security Index 2003*. To be consistent with the current global definition of contraceptive security, the framework at the core of the *Strategic Pathway to Reproductive Health Commodity Security (SPARHCS)* 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 *Contraceptive Security Index 2003* was developed by a team of CS experts from USAID, the DELIVER project of John Snow, Inc. (JSI), the POLICY Project of Futures Group, and Commercial Market Strategies (CMS). Using the same methodology as the 2003 index, the *CS Index 2006* was updated by a team from USAID, DELIVER, and Task Order 1 of the USAID | Health Policy Initiative of Constella Futures. The same indicators and data sources were maintained for the 2006 index using the latest version of all reference documents. (Refer to notes by indicator below.) If new indicator values were not available since the publication of the 2003 index, the 2003 data are preserved as the most current data available.

Figure 4. SPARHCS Framework for Reproductive Health Commodity Security



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 2003: Technical Manual* (JSI/DELIVER and Futures Group/POLICY Project 2004).[1]

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).[2] This tool was updated and improved under the DELIVER project and became the *Logistics System Assessment Tool* (JSI/DELIVER 2004),[3] which is the source of the updated data for the first four indicators for the *CS Index 2006*. 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 at the country level are discouraged at this time.

- **Storage and distribution**—This indicator assesses storage capacity and conditions, standards for maintaining product quality, inventory control, stockouts, how system losses are tracked, and distribution and transportation systems.
- **LMIS (Logistics Management Information Systems)**—This indicator assesses reporting systems, validation of data, and information management and use in decisionmaking.
- **Forecasting**—This indicator assesses how forecasts of consumption are prepared, updated, validated, and incorporated into cost analysis and budgetary planning.
- **Procurement**—This indicator assesses how forecasts are used to determine short-term procurement plans and the degree to which 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, Stover, and Adelaja 2006).[4]

- **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 *World Development Indicators* (WDI) were the source for these indicators (IBRD/World Bank 2006).

- **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 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)

- **Per capita 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 comprise 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 of governance 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 2005).

- **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 Population Reference Bureau's online DataFinder database (*2005 Women of Our World* and *The World's Youth 2006 Data Sheet*).

- **Adult HIV prevalence**— It is increasingly recognized that a higher burden of HIV in a population can erode prospects for contraceptive security. HIV/AIDS contributes 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[5] who were infected with the HIV virus at the end of 2003. Adult HIV prevalence rates were obtained from the UNAIDS *Report on the Global HIV/AIDS Epidemic 2005*.

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, Stover, and Adelaja 2006).[6]

- **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 upon 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 Demographic and Health Surveys (DHS) and Reproductive Health Surveys (RHS) are used both to compute the SLI and the distribution of public sector FP users across SLI categories.[7]

- **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*). 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, Stover, and Adelaja 2006).

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*) 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 *2006 World Population Data Sheet*.

REFERENCES

Hare, L., Hart, C., Scribner, S., Shepherd, C., Pandit, T. (ed.), and Bornbusch, A. (ed.). 2004. *SPAR-HCS: Strategic Pathway to Reproductive Health Commodity Security. A Tool for Assessment, Planning, and Implementation*. Baltimore, Md.: Information and Knowledge for Optimal Health (INFO) Project/Center for Communications Programs, Johns Hopkins Bloomberg School of Public Health.

International Bank for Reconstruction and Development (IBRD)/World Bank. 2006. *World Development Indicators 2006*. (http://devdata.worldbank.org/wdi2006/contents/index2.htm)

John Snow, Inc./DELIVER. 2004. *Logistics System Assessment Tool (LSAT)*. Arlington, Va.: John Snow, Inc./DELIVER, for the U.S. Agency for International Development.

John Snow, Inc./DELIVER and Futures Group/POLICY Project. 2004. *Contraceptive Security Index 2003: Technical Manual*. Arlington, Va.: John Snow, Inc./DELIVER, for the U.S. Agency for International Development.

John Snow, Inc./Family Planning Logistics Management (JSI/FPLM) and the EVALUATION Project. April 1999. *Composite Indicators for Contraceptive Logistics Management*. Arlington, Va.: JSI/FPLM, for the U.S. Agency for International Development.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi. May 2005. *Governance Matters IV: Governance Indicators for 1996–2004*. (http:/www.worldbank.org/wbi/governance/govdata/)

Population Reference Bureau. March 2005. *2005 Women of Our World*. Washington, D.C.: Population Reference Bureau. (www.prb.org)

Population Reference Bureau. August 2006. *2006 World Population Data Sheet*. Washington, DC: Population Reference Bureau. (www.prb.org)

Population Reference Bureau. February 2006. *The World's Youth 2006 Data Sheet*. Washington, DC: Population Reference Bureau. (www.prb.org)

Ross, John, John Stover, and Demi Adelaja. March 2006. *Family Planning Programs in 2004: Efforts, Justifications, Influences, and Special Populations of Interest*. Working Paper. Chapel Hill: MEASURE/Evaluation Project of the Carolina Population Center.

UNAIDS. 2005. *Report on the Global HIV/AIDS Epidemic 2005*. Geneva: UNAIDS.

ADDITIONAL RESOURCES

Ashford, L. 2002. *Securing Future Supplies for Family Planning and HIV/AIDS Prevention*. Washington, D.C.: MEASURE Communication/Population Reference Bureau. (http://www.prb.org/pdf/SecFutureSupplies_Eng.pdf)

Druce, Nel. March 2006. *Reproductive Health Commodity Security (RHCS) Country Case Studies Synthesis: Cambodia, Nigeria, Uganda and Zambia*. London: DFID Health Resource Centre.

Family Planning Logistics Management (FPLM)/John Snow, Inc. (JSI). 2000. *Programs That Deliver: Logistics' Contributions to Better Health in Developing Countries*. Arlington, Va.: FPLM/JSI. (http://deliver.jsi.com/2002/Pubs/Pubs_Policy/Programs_That_Deliver/index.cfm)

Finkle, C. 2003. *Ensuring Contraceptive Supply Security*. Outlook vol 2, no 3. Seattle: PATH. (http://www.path.org/files/eol20_3.pdf)

Finkle, Clea T., Jane Hutchings, and Janet Vail. 2001.*Contraceptive Security: Toward a Framework for a Global Assessment*. Seattle: Program for Appropriate Technology in Health (PATH).

Quijada, Caroline, Tania Dmytraczenko, and Beaura Mensah. July 2004. *Ensuring Contraceptive Security within New Development Assistance Mechanisms*. Bethesda, Md.: The Partners for Health Reform*plus* Project, Abt Associates, Inc.

Rao, Raja, Peter Mellon, and David Sarley. 2006. *Procurement Strategies for Health Commodities: An Examination of Options and Mechanisms within the Commodity Security Context*. Arlington, Va.: DELIVER, for the U.S. Agency for International Development.

Sarley, David, Raja Rao, Carolyn Hart, Leslie Patykewich, Paul Dowling, Wendy Abramson, Chris Wright, Nadia Olson, and Marie Tien. 2006.
Contraceptive Security: Practical Experience in Improving Global, Regional, National, and Local Product Availability. Arlington, Va.: DELIVER, for the U.S. Agency for International Development.

Sine, J., and S. Sharma, 2002. *Policy Aspects of Achieving Contraceptive Security*. Policy Issues in Planning and Finance No 1. Washington, DC: POLICY Project/ Futures Group International. (http://www.policyproject.com/pubs/policyissues/PI_Eng.pdf)

Taylor, Patricia A., Nora Quesada, Wendy Abramson, Varuni Dayaratna, and Leslie Patykewich. 2004. *Regional Report: Contraceptive Security in Latin America and the Caribbean. Results and Recommendations*. Arlington, Va.: John Snow, Inc./DELIVER and Washington, DC: Futures Group/POLICY Project, for the U.S. Agency for International Development.

United Nations Population Fund (UNFPA). 2002. *Reproductive Health Essentials: Securing the Supply*. New York: UNFPA.
(http://www.unfpa.org/upload/lib_pub_file/39_filename_securingsupply_eng.pdf)

U.S. Agency for International Development (USAID). 2004. *Contraceptive Security: Ready Lessons*. Baltimore, Md.: INFO Project/Center for Communication Programs, Johns Hopkins Bloomberg School of Public Health, for the U.S. Agency for International Development. (http://www.dec.org, search under "contraceptive security").

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

DELIVER project: (www.deliver.jsi.com)

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

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

Partners for Health Reform*plus* Project: (www.phrplus.org)

POLICY Project: (www.policyproject.com)

Population Action International: (www.populationaction.org)

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

The Supply Initiative: www.rhsupplies.org)

UNFPA: (www.unfpa.org)

USAID: (www.usaid.gov)

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 21-member 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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