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# RWANDA: FINAL COUNTRY REPORT



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**DELIVER**  
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# RWANDA: FINAL COUNTRY REPORT

**DELIVER**

DELIVER, a six-year worldwide technical assistance support contract, is funded by the U.S. Agency for International Development (USAID).

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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**Abstract**

Since 2002, the Government of Rwanda, through the Ministry of Health, has been revitalizing its contraceptive logistics system to improve product availability to clients and to move toward reproductive health commodity security. As an initial step, a logistics system assessment was conducted in February 2002 to identify strengths and weaknesses of the system. A design workshop followed by a Country Strategic and Evaluation Plan framed the process for addressing weaknesses.

After six years of implementation, much progress has been achieved. Commodities are available nationwide, the stockout rate has decreased to less than 10 percent, and storage conditions are widely improved. In addition, the contraceptive prevalence rate has increased from 4 percent to 10.3 percent. However, there are still areas needing improvement.

The current report provides a picture of the Rwanda contraceptive supply chain. It also provides indications for lessons learned and future directions to improved reproductive health in Rwanda.

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# CONTENTS

- Acronyms** ..... **vii**
- Acknowledgments** ..... **ix**
- Executive Summary** ..... **xi**
- Program Background** ..... **1**
  - Country Context ..... 1
  - Key Participants and Roles ..... 4
  - Key Challenges ..... 5
- Goals and Objectives** ..... **7**
  - DELIVER Objectives ..... 7
  - Relationship to USAID and Client Objectives ..... 7
  - DELIVER’s Role In Relation to Other Organizations ..... 8
  - Description of Strategies ..... 8
  - Summary of DELIVER Funding and Staffing ..... 8
- Program Results** ..... **11**
  - Element I: Improved Logistics System ..... 11
  - Element II: Improved Human Capacity in Logistics ..... 13
  - Element III: Improved Resource Mobilization for Contraceptive Security ..... 15
  - Element V: Estimation of USAID Contraceptive Needs ..... 16
- Lessons Learned and Future Directions** ..... **17**
  - Lessons Learned ..... 17
  - Future Direction ..... 17
- References** ..... **19**
- Appendix 1** ..... **21**
  - 1. CS Brief ..... 21
- Figures**
  - 1. Rwanda National Supply Chain ..... 3
  - 2. Percentage of Facilities That Received Contraceptive Management Supervisory Visits During Specified Periods of Time ..... 15
- Tables**
  - 1. Rwanda Demographic Data (2002 and 2005) ..... 1
  - 2. Established Minimum and Maximum Levels (in months) (2005) ..... 12
  - 4. Number of Staff Trained in Logistics (2003 and 2005) ..... 14
  - 5. Percentage of Facilities That Received a Supervisory Visit During a Six-month Period (2006) ..... 14
  - 6. Value of Contraceptives Received ..... 15



# ACRONYMS

ARBEF	<i>Association Rwandaise pour le bien-être Familial</i> (Rwanda Family Planning Association, International Planned Parenthood Federation affiliate)
BUFMAR	<i>Bureau des Formations Médicales Agréées au Rwanda</i> (private central medical store for Government-assisted health facilities)
CAMERWA	<i>Centrale d'Achat des Médicaments génériques du Rwanda</i> (public central medical store)
CBD	community-based distribution
CPR	contraceptive prevalence rate
CPT	contraceptive procurement table
CSEP	Country Strategic and Evaluation Plan
DHS	Demographic and Health Survey
FP	family planning
GAHF	government-assisted health facility
GOR	Government of Rwanda
GTZ	<i>Deutsche Gesellschaft für Technische Zusammenarbeit</i> (German international development agency)
HC	health center
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
IPPF	International Planned Parenthood Federation
IR	intermediate result
IRH	Institute of Reproductive Health
IUD	intrauterine device
JSI	John Snow, Inc.
KfW	<i>Kreditanstalt für Wiederaufbau</i> (German funding agency for international development)
LIAT	Logistics Indicators Assessment Tool
LMIS	logistics management information system
LSAT	Logistics System Assessment Tool
MCH	mother and child health
MOH	Ministry of Health
NGO	nongovernmental organization
PSI	Population Services International
RH/FP	reproductive health and family planning
RLA	resident logistics advisor

SDM	standard days method
SDP	service delivery point
SO6	Strategic Objective 6
USAID	U. S. Agency for International Development
UNFPA	United Nations Fund for Population Activities
WHO	World Health Organization

# ACKNOWLEDGMENTS

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The project owes special thanks to John Dunlop, supervisory health officer; the USAID Health Team; and Claude Sekabaraga, director of Policy and Capacity Building Direction of the MOH, for their invaluable support and for providing much needed direction for the project implementation.

The project especially acknowledges the United Nations Population Fund and Intrahealth International, who provided both technical and financial support in the implementation of some of our activities.

Project implementation would have been impossible without the active participation of stocks managers at the district level, health center personnel responsible for drug management, and the personnel of CAMERWA.

Finally, the project also expresses special thanks to the dedicated work of the Rwanda Country Team: Aoua Diarra, coordinator of country programs; Norbert Aimé Péhé, country team leader; and the logistics advisors and program coordinators based in Washington; and to the field office staff: Jovith Ndahinyuka, resident logistics advisor; Augustin Usabayezu, logistics assistant; and Jean-Pierre Subukino, driver. Their diligent and consistent work contributed to the project's successes.



# EXECUTIVE SUMMARY

Effective contraceptive logistics management is an essential pillar supporting contraceptive security, and it is a component vital to the success of any family planning program. Having the right product at the right time is the main objective of a secure supply of contraceptives. Access to family planning products cannot be achieved without a well-functioning logistics system. With that in mind, the Government of Rwanda (GOR) is committed to establishing a strong contraceptive logistics system.

Until 2002, the contraceptive logistics management system in Rwanda was weak. There were no clearly defined processes, procedures, or inventory control systems. Logistics data and information were not widely available nor were they being used for routine logistics management decisions. There was little logistics management capacity throughout the system. In addition, there existed virtually no coordination or communication between the various levels of the system. Throughout the system, there were quality of service issues that are directly related to logistics management functions of product choice, forecasting, procurement planning, and supply chain management.

To remedy these weaknesses, the GOR, with support from USAID, decided to reorganize the management of contraceptives products. A design workshop was organized and new implementation strategies defined. These strategies consisted of—

- strengthening contraceptive logistics performance
- strengthening human capacity in logistics
- strengthening contraceptive security in Rwanda.

As a result, key milestones, such as the development of standard operating procedures, the capacity building of stock managers, and the reduction of stockouts at all levels have been met, and data are being collected for decision making. The *Rwanda 2005 Demographic and Health Survey* preliminary results show an increase of the contraceptive prevalence rate from 4 percent in 2000 to 10.3 percent in 2005. While these indicators point to an increased level of service provision overall, this improvement would not be possible without a parallel increase in availability of the commodities needed to provide these services.

Despite these encouraging accomplishments, the current contraceptive logistics system needs further improvements.



# PROGRAM BACKGROUND

## COUNTRY CONTEXT

### ECONOMY

Rwanda is a poor, rural country and the most densely populated country in Africa. About 90 percent of the population is engaged mainly in subsistence agriculture. Rwanda is landlocked, with few natural resources and only minimal industry. Coffee and tea are the primary sources of foreign exchange. The 1994 genocide decimated Rwanda's fragile economic base; severely impoverished the population, particularly women; and eroded the country's ability to attract private and external investment. Despite this, Rwanda has made substantial progress in stabilizing and rehabilitating its economy to pre-1994 levels, although poverty levels are higher now. The gross domestic product has rebounded, and inflation has been curbed.

Despite Rwanda's fertile ecosystem, food production often does not keep pace with population growth, and food imports are required. Rwanda continues to receive substantial aid money and obtained debt relief in 2005 from the Heavily Indebted Poor Country Initiative of the International Monetary Fund and World Bank. Kigali's high defense expenditures, however, have caused tension between the government and international donors and lending agencies. An energy shortage and instability in neighboring states may slow growth in 2006, while the lack of adequate transportation linkages to other countries continues to handicap export growth.

### DEMOGRAPHIC DATA

Rwanda has an estimated population of 8.7 million, with an annual growth rate of 2.3 percent (MEASURE DHS/ORC MACRO 2005 and PRB 2005). Women of reproductive age (WRA) represent 23 percent of the total population. Table 1 provides additional demographic indicators.

**Table 1. Rwanda Demographic Data (2002 and 2005)**

<b>Demographic Variables</b>	<b>2002</b>	<b>2005</b>
Crude birth rate	39	41
Crude death rate	21	18
Total fertility rate	5.8	5.7
Infant mortality per 1,000 live births	107	107
Contraceptive prevalence rate	4.3%	10.3%
HIV prevalence rate	5.1%	3.0%
Life expectancy at birth	39	44
Gross national income per capita in U.S.\$	\$880	\$1,300

### HEALTH AND SERVICE DELIVERY INDICATORS

Following the 35th session of the African Regional Committee of the World Health Organization (WHO) held at Lusaka in 1985, Rwanda adopted a health development strategy based on decentralized management and district-level care. The decentralization process began with the development of provincial-level health offices for health system management. Progress was made toward decentralizing management to the province level and, ultimately, to the district level.

The development of the health system was completely disrupted at the time of the 1994 genocide. Much of the infrastructure, equipment, personnel, and the health system itself was destroyed. With the advent of peace, the government has been working to rebuild the health system. In February 1995, the government issued a new policy to guide the reconstruction of the health system.

Since 2000, steps have been taken toward restructuring and decentralizing management. The district health offices have operated as autonomous entities, providing services to well-defined populations in either urban or rural zones. The district health offices are responsible for the health needs of the population in their respective zones and for the health facilities and services, whether provided through the government or private sector. Decentralization of financial and logistic resource management has been implemented universally.

Health services in Rwanda are provided through the public sector, government-assisted health facilities (GAHFs), private health facilities, and traditional healers.

The public sector is organized into three levels: central; intermediate, which consists of 11 provincial health offices;<sup>1</sup> and peripheral, which consists of health districts. Each district has an administrative office, a district hospital, and primary health care facilities (health centers). The district administrative offices are responsible for planning, managing, coordinating, and evaluating, on a daily basis, the activities occurring in the health district. This administrative unit (work group) is made up of a basic management team of health professionals and managers, representatives of program managers active at the community level, community leaders, and directors of nursing schools. At the end of 2001, there were 39 functional health districts, each with a district management team. Only 33 of these, however, had a functioning hospital. The main function of district hospitals is to care for patients referred by a primary-level facility. Although curative and rehabilitative care are the principal functions of the hospital, each hospital is also responsible for supporting preventive and promotional activities within its catchment's area. Each level coordinates with the others to prevent overlap and to improve use of resources and services.

There were 365 peripheral health facilities at the end of 2001: 252 were health centers; 113 were health posts and dispensaries. There is a nationwide lack of physicians, nurses, and managers with sufficient experience to respond to the needs of both administrative structures and health facilities. This problem is more acute at the periphery, where operational management and delivery of health services occur.

The conventional nonprofit sector is made up of health facilities run by various religious groups and nonprofit associations. In 2001, 40 percent of primary and secondary health facilities were in this category. GAHFs—called *agrée* facilities in Rwanda—are completely integrated into the public health system. The government provides services to both public and conventional nonprofit facilities, irrespective of their resources (human, equipment, or operating budget). GAHF staff and government staff are equally eligible for government-sponsored in-service education. GAHF representatives participate integrally in the work group (district management team) of each district and have a formal agreement to follow the policies of the Ministry of Health (MOH).

Since 1995, the private medical sector in Rwanda has grown considerably and continues to grow. In 1999, there were 69 private physicians either with private practices or working as employees of nongovernmental organizations (NGOs), commercial establishments, private insurance companies, or mutual societies. The number of private pharmacies throughout the country increased from 300 in 1999 to 405 in 2001. As of 1999, there were 329 private health facilities in Rwanda, with more than 50 percent of them located in or near Kigali. Among these facilities, 63 were headed by physicians, 242 by nurses, and 14 by persons who were not medically trained. These private facilities have hospitalization capacity, and

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<sup>1</sup> As of December 2005, the provincial level has become a regional level. From now on, the country comprises four regions and the city of Kigali.

some have very specialized services, such as gastrology, ophthalmology, and physiotherapy. They are often staffed with trained paramedical staff.

Family planning service provision and management are built on the public-sector system described above. The 1994 genocide, that greatly affected the entire country, had a significant negative impact on family planning services. The contraceptive prevalence rate (CPR), which dropped from 13 percent in 1992 to 4 percent in 2000, demonstrates that reproductive health and family planning activities were not spared. Given the considerable decrease in the use of modern methods, USAID funded a family planning needs assessment to help the MOH identify the most pressing issues within reproductive health services, and logistics in particular, and to define strategies for improving access to quality family planning services.

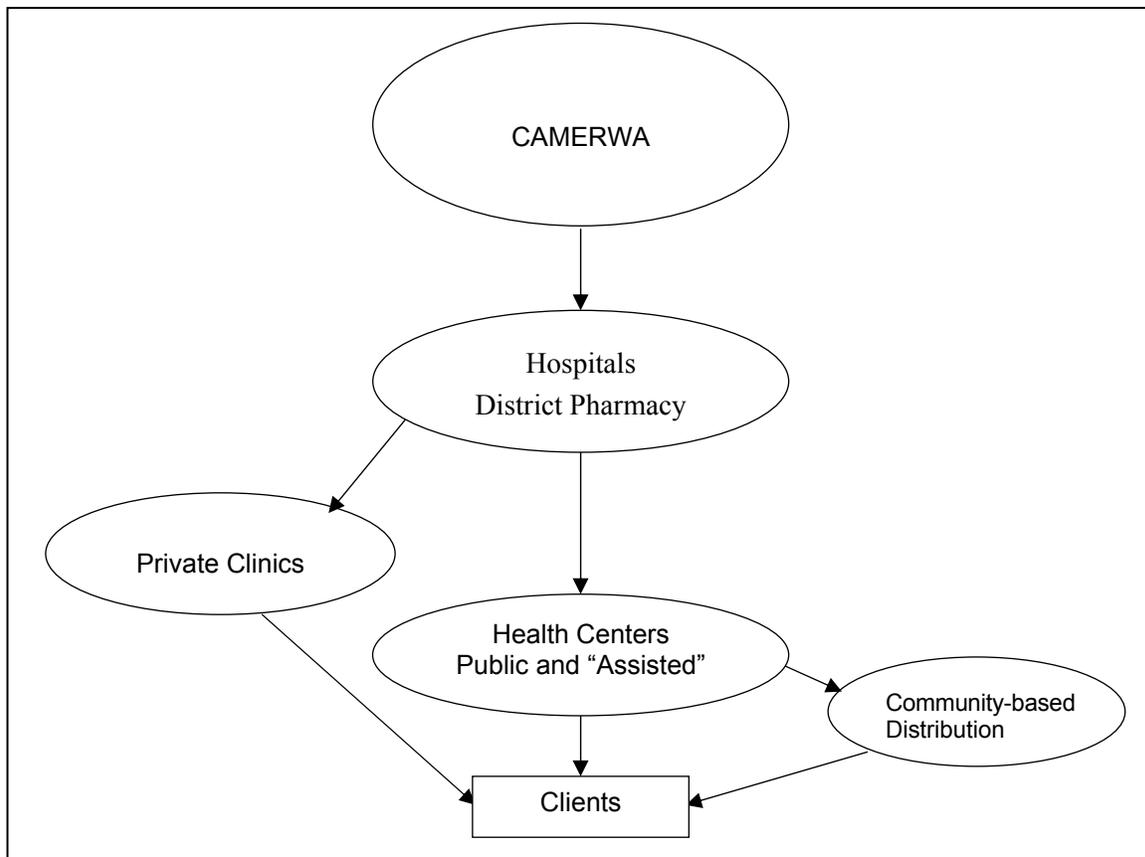
### NATIONAL SUPPLY CHAIN

The national supply chain comprises CAMERWA, district pharmacies, and health center store facilities. Generic essential drugs are distributed from CAMARWA to health units through the districts.

CAMERWA is a nonprofit association that ensures a supply of medications to the public sector. It sells medications to district pharmacies and to certain health facilities on a for-profit basis as a means of financing CAMERWA's activities and, subsequently, to sustain the system. Besides the public distribution channel, there is the *Bureau des Formations Médicales Agrées au Rwanda* (BUFMAR), a for-profit private company that supplies medications mainly to government-assisted health facilities.

As of February 2005, contraceptives are stored at and managed by CAMERWA and distributed through the public distribution channel. The MOH and CAMERWA have defined a Memorandum of Understanding that lays out the rights and obligations of each party. Figure 1 illustrates the public distribution system.

**Figure 1. Rwanda National Supply Chain**



## **KEY PARTICIPANTS AND ROLES**

### **MINISTRY OF HEALTH**

The MOH is the host ministry and also an implementing partner. The MOH is committed to establishing a strong logistics system and ensuring contraceptive availability at each service delivery point. A national logistics committee is in place. The committee addresses all logistics issues related to changes in reproductive health policy, monitors and evaluates the national action plan, and helps the MOH to mobilize the resources necessary to ensure a continuous availability of contraceptives. The committee is composed of representatives from various divisions and organizations in the public, private, and NGO sectors. The MOH is responsible for coordinating, communicating, and planning activities in the Country Strategic and Evaluation plan (CSEP) and workplans. DELIVER provides follow-up and technical leadership as needed.

### **USAID**

USAID supports the MOH and development partners such as IntraHealth International, CARE, the Institute of Reproductive Health (IRH) of Georgetown University, Measure Evaluation, Management Sciences for Health, and DELIVER. USAID's support to DELIVER aims at strengthening the contraceptive logistics system for the MOH. It is also, in addition to the United Nations Fund for Population Activities (UNFPA), one of the main providers of contraceptives to Rwanda.

### **UNFPA**

UNFPA, in collaboration with the MOH, is investing in the reduction of unwanted pregnancies and promoting adolescent sexual health through family planning (FP) and access to accurate information on sexuality. UNFPA intervention areas are the provinces of Umutara, Kibuyé, and Cyangugu. UNFPA (European Union and the Netherlands government, etc.), in addition to USAID, *Kreditanstalt für Wiederaufbau* (KfW), and the International Planned Parenthood Federation (IPPF), is one of the major donors of contraceptives to Rwanda.

### **IRH, GEORGETOWN UNIVERSITY MEDICAL CENTER**

Funded by USAID, the IRH developed the standard days method (SDM), a new and nonhormonal low-cost method of family planning, which helps women identify their "fertile window" by using a string of color-coded beads. Since October 2002, the SDM has been integrated into selected public, faith-based organization, and NGO health center and clinics.

### **INTRAEALTH INTERNATIONAL (TWUBAKANE)**

As an implementing agency, IntraHealth International has been active in Rwanda for nearly two decades, assisting the Government of Rwanda and the MOH through USAID-funded projects designed to respond to the country's tremendous need for high-quality family planning, reproductive health, and HIV/AIDS services. In addition to strengthening community-based services in family planning and reproductive health, child survival, malaria, and nutrition, the Twubakane Project focuses on financial management, anti-corruption, and local participatory governance. The project is working in four provinces: Kigali-Ville, Kibungo, Gitarama, and Gikongoro.

### **CAMERWA**

As the main supplier of essential drugs to national health centers, CAMERWA, since February 2005, is being used to store and distribute contraceptives to the districts. The MOH and CAMERWA signed a Memorandum of Understanding that lays out the rights and obligations of each signatory.

### **NATIONAL NGOS**

NGOs conduct information and education activities in family planning within communities and dispense contraceptive commodities to clients in the most remote areas. As recipients of public-sector commodities

and support, NGOs comply with logistics system parameters as established by the MOH, such as reporting.

## **KEY CHALLENGES**

### **CONSTANT REORGANIZATION OF MOH STRUCTURE**

For about two years, the Government of Rwanda (GOR), in general, and the MOH in particular, have been restructuring MOH services. New directorates, units, and task forces are being created. New personnel have replaced those previously in charge of reproductive health (RH) services. RH/FP services were previously managed by the Reproductive Health Division, which became, over time, the Maternal and Child (MCH) Health Unit, and finally, the Maternal and Child Health Task Force. Along with these changes, the number of staff keeps changing. As a result, DELIVER no longer has a direct counterpart for logistics management. DELIVER is acting as a body of the MOH that implements directly in the field all contraceptive-related activities.

### **HIGH TURNOVER OF PERSONNEL**

Staff members in charge of logistics at the central, district, and health center (HC) levels received logistics training. Unfortunately, nearly 40 percent of those personnel are no longer at their post; they either left the system entirely because of staff downsizing or were transferred to another health office. New personnel have never had the benefit of logistics training. The recent Logistics Indicators Assessment Tool and Logistics System Assessment Tool (LIAT/LSAT) assessment reveals that most of the errors, stock imbalances, and stockouts encountered in the system occur at sites with new, untrained personnel.

### **MOBILIZATION OF MORE FINANCIAL RESOURCES**

The increase of CPR means an increase of contraceptive demand, and therefore more money, to ensure product availability. Commodity requirement needs have grown from less than US\$200,000 to nearly US\$1 million. That growth will certainly continue, resulting in more financial resources to satisfy demand. Correlatively, the growth in term of RH/FP services implies the maintenance of a robust logistics system to support good-quality health care. Funding will surely become a major issue in years to come.

### **SUSTAINABILITY OF THE CONTRACEPTIVE DISTRIBUTION SYSTEM**

Though some of the contraceptive logistics components are integrated, the current distribution system is being operated as a vertical program. Not only are contraceptives supported by external resources (for product procurement, financing of support activities, etc.), but they also have a different management mechanism (records, inventory control system, etc.).



# GOALS AND OBJECTIVES

## **DELIVER OBJECTIVES**

Effective contraceptive logistics management is an essential pillar supporting contraceptive security (CS) and is vital to the success of any family planning program. Having the right product at the right time is the main objective of a secure supply of contraceptives. Access to family planning products cannot be achieved without a well-functioning logistics system. With that in mind, the Government of Rwanda has committed to establishing a strong contraceptive logistics system. A post-assessment design workshop, organized in May 2002, helped in defining the parameters of the contraceptive logistics system. A national logistics committee has been created to address logistics issues related to reproductive health policy changes, monitor and evaluate the DELIVER action plan, and help the MOH mobilize necessary resources to ensure continuous availability of contraceptives.

The overall goal of DELIVER technical assistance is to support the MOH to strengthen the logistics system and improve contraceptive availability at service delivery points (SDPs).

## **RELATIONSHIP TO USAID AND CLIENT OBJECTIVES**

Technical assistance efforts provided by DELIVER are directly supportive of and consistent with USAID/Rwanda's Strategic Objective 6 (SO6) and its related intermediate results. At the same time, DELIVER activities support the MOH objective that contraceptives be available in every single health facility to meet the current demand. The aim of SO6 is "increased use of community health services, including HIV/AIDS." Intermediate results (IRs) are defined as follows:

- IR6.1—reinforced capacity for implementation of the decentralization policy in target health districts
- IR6.2—increased access to selected essential health commodities and community health services
- IR6.3—improved quality of community health services
- IR6.4—improved community-level responses to health issues (HIV/AIDS, FP, CS, and malaria).

Improvements realized through DELIVER's strategic area one (strengthening contraceptive logistics system performance) and strategic area three (strengthening contraceptive security in Rwanda) have a cross-cutting effect on IR6.1 and IR6.2. Improved logistics management results in increased availability of FP commodities at all levels of the system and at SDPs in particular. Having products available provides a positive impact on the availability of quality health care services and the increase of the CPR and reinforces a positive perception of reproductive and HIV/sexually transmitted infection health care services.

DELIVER interventions in the area of strengthening resource mobilization for contraceptive security has also contributed to the long-term sustainability of the logistics system improvements and related impacts (IR6.1 and IR6.2).

DELIVER's efforts in the areas of training and supervision (strengthening human capacity) has enhanced the GOR's ability to provide ongoing support to health care workers as well as contributing at the lower levels to quality decentralized health care (IR 6.3). The project does not work at the community level (IR6.4).

## **DELIVER'S ROLE IN RELATION TO OTHER ORGANIZATIONS**

John Snow, Inc. (JSI)/DELIVER's main goal is to support the MOH with technical assistance, mentoring, skills transfer, and capacity building throughout the implementation phase of the MOH's logistics workplan, with involvement of all key stakeholders at central, regional, and district levels.

JSI/DELIVER's ability to complete activities identified in the workplan, as scheduled, is highly dependent on the following factors:

- Sustained commitment and active involvement on the part of stakeholders in-country, particularly dedicated human resources from the MOH.
- JSI/DELIVER presence in Rwanda: many of the interventions related to logistics policy and advocacy as well as ongoing mentoring, communication, and transfer of skills and logistics management capacity to MOH counterparts can best be achieved through regular visits or an in-country representative.
- Timely implementation of workplan activities.

## **DESCRIPTION OF STRATEGIES**

Three major strategies were developed to build and strengthen a consistent and functional contraceptive logistics system: These are—

*Strengthening the performance of the contraceptive logistics system.* This strategy consisted of creating a national logistics committee, developing and implementing an inventory control system, improving storage conditions, establishing mechanisms to collect and report reliable dispensed-to-user data from SDPs to the central level, and conducting regular monitoring and assessments of the logistics system.

*Strengthening human capacity in logistics.* Through the DELIVER project, district pharmacists, SDP storekeepers, and district medical officers and supervisors were either trained or oriented, as appropriate, in logistics management. Building skills among staff members from the recipient organizations to manage their stock, as well as to analyze and use the data collected through the logistics systems for forecasting and decision making, supporting supervision and on-the-job training, and integrating a logistics component into preservice training in health schools were instrumental to the implementation of the logistics system.

*Strengthening contraceptive security in Rwanda.* This strategy was achieved by estimating country requirements for contraceptives with data collected and reported from SDPs; coordinating donor inputs; assisting the MOH to conduct studies covering fields such as pricing policy and others, as proposed by the Rwanda MOH; and following up on the milestones of DELIVER assistance within the Rwanda CSEP.

## **SUMMARY OF DELIVER FUNDING AND STAFFING**

### **DELIVER FUNDING**

Since 2002, DELIVER has received U.S.\$1,766,193. That amount has served to support technical assistance from Washington, in-country activities, and local office operations.

### **STAFFING**

From 2002 to June 2004, DELIVER implemented in-country activities from Washington, D.C. Logistics advisors were regularly sent to Rwanda to assist the MOH with the implementation of the CSEP. In July 2004, in order to carry out and monitor activities in a more consistent manner, USAID allowed DELIVER to maintain a field office. Currently, three staff members are being employed in Rwanda: a resident logistics advisor, a logistics assistant, and a driver.

The resident logistics advisor (RLA) is responsible for providing technical assistance in family planning, HIV/AIDS, and essential drug logistics to the GOR, donors, and NGOs. The RLA plays a leadership role in Rwanda and coordinates the work of logistics specialists. The RLA is a member of policy and capacity building (under the direction of the Maternal and Child Health Task Force) of the MOH and it works closely with senior government officials and expatriate advisors.

The primary responsibility of the logistics assistant is to monitor health center reports and commodity availability at all levels and to maintain and update the logistics database for decision making.



# PROGRAM RESULTS

## **ELEMENT I: IMPROVED LOGISTICS SYSTEM**

This element refers to improving the infrastructure and the overall management of the national contraceptives supply chain. Improving the supply chain means, among other things, improving the logistics management information system (LMIS), the inventory control system, the storage conditions, and the transport and distribution system, as well as reinforcing the institutionalization of the logistics activities and product use.

Over the life of the current project, tremendous efforts have been successfully accomplished. The contraceptive distribution system, which used to be inefficient, is now performing well. Today, it is clearly recognized that the logistics system has had a major role in the increase of the CPR from 4 percent to 10.3 percent.

The following paragraphs will present component by component the principal achievements and weaknesses to address during years to come.

### **STOCK AVAILABILITY**

Before DELIVER assistance, the Rwanda family planning program was running short of contraceptives. Few brands were available, and stockouts regularly occurred in all parts of the country. Some service providers dispensed only products with which they were familiar; others had only one brand to offer. There were also frequent occurrences of products expiring before they could be distributed to and used by the clients. Since then, that picture has been reversed.

More commodities are available and in good quantity at all levels (central, district, and health centers). The method mix now is extensive: it comprises oral contraceptives, injectables, condoms, intrauterine devices (IUDs), implants, and cycle beads. The brand names are made available to facilities. However, SDPs do not dispense long-term methods such as IUDs and implants (Norplant and Jadelle). Lacking trained personnel, SDPs do not have yet the capability to offer long-term methods to clients. The new USAID bilateral Twubakane Project is training service providers to promote the use of these long-term methods. In addition to IUDs and implants, female and male condoms and cycle beads have very low consumption. Currently, the pipeline generates a very limited number of expired and damaged products.

### **LOGISTICS MANAGEMENT INFORMATION SYSTEM**

To ensure the proper management of contraceptives, logistics forms were developed and are now used at all levels of the system. These forms are stockcards and report and requisition forms. They complement those already used for essential drugs.

Stockcards aim at recording daily stock movements. According to the latest LIAT/LSAT report, stockcards are filled out at 75 percent (average) for all commodities.

Monthly and quarterly report and requisition forms are in use at the SDP and district levels. Before being resupplied, all facilities must report first on their usage. Health centers are reporting monthly to districts which, in return, submit their quarterly aggregates to the central level (CAMERWA and the MCH Task Force). The reporting rate is estimated at 100 percent. The high reporting rate has contributed to the collection of sufficient and dependable data for decision making.

Despite progress made in the use of the LMIS, the forms are not filled out properly at some facilities. Common errors include not being kept up to date (stockcards) or containing mathematical errors (for both

stockcards and reporting forms). The high personnel turnover tends to aggravate the situation. The new staff members are not trained and do not have the skills to properly manage the commodities for which they are in charge.

### **INVENTORY CONTROL SYSTEM**

As stated above, the low rate of stockouts and the lack of expired and damaged products within the system are mainly due to the inventory control mechanism put in place. During the 2002 design workshop, minimum and maximum stock levels for each institution were established. These levels were revised in 2005 to take into consideration the increase in contraceptive usage and the reporting delays observed. Table 2 illustrates the current inventory control levels.

**Table 2. Established Minimum and Maximum Levels (in months) (2005)**

<b>Level</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Emergency Point</b>
Central	12	6	3
District	6	3	1
Health center	2	1	0.5

The current LIAT/LSAT assessment shows that the entire distribution channel has less than 10 percent of stockouts and that these stockouts are for a very short period. The average stockout duration is estimated to be two days.

An in-depth data analysis shows zero stockout for almost all products, except Microgynon. Most of the time, stock may not be available in the storeroom but is available at the dispensing area, while the measurement of stockout was calculated from storeroom stockcards. For Microgynon, the stockout was due to a stock transfer to Burundi and lasted almost one month.

### **STORAGE CONDITIONS**

One of the biggest achievements over the life of the project is the improvement of storage conditions. The latest stock evaluation has shown that 100 percent of facilities visited (central, district, and health center) meet more than 75 percent of good storage conditions. Table 3 displays the percentage of storage conditions met in 2002, 2004, and 2006.

**Table 3. Percentage of Facilities Satisfying More Than 75 Percent of Storage Conditions**

<b>Levels</b>	<b>2002 (%)</b>	<b>2004 (%)</b>	<b>2006 (%)</b>
Central	—	—	100
District	62	92	100
Health center	55	62	100

Before 2002, contraceptives were widely stored and managed by service providers. They were not in the official MOH storage facilities. At the end of 2003 and in early 2004, with DELIVER's assistance, the MOH ordered that contraceptives be transferred to the storage facilities and placed them under the responsibility of storekeepers. At the central level, CAMARWA has ensured the storage and distribution of contraceptives to districts or any other authorized organization since February 2005. At district and

health center levels, district pharmacists and SDP storekeepers are now in charge of managing the products. Today, contraceptives are managed along with all other commodities by stock professionals or personnel officially designated for that purpose.

## **TRANSPORT AND DISTRIBUTION**

The distribution system in place in Rwanda is a pull (requisition) system. This means that each facility places its orders and picks up commodities by using its own means of transportation. Contraceptives are picked up together with essential drugs. Since contraceptives are given free of charge to clients, monies earned through the sale of essential drugs are subsidizing the transportation costs for contraceptives. Until now, that collaboration worked quite well. However, if a lack of funding for commodity transportation costs should occur, it would directly affect the procurement of contraceptives.

## **ORGANIZATIONAL CONTEXT**

The Rwanda supply chain is structured around the central level (CAMERWA), district pharmacies, and health center stores. Contraceptives are distributed through that channel. The use of the essential drugs distribution channel has been a great asset for family planning commodities that are no longer subject to MOH staff availability. Districts and health centers can get their products at any time without going constantly going between their locations and Kigali. Stockouts related to unavailability of staff at central level have completely disappeared.

In addition to using the national supply chain, a logistics committee has been officially created by the MOH. Its primary roles are monitoring the contraceptive supply situation and improving communication among FP stakeholders, specifically those purchasing contraceptives for Rwanda.

Despite all these efforts and given the changing environment, there is no real counterpart within the MOH that is clearly designated and in charge of contraceptive logistics. Apart from contraceptive distribution by CAMERWA, all logistics activities are implemented, monitored, and evaluated by DELIVER personnel. Family planning activities are now, until further notice, addressed by the MCH Task Force. The former Drugs and Pharmacy Directorate, normally responsible for drug policy and regulation, training, and monitoring and supervision of pharmacy personnel, has been replaced by the Drug and Pharmacy Task Force. The lack of an organized logistics unit at the MOH does not allow any plan for skills transfer and hampers the move toward sustainability.

## **ELEMENT II: IMPROVED HUMAN CAPACITY IN LOGISTICS**

### **ORGANIZATIONAL SUPPORT**

#### **Training**

One of the key elements to success in building the contraceptive distribution channel is the training of personnel in charge of managing stocks in general and contraceptives in particular. Training workshops organized in 2003 and 2005 were good opportunities for MOH staff to learn and emphasize basic logistics principles. A total of 546 people has been trained or oriented in logistics. The training activities contributed to the development of competencies at district and SDP levels and have led to improvements in the management of contraceptives.

Standard operating procedures manuals for districts and on-the-job training guides for health centers have been developed and updated.

Though district pharmacists and HC storekeepers have been trained in logistics, the LIAT/LSAT assessment determined that 40 percent of the personnel now taking care of the storerooms or acting for the pharmacists and storekeepers in charge have not received any logistics training. The high personnel

turnover seems to be the major cause of this situation. Table 4 indicates the number of trained staff, by category, in 2003 and 2005.

**Table 4. Number of Staff Trained in Logistics (2003 and 2005)**

Categories	April–May 2003	June–July 2003	May–June 2005	Total
National trainers	11			11
District pharmacists	32		42	74
Health center storekeepers	27	319 <sup>2</sup>		346
District supervisors			32	32
District medical officers <sup>3</sup>			31	31
Military health personnel	1	51		52
Total	71	370	105	546

#### Supervision

During the assessment, 47 percent of district pharmacists and 80 percent of HC storekeepers reported having received at least one supervisory visit during the previous six months; 72 percent of all health centers visited have received a supervisory visit during the last six months. Table 5 shows the percentage of facilities that received a supervisory visit during a six-month period in 2006.

**Table 5. Percentage of Facilities That Received a Supervisory Visit During a Six-month Period (2006)**

Specified Period	2006		
	<i>Warehouse (%)</i>	<i>FOSA (%)</i>	<i>All Facilities (%)</i>
Never received	15.8	8.5	10.2
During the last month	2.6	58.9	46.1
During the last 3 months	15.8	18.6	18.0
During the last 6 months	28.9	2.3	8.4
More than 6 months	34.2	10.1	15.6
Others	2.6	1.6	1.8
Total	39	130	169

Source: LIAT, Rwanda, 2006.

<sup>2</sup> Includes district pharmacists who did not participate in the April–May training.

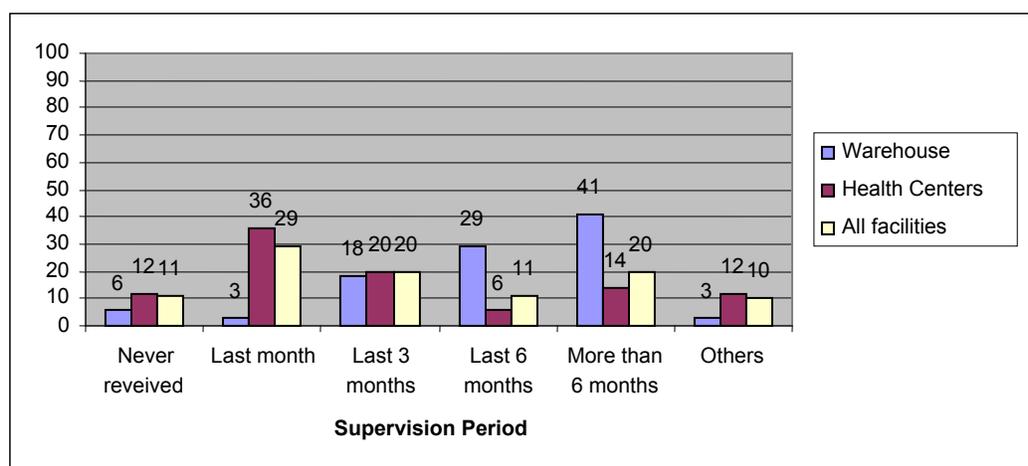
<sup>3</sup> Refers to logistics orientation of district medical officers.

To the question of whether the supervision was specific to logistics, 36 percent of district pharmacists and 29 percent HC storekeepers responded positively.

As in 2002, integrated supervisory visits do not emphasize logistics. Also, the integrated logistics supervision guide is still in draft form and not yet available for use.

Figure 2 illustrates the percentage of facilities that received supervisory visits for contraceptive management for a six-month period in 2006.

**Figure 2. Percentage of Facilities That Received Contraceptive Management Supervisory Visits During Specified Periods of Time**



Source: LIAT, Rwanda, 2006.

### ELEMENT III: IMPROVED RESOURCE MOBILIZATION FOR CONTRACEPTIVE SECURITY

USAID and the UNFPA are principal donors for contraceptives for the public sector. Since 2002, both organizations have been regularly supplying contraceptives to Rwanda. Orders are placed according to an annual procurement plan proposed by DELIVER that is updated every six months.

USAID and UNFPA meet after each forecasting and procurement planning exercise to agree upon product brands, quantities to order, and funding level. Table 6 gives the amount of money they spent (in US\$) to procure contraceptives for all recipients, including the Association Rwandaise pour le bien-être Familial (ARBEF), Population Services International (PSI), and the MOH.

**Table 6. Value of Contraceptives Received**

Donors	2002 (\$)	2003 (\$)	2004 (\$)	2005 (\$)	2006 (\$)	Total (\$)
USAID	25,468.96	276,938.53	238,831.46	854,203.19	910,371.88	2,305,814.02
UNFPA	49,808.00	267,609.00	252,400.00	174,119.00	343,489.00	1,087,425.00
<b>Total</b>	<b>75,276.96</b>	<b>544,547.53</b>	<b>491,231.46</b>	<b>1,028,322.19</b>	<b>1,253,860.88</b>	<b>3,393,239.02</b>

Procurement is based on annual donations; there is no mid- or long-term commitment from the donors. This uncertainty extends into 2007. Given the rapid increase in contraceptive demand and, correlatively, the CPR, there will be a need not only to mobilize more financial means but also to obtain long-term commitments from principal stakeholders. Donor coordination meetings and the development of a contraceptive security strategic plan are essential.

## **ELEMENT V: ESTIMATION OF USAID CONTRACEPTIVE NEEDS**

DELIVER conducts the critical activities of forecasting and procurement planning to maintain adequate stock levels at CAMERWA and throughout the country. These activities are performed every six months and aim at estimating contraceptive needs requirements for both USAID and UNFPA. To date, all shipments to the country are the results of that process.

The estimation of contraceptive needs is carried out with limited input of MOH staff. The MOH, and particularly the MCH Task Force, does not have designated personnel taking over logistics activities. Those who were trained are either no longer MOH personnel or they have been transferred to a new service. The attempt to create a national forecasting team has also failed. Major local stakeholders such as the Drugs and Pharmacy Task Force and CAMERWA have very limited presence or simply do not show up during the forecasting exercise.

# LESSONS LEARNED AND FUTURE DIRECTIONS

## LESSONS LEARNED

Following are DELIVER’s key lessons learned in the management of family planning commodities:

1. Having true support from government officials in general and the MOH in particular is determinant to improved performance. From the beginning, the MOH clearly backed all logistics activities related to contraceptives. That collaboration and consistent support from the MOH has led to embodying the suggestions and recommendations that are made. For instance, through clear administrative notes, the MOH conveyed recommendations to district and health center personnel.
2. Putting in place a functional logistics system not only ensures proper distribution of product nationwide but also contributes to the increase of the contraceptive prevalence rate. In Rwanda, it is recognized that all the efforts in the supply and the constant availability of commodities have boosted the demand of FP services.
3. Close monitoring of logistics activities in the field increases the confidence of district pharmacists and HC storekeepers, leading to their genuine commitment to the development of FP services. For years, contraceptives have been given free of charge to clients and were disregarded and considered unimportant as a result. Progressively, and through continuous assistance to districts, new mindsets have been built and contraceptive management has improved.
4. Establishing a clear reporting and requisition mechanism reduces stockouts. Rwanda stock managers are using a combined reporting and requisition form. The form enables the gathering of essential logistics data that are used for decision making. Every month (for HCs) or every quarter (for districts), stock managers order commodities on the basis of the logistics data collected.
5. Strong collaboration between development partners and the MOH ensures proper mobilization of resources to support the logistics system and to procure contraceptives according to plan. Over the past five years, USAID, UNFPA, and some of the local cooperating agencies have contributed financially to the implementation of logistics activities. Since family planning is one of the in-country priorities, the stakeholders have never hesitated to respond positively to any request by DELIVER. UNFPA, in addition to its own agenda, has funded logistics training, assessments, and product deliveries in its intervention areas. PRIME II Project and Intrahealth International have provided vehicles and paid per diems of their personnel involved in the activities carried out. As a result, DELIVER was able to transfer funds to other planned activities and increase its intervention in the field.

## FUTURE DIRECTION

Despite progress made in contraceptives management, there are still areas for improvement. The recent contraceptive strategic plan developed in Rwanda lays out general activities that will drive future interventions. These activities reinforce the strategies already available with the exception of moving ahead to an advanced computerized logistics system. The strategies are—

1. *Strengthening the logistics system.* This strategy will consist of maintaining the progress made and ensuring that the contraceptive logistics system is continuously functional, improving storage conditions, and strengthening the current reporting and feedback mechanism.
2. *Strengthening human capacity in logistics.* One of the major challenges the program is facing is the turnover of personnel at health centers. Nearly 40 percent of the staff is new at their posts. To ensure that personnel are knowledgeable in logistics and continue to run the logistics system properly and avoid recurrent stockouts, the project must develop a training and supervision strategy and transfer skills accordingly.
3. *Improving resource mobilization for contraceptive security.* For years to come, the project must advocate for more resource mobilization through various donors and obtain commitments for mid- and long-term financing of contraceptives. Emphasis will be put on the contribution of the GOR to the purchase of contraceptives.
4. *Adopting an advanced computerized logistics system.* With the number of monthly reports (from health centers) and quarterly reports (from districts) to process, there will be a need to have a computerized system in place that will serve as a database to keep and monitor the information flow. The database will be a key component not only to give feedback to health facilities but also for decision making.

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# APPENDIX 1

## CS BRIEF

CS Brief	
Population (2005)	8,700,000
Population growth rate	2.3%
WRA	23%
Fertility rate	5.7
CPR (modern methods) <ul style="list-style-type: none"> <li>• public sector</li> <li>• private sector</li> <li>• other</li> </ul>	10.3%
HIV/AIDS prevalence rate	3.0%
Health regions, districts, and SDPs providing RH/FP services (their numbers)	Provinces: 4 plus city of Kigali Districts: 30 SDPs: 341
Forecasting	
Current method mix and projected trend (for the whole country preferably based on the DHS or from selected programs)	The 2005 Rwanda DHS provides the following mix (for all married women ages 15–49 using modern methods): Sterilization: 4.85% Pills: 23.30% IUDs: 2.91% Injectables: 45.63% Implants: 1.94% Condoms: 8.73% Lactational amenorrhea method: 7.76% Cycle beads: 4.85%
Presentation and use of contraceptive procurement tables (CPTs) in management decision making	CPTs are prepared and reviewed every six months. The outcomes of CPT exercises are presented to the MOH, and to USAID and UNFPA, who have been financing the procurement of contraceptives based on these.
Assumptions related to data used in the CPTs ( <i>approach used</i> )	Nearly 100 percent of dispensed-to-users data, nationwide, is collected and used for forecasting purposes.

Sources and accuracy of data used in forecasting ( <i>data quality</i> )	Data are collected through monthly and quarterly reports and requisition forms. Health centers report every month and the districts each quarter. Feedback on data quality is sent out after the month following district quarterly reports. Overall, data collected are consistent and show no major discrepancy.
Role of technical assistance	DELIVER provides technical assistance to— <ul style="list-style-type: none"> <li>• strengthen the performance of the logistics system</li> <li>• build human capacity in logistics</li> <li>• ensure contraceptive security in Rwanda.</li> </ul>

## Procurement

Existence and role of the procurement unit	The central medical store (CAMERWA) is the procurement body of the MOH. It is in charge of procuring essential medicines for the country. However, for contraceptives, procurement is done by the donors (USAID and UNFPA).
Stock status analysis over a one-year period (overstocks, stockouts, and consistency of procurement plans)	Compared to the stock situation at the early stage of DELIVER's in-country assistance, contraceptives are available nationwide and on a regular basis. Supplies are coming in according to procurement plans; stockouts are reduced and are estimated at less than 10 percent. These stockouts are due not to the lack of commodities but to failure of storekeepers to properly manage their stocks. The only exception is the shortage of Microgynon following the transfer of 30,000 cycles to Burundi.
Contraceptive supplier situation (percentage of commodities provided by supplier)	USAID and UNFPA are the principal donors of contraceptives to the MOH and tend to equally share the costs of contraceptives supplies. For social marketing, KfW was the main supplier of condoms. However, since 2005, KfW has discontinued its funding, resulting in USAID's direct intervention to fill the gap. For the past two years, USAID has supplied PSI under HIV/AIDS funds and through the centrally funded commodity funds.

<p>Historical, current, and future role of USAID as a contraceptive donor</p>	<p>Prior to 2004, USAID’s contributions were minimal. Since then, given the growth of contraceptive demand, USAID has been increasing its funding level. Total USAID contributions from 2002 to 2006 are estimated at U.S.\$2,305,814.02, as follows:</p> <p>2002: \$25,468.96  2003: \$276,938.53  2004: \$236,831.46  2005: \$854,203.19  2006: \$910,371.88.</p> <p>Years 2005 and 2006 include the value of contraceptives shipped to PSI.</p>
<p><b>Financing</b></p>	
<p>Commodity funding mechanism (i.e., basket funding, cost recovery, local public funds, etc.)</p>	<p>Contraceptives are funded through—</p> <ul style="list-style-type: none"> <li>• UNFPA trust funds or global contraceptive fund</li> <li>• USAID’s field support and Centrally Funded Commodity Fund.</li> </ul>
<p>Current and future donor contribution in commodity financing plan over the next five years</p>	<p>One of the biggest limitations to the contraceptive security plan in Rwanda is the lack of long-term commitment from developing partners. Needs are covered only on a yearly basis. Thus, for 2006, the total value of commodities to procure is estimated at U.S.\$1,253,860.88. For 2007 and beyond, a commitment has not been made.</p>
<p>USAID/Mission intervention strategies (strategic objectives and plan for contraceptive security)</p>	<p>Strategic Objective 6: Increased use of community health services, including HIV/AIDS.</p> <p>Intermediate results:</p> <p>IR6.1: reinforced capacity for implementation of the decentralization policy in target health districts  IR6.2: increased access to selected essential health commodities and community health services  IR6.3: improved quality of community health services  IR6.4: improved community level responses to health issues (HIV/AIDS/FP/CS/malaria).</p>
<p><b>Supply Systems</b></p>	
<p>Length of the pipeline (in months)</p>	<p>Central: min = 6            max =12  Districts: min = 3            max = 6  SDPs:    min = 1            max = 2</p> <p>Length of the pipeline is 18 months.</p>

Major institutions involved in RH/FP activities	MOH, USAID, UNFPA, KfW, <i>Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ)</i> , Intrahealth International, AWARENESS project, PSI, CAMERWA, ARBEF/IPPF, WHO
LMIS status (level of efficiency)	A strong LMIS is in place and functioning well. The LMIS comprises— <ul style="list-style-type: none"> <li>• stockcards</li> <li>• report and requisition forms</li> <li>• a daily activity register.</li> </ul> <p>However, the focus is on the first two elements.</p>
Commodity availability at SDPs	Commodities are available at all SDPs. Stockouts are estimated at less than 10 percent and for a limited amount of time (a maximum of two days).

## Major Issues

### CONSTANT REORGANIZATION OF MOH STRUCTURE

For about two years, the GOR in general and the MOH in particular have been restructuring MOH services. New directorates, units, and task forces are being created. New personnel have replaced those previously in charge of RH/FP services. RH/FP services were previously managed by the RH Division, which became, over time, the MCH Unit, and now the MCH Task Force. Along with these changes, the number of staff keeps changing. As a result, DELIVER no longer has a direct counterpart in logistics management. DELIVER is acting as a body of the MOH that directly implements in the field all contraceptive-related activities.

### HIGH TURNOVER OF PERSONNEL

Staff members in charge of logistics at the central, district, and HC levels received logistics training. Unfortunately, nearly 40 percent of those personnel are no longer at their posts, having either left the system entirely because of staff downsizing or having been transferred to another health office. New personnel have never had the benefit of a logistics training. The recent LIAT/LSAT assessment reveals that most of the errors, stock imbalances, and stockouts encountered in the system occur at sites with new, untrained personnel.

### MOBILIZATION OF MORE FINANCIAL RESOURCES

The increase of CPR means an increase of contraceptive demand, and therefore more money, to ensure product availability. Commodity requirement needs have grown from less than US\$200,000 to nearly US\$1 million. That growth will certainly continue, resulting in more financial resources needed to satisfy demand. Correlatively, the growth in term of RH/FP services implies the maintenance of a robust logistics system to support good quality health care. Funding will surely become a major issue in years to come.

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## **SUSTAINABILITY OF THE CONTRACEPTIVE DISTRIBUTION SYSTEM**

Though some of the contraceptive logistics components are integrated, the current distribution system is being operated as a vertical program. Not only are contraceptives supported by external resources (for product procurement, financing of support activities, etc.), but they also have a different management mechanism (records, inventory control system, etc.).

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