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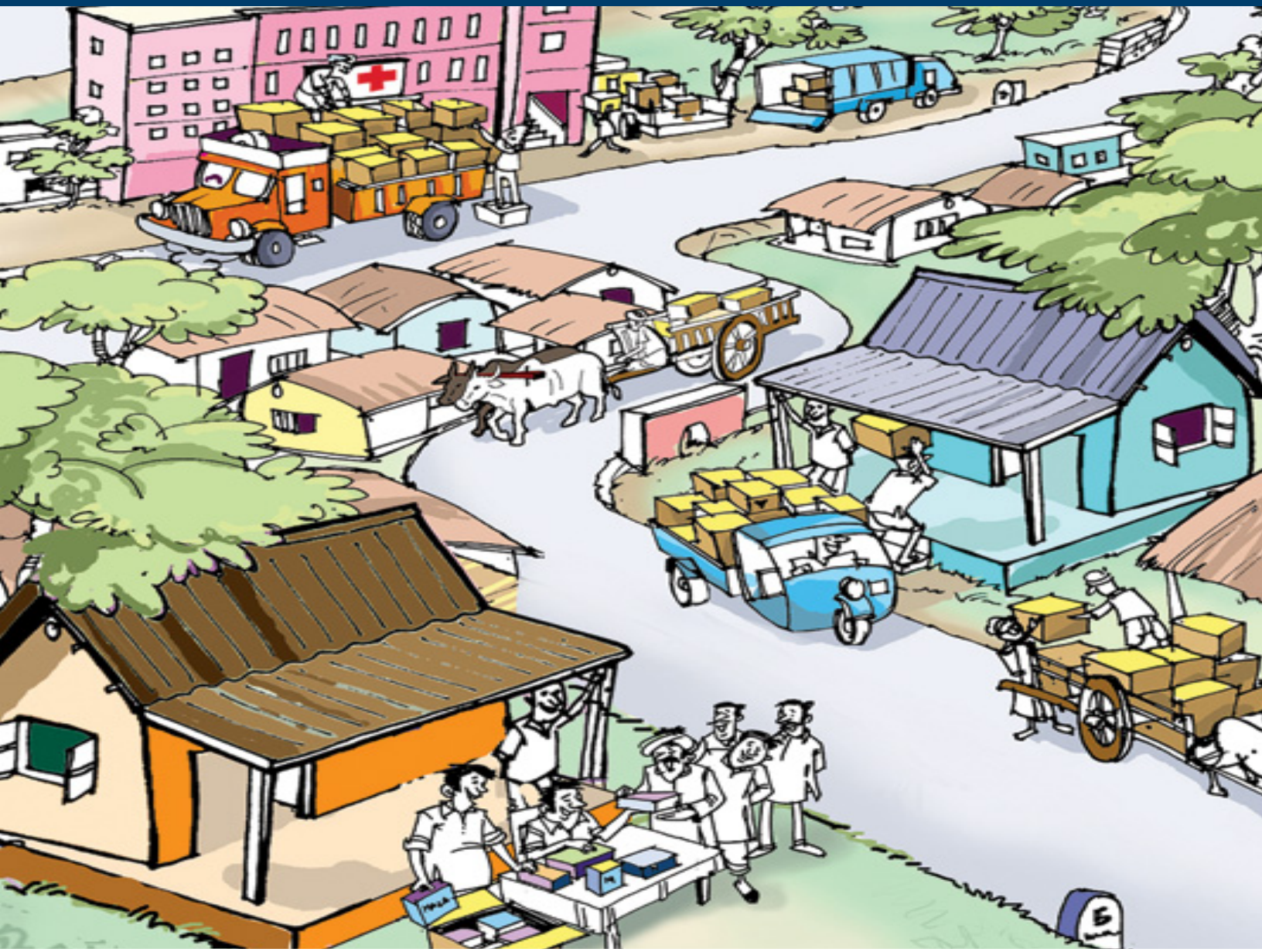
INDIA: FINAL COUNTRY REPORT



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DELIVER
No Product? No Program. Logistics for Health

INDIA: FINAL COUNTRY REPORT

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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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Abstract
In India, DELIVER worked in three states, namely Uttar Pradesh (UP), Uttaranchal, and Jharkhand, in northern India. However, many of the technical assistance activities during this report period were focused on UP and then on Uttaranchal. When DELIVER started working in UP, the largest state in India with 160 million people, contraceptive prevalence rate was barely 19 percent, and the entire public sector contraceptive logistics system was in disarray. Therefore, many of the interventions involved setting up systems, system streamlining, training, and system strengthening in working with local partners, such as the State Innovation in Family Planning Services Agency (SIFPSA) and the Indian Institute of Management, Lucknow. Since the Government of India (GOI) provides contraceptives to states through federal programs, the issue in UP was not having the funds or contraceptives, but of ordering an appropriate quantity of contraceptives, receiving them in timely manner through the federal government, and ensuring their delivery when needed. By 2005, the contraceptive prevalence rate in UP had risen to 29 percent.

In working with the Ministry of Health and Family Welfare (MOHFW), DELIVER's interventions and strategies focused on developing awareness of and commitment to contraceptive security and institutionalizing and optimizing a logistics system. Contraceptive security work included assistance in developing a work plan and procurement policies, and streamlining and strengthening the public sector logistics system through training and development of the *Supply Procedure Manual: An Instructional Manual for the Logistics People*, the *Storekeepers Manual*, and a supervisory checklist. Setting up a logistics management information system (LMIS) and a logistics management cell (LMC) were part of the technical assistance strategy to build capacity. A primary thrust of technical assistance in India was using available local resources; however, continued support is needed in capacity building, system functioning, and monitoring and supervision as the program grows.

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ACRONYMS

CA	cooperating agency
CEDPA	Center for Development and Population Activities
CMS	Commercial Market Strategies (project)
CPR	contraceptive security rate
CS	contraceptive security
CSF	Community Systems Foundation
DFW	Directorate of Family Welfare
FPLM	Family Planning Logistics Management
GOI	Government of India
GoUP	Government of Uttar Pradesh
IFPS	Innovations in FP Services
IIM	Indian Institute of Management, Lucknow
INTRAH	International Training in Health (program)
IUD	intrauterine device
JHU	Johns Hopkins University
JSI	John Snow, Inc.
LMC	logistics management cell
LMIS	logistics management information system
MOHFW	Ministry of Health and Family Welfare
NGO	nongovernmental organization
PHN	Population, Health, and Nutrition (USAID)
RH	reproductive health
SDP	service delivery point
SIFPSA	State Innovations in Family Planning Services Agency
SIHFW	State Institute of Health and Family Welfare
SO	strategic objective
TA	technical assistance
TFR	total fertility rate
TNMSC	Tamil Nadu Medical Services Corporation
TOT	training of trainers
UA	Uttaranchal

UNFPA	United Nations Population Fund
UP	Uttar Pradesh
UPHSDP	Uttar Pradesh Health System Development Project
USAID	U.S. Agency for International Development
WB	World Bank

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First and foremost, the DELIVER project would like to thank the USAID Mission in New Delhi, especially the activity managers and Population, Health, and Nutrition (USAID) (PHN) staff throughout the DELIVER contract period.

DELIVER would like to thank the institutions and individuals who contributed to DELIVER's work throughout the duration of the project, particularly the Principal Secretaries and Secretaries of Health and Family Welfare in Uttar Pradesh (UP), the Secretary in Jharkhand, an additional Secretary in Uttaranchal, and the Directors General in UP and Uttaranchal in the Ministry of Health and Family Welfare for their support and leadership in moving ahead with the logistics program in their respective states. Our local partners, the State Innovations in Family Planning Services Agency (SIFPSA), the Indian Institute of Management (IIM), and the Community Systems Foundation (CSF), also contributed to our efforts in improving logistics systems.

We would like to acknowledge the support of all staff at various tiers of supply chain management with whom DELIVER worked in pursuit of logistics management in Uttar Pradesh, Uttaranchal, and Jharkhand. These individuals make sure the supplies are available when and where they are needed and in the correct quantity, and they took to heart the DELIVER logo, "No Product? No Program." We would also like to express our gratitude for the support, guidance, and leadership provided by the officials of the Ministry of Health and Family Welfare (MOHFW) and the Government of India (GOI), New Delhi.

The country team would also like to thank our local staff and a host of consultants for their dedication, significant contributions, and ongoing efforts, and for their contributions to DELIVER's program in India.

EXECUTIVE SUMMARY

In India, DELIVER worked under the umbrella of the Innovations in Family Planning Services (IFPS) project, which served as a catalyst for the Government of India (GOI) in reorienting and revitalizing the country's family planning services. In 1992, when this project was conceived, the population of Uttar Pradesh (UP) was 140 million, making it the largest state in India and larger than all but five countries in the world. The thinking was that if access to family planning services in UP could be greatly increased, and if couples would accept and use contraception on a broad scale, there would be a reduction in fertility in India, which would be a major benefit. Further, based on the UP experience, other states—including those that were slow to progress—would benefit as well.

In light of this thinking, the IFPS Project Agreement came into being as a joint endeavor of the GOI and USAID. The project structure envisaged that all activities would be implemented by a registered society, State Innovations in Family Planning Services Project Agency (SIFPSA), which would manage the project, provide flexibility in the flow of GOI funds, and recruit government agencies and nongovernmental organizations (NGOs) in family planning service delivery. SIFPSA would have the flexibility to recruit experts from the private sector and to seek the help of government leaders. It would also be responsible for the day-to-day coordination and management of all project activities, and all USAID-funded technical assistance projects—such as DELIVER—would coordinate with SIFPSA in providing technical assistance to the Ministry of Health and Family Welfare (MOHFW).

The same program was later extended to the newly created states of Uttaranchal and Jharkhand.

The primary goal of the IFPS project is to assist the state of Uttar Pradesh in reducing the rate of population growth to a level consistent with UT's social and economic objectives. Implied in this long-term goal, is the need to lower the fertility rate significantly. Specifically, the project sought to reduce the total fertility rate from 4.8 in 1993 to 3.9 in 2004. To achieve this, the contraceptive prevalence rate had to increase from 18.5 percent in 1993 to 35 percent in 2004.

It was only within the last three years of Family Planning Logistics Management (FPLM) III, DELIVER's earlier project, that DELIVER became active in India. While DELIVER's work in India during the period October 2000–June 2005 was primarily in three northern states—Uttar Pradesh, Uttaranchal, and Jharkhand—most of DELIVER's technical assistance efforts focused on supply chain management in contraceptives in UP.

DELIVER's primary technical assistance effort sought to establish procedures and best practices, strengthen the system and make it sustainable, and build local capacity building. In support of the priorities of the government and USAID, and in recognition that India has a vast wealth of resources, technical assistance focused on the use of local resources, as much as possible, to develop local capacity. The capacity-building efforts were made in partnership with the Ministry of Health and public and private sector service providers. Although the MOHFW[1] was the main beneficiary of our work with other partners outside the MOHFW, at the same time it was our aim to develop the sustainable capacity of local partners.

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1 MOHFW refers to the state agency, unless MOHFW/GOI, New Delhi, the national government entity, is mentioned.

In this regard, DELIVER's key partner was the Indian Institute of Management, Lucknow (IMM/Lucknow) in Uttar Pradesh. With DELIVER's technical assistance and coordination, IIM developed various logistics-related materials that the MOHFW uses in UP, including—

- *Supply Procedure Manual: An Instructional Manual for the Logistics People* (MOHFW 2007f)
- *Storekeepers Manual* (MOHFW 2003e)
- *Trainers Manual* (MOHFW 2003g)
- Field monitoring checklist
- Feedback summary preparation and reporting forms
- *Procurement Policy and Procedure Manual* (MOHFW 2003d).

Again, working toward sustainability, and armed with manuals and materials, more than 120 MOHFW staff members received training. DELIVER and IIM trained 40-plus MOHFW field-based trainers in logistics management. These trainers are available, in turn, to provide training in logistics management through their training centers to all cadres of field staff throughout the state. In addition, over 70 headquarters and district-based staff were trained in the logistics management information system (LMIS).

With DELIVER's assistance, several accomplishments occurred within each of the three states:

Uttar Pradesh

- The MOHFW established a functional logistics management cell (LMC) at the state headquarters that is solely charged with essential but previously neglected logistics management responsibility.
- Another notable long-term accomplishment, which resulted from DELIVER's intervention, was IIM/Lucknow's setting up a logistics resource center on its campus so the MOHFW and others working in health logistics services can access IIM's resources.
- DELIVER set up a functional LMIS for seven districts on a pilot basis; this was the first time a monthly report on logistics was used and transmitted from the field, tabulated at the central level, and then used for supply decision making. The successful model is to be rolled out statewide.

Uttaranchal

- DELIVER prepared a comprehensive logistics strategic plan for the MOHFW as well as a procurement policy manual.
- DELIVER also designed and pilot tested a web-based LMIS in three districts.

Jharkhand

During the brief time in 2003–2004 that DELIVER worked in Jharkhand, it responded to the immediate needs of this newly formed state by identifying a facility for a central warehouse, and ensuring that the facility was refurbished and operationalized into a functional interim central warehouse for health and family planning commodities until construction of the new central warehouse was completed. The MOHFW in Jharkhand was in the process of developing a design for overall health services activities, and logistics technical assistance support from USAID was to be included later in the project.

ADDITIONAL ACTIVITIES

In a continuing effort to build capacity and information sharing, DELIVER organized two study tours for MOHFW officials on logistics management systems and procurement practices. Additionally, several policy logistics workshops were held for senior-level MOHFW officials to compare and discuss logistics issues. By introducing the LMIS, DELIVER was able to improve the ability of the staff to estimate and distribute contraceptives. Four newly constructed warehouses, located in four geographic regions of UP, were put into operation, with formal procedures, staff, and inventory control systems put in place.

FUTURE DIRECTIONS

To meet the growing demands of India's current and future family planning needs, GOI should continue to explore outsourcing to the private sector to support government efforts in logistics management, procurement, storage, and distribution. As the government builds its logistics capacity, it can partner with the private sector to ensure contraceptive security in India.

PROGRAM BACKGROUND

COUNTRY CONTEXT

Under India's federal system, providing health is a state responsibility, and each state, under the Ministry of Health and Family Welfare (MOHFW), plans for, procures, and distributes its own commodities. However, the federal/central government, known as MOHFW/Government of India (GOI), based in New Delhi, supplies the states with certain essential commodities, including contraceptives, nutrient tablets, and certain medical kits. Each state submits its annual requirements for these essential commodities to the MOHFW/GOI, New Delhi, by March each year, and delivery of supplies to the states usually begins in July. At the state level, one ministry, MOHFW, is responsible for health and family planning services, which may vary from one state to another—for example, the implementing directorate could be divided into two separate directorates, one for health and the other for family welfare, or there could be just one directorate for both. Each directorate is headed by a director general. Regardless of the number of directorates at the state level, staff have the ability to work in both directorates. Uttar Pradesh (UP) has two directorates, but Jharkhand and Uttaranchal each has only one directorate. DELIVER worked with the directorate responsible for family welfare on contraceptive security (CS).

During 2000–2006, two new states, Uttaranchal and Jharkhand, were added to DELIVER's existing UP portfolio. All three states, in northern India, comprise a large part of India's population of 1 billion. UP remains the most populous state in India (160 million people), while the two smaller states were carved out of existing states in 2000: Uttaranchal from UP (8 million people), and Jharkhand from Bihar (26 million people). Although the populations are high, development and health indicators, including total fertility, remain significantly low compared to most other states in India.

In 1992 USAID launched a 10-year, U.S.$325 million Innovations in Family Planning Services (IFPS) project in UP, which it later extended through 2004, to achieve a significant reduction in the total fertility rate through comprehensive improvements in and expansion of family planning (FP) services. The project sought to double the use of modern methods of contraception, and would gauge its success by monitoring modern method contraceptive prevalence rates (CPRs) in the state as a whole, and particularly in the districts with earlier involvement in the project. See table 1 for more information.

With a CPR of 19 percent at the beginning of the IFPS project in UP, significant logistics efforts were needed to double CPR. USAID had contracted with several cooperating agencies (CAs) to assist the IFPS; DELIVER, working in three of India's states in providing logistics technical assistance (TA), was one such CA.

Table 1. Selected Demographic Indicators

Country/ State	Population (in millions, 2001 census)	TFR	CPR (modern methods)
India	1,027.0	2.85	42.8
Uttar Pradesh	166.1	3.99	36.6
Uttaranchal	8.5	2.61	40
Bihar (includes Jharkhand)	82.9	3.49	35.4
Kerala	31.8	1.96	57.4

Source: (National Family Health Survey-2. 2000)

KEY PLAYERS AND ROLES

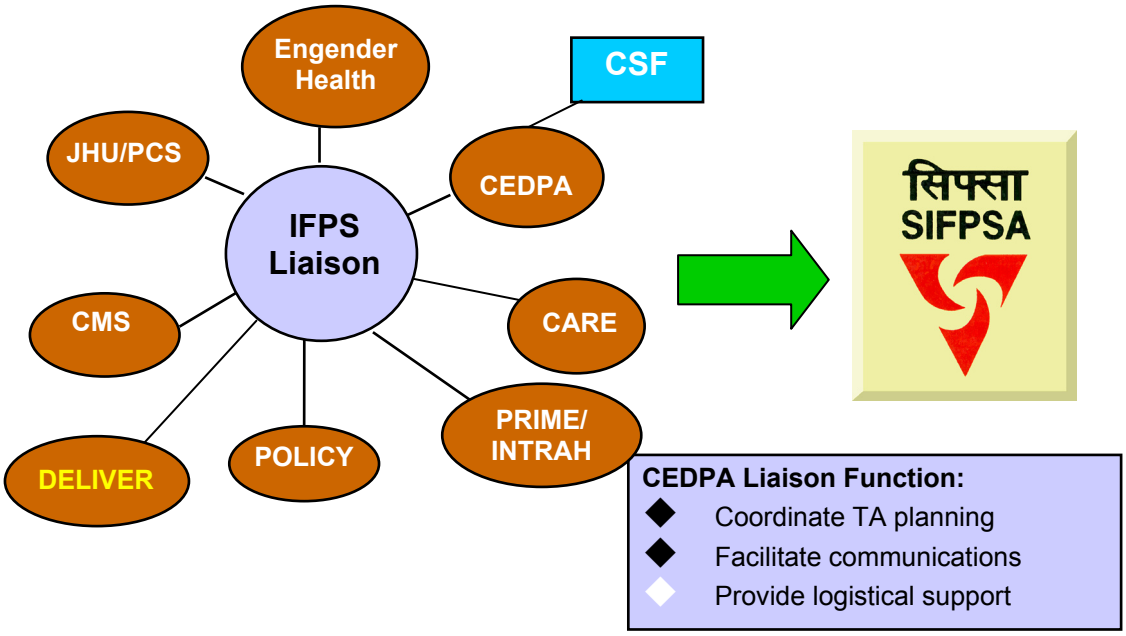
USAID has encouraged the CAs to coordinate and cooperate in providing technical assistance to the State Innovations in Family Planning Services Agency (SIFPSA) and project implementation for the IFPS project in UP. To help accomplish this, USAID set up a liaison office in New Delhi, managed by the Center for Development and Population activities (CEDPA). As the implementing agency for the IFPS project in UP, SIFPSA is headed by two senior civil service officers, and the principal secretary of the state-level MOHFW is a member of its governing body. Thus, MOHFW/UP is involved in all policy making and review of SIFPSA activities.

The key CAs involved in providing technical assistance to SIFPSA were—

- International Training in Health (INTRAH) program
- The Futures Group Policy Project
- EngenderHealth
- Communications Project of Johns Hopkins University (JHU)
- CEDPA.

In UP, DELIVER's main partners, besides SIFPSA and MOHFW, were the World Bank (WB), UP Health System Development Project, United Nations Population Fund (UNFPA), and Indian Institute of Management (IIM)/Lucknow. See figure 1.

Figure 1. IFPS Cooperating Agencies



While DELIVER collaborated with the WB, which funded the Health System Development project in UP to establish a warehousing system and an information system, our key partner in training and materials development was IIM/Lucknow. A reputable business management institute located in Lucknow (the capital of UP), IIM had been working with the WB and UNFPA to train public sector officials in reproductive health. However, IIM/Lucknow lacked experience in health logistics and was keen to work

in this area. Thus, our partnership was formed with a view toward transferring technology in health and family planning supply chain management to IIM/Lucknow, which will enable the MOHFW and SIFPSA to access IIM's technical assistance when needed. Our initial target for partnership in training was the state-level training institute, known as the State Institute of Health and Family Welfare (SIHFW). Unfortunately, the SIHFW was in a moribund state, and it would have taken some time to bring it up to speed to handle additional planned activities. However, in all of IIM/Lucknow's review meetings and materials development, participation of a SIHFW representative was sought.

KEY CHALLENGES

These three states in northern India have many multifaceted the problems and challenges. Their literacy rates, particularly female literacy, are much lower than the country's average, and most development and health indicators are significantly lower than they are in the rest of India's states. Compounding this situation is a lack of physical infrastructure, such as roads, transport, communication, warehousing facilities, etc. However, these issues also offer enormous opportunity to work to improve the lives of millions of people by providing basic health services.

One challenge to overcome was building awareness among public sector policy-level officials about the need for an effective and functional logistics system for health and family planning. Such a system has not been a priority. Many at the MOHFW's top levels felt the system was already there and would work when needed. In fact, it was just the opposite for UP. Not only did the system need a complete overhaul and redesign when DELIVER started working in UP, the state was in shambles as far as logistics management was concerned. A 1995 survey of health facilities/service delivery points (SDPs) revealed that 50 percent of the service outlets had stockouts. In addition, there was no consistency in reporting; in fact, hardly any districts reported on time or at all. Wastage of contraceptives was rampant throughout the system, and monitoring and supervision were non-existent.

With the development of the *Supply Procedure Manual: An Instructional Manual for the Logistics People (MOHFW 2003f)*, the *Storekeepers Manual (MOHFW 2003e)*, and training and monitoring materials, and the establishment of the logistics management cell (LMC) and logistics management information system (LMIS), the situation is certainly much better now in UP. However, continued progress depends on how the MOHFW continues to manage and monitor logistics by following the procedure outlined in the *Supply Procedure Manual* and other guidelines. Although the public sector is reluctant to outsource, that is the mechanism for continuing the improvements needed in logistics management.

GOALS AND OBJECTIVES

DELIVER OBJECTIVES

DELIVER's strategic goal has been to "improve contraceptive logistics in the state of UP." The same goal was later applied to the two states where the program was extended, Uttaranchal (UA) and Jharkhand. This goal supports the objective of Innovations in Family Planning Services (IFPS)—to reduce the total fertility rate (TFR) from 4.8 to 3.9 in UP over a 10-year project period and to double the use of modern contraceptive methods. To achieve this goal, vastly more contraceptives and related supplies needed to pass through the distribution system. These activities constitute a modest portion of the overall logistics system improvement effort in UP, which was guided by the SIFPSA project's benchmarks to improve the logistics system of UP's MOHFW.

Figure 2 describes the interventions agreed upon with the USAID Mission and the MOHFW/GOI before project implementation.

RELATIONSHIP TO USAID AND CLIENT OBJECTIVES

The overall objective of DELIVER's activities has been to improve the contraceptive logistics system in the three states working through the ministries of health. This objective directly supported IFPS's goal of reducing the TFR by facilitating contraceptive availability through an improved logistics system. DELIVER's work in the states was also in direct support of the Mission's strategic objectives (SOs). While DELIVER worked directly with the MOHFW in UP, it also maintained a collaborative link with SIFPSA. While the MOHFW was the ultimate beneficiary of DELIVER's technical assistance, the activities carried out also enabled SIFPSA to meet its benchmarks. One such direct collaboration with SIFPSA was in development of the *Supply Procedure Manual: An Instructional Manual for the Logistics People*, where SIFPSA's feedback was very helpful.

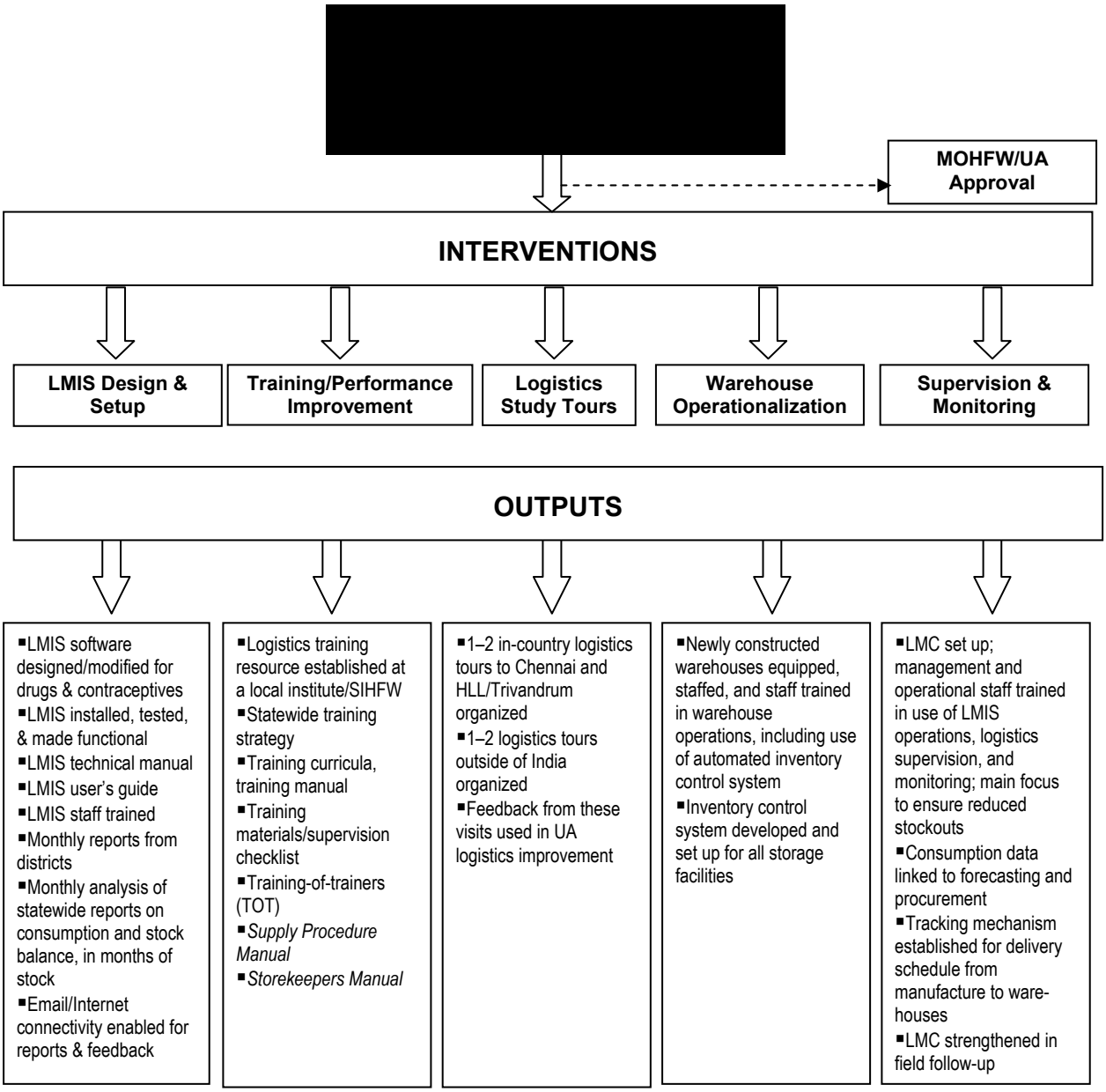
DELIVER'S ROLE IN RELATION TO OTHER ORGANIZATIONS

DELIVER worked with the WB and UNFPA on improving logistics management in India. DELIVER coordinated with the WB to operationalize the regional warehouse projects constructed with WB funding, and assisted the MOHFW to develop basic storage guidelines and train storekeepers. UNFPA assisted the Government of Uttar Pradesh (GoUP) in planning where the regional warehouses would be located. DELIVER also collaborated with both organizations, and the MOHFW, stressing the need to plan warehouse locations throughout UP, not on the basis of availability of land or political considerations, but on which locations would be strategic from a logistics point of view.

DELIVER also collaborated with the GoUP on the UPHSDP in developing and testing the LMIS software, which was developed, field tested, and implemented by DELIVER in seven UP districts.

DELIVER also participated in weekly meetings at the liaison office in New Delhi, which included all CAs and Mission representatives. During these meetings, travel plans, upcoming activities, and briefs were discussed.

Figure 2. JSI/USAID Logistics Technical Assistance Plan (2002–2006)



SUMMARY OF INTERVENTIONS

The basic premises in providing logistics management technical assistance in India were—

- sustainability
- developing infrastructure/capacity building
- putting systems in place
- operationalizing the systems

- system strengthening.

Keeping sustainability and capacity building in mind, our strategy was to use available local Indian resources. Our partnership with IIM/Lucknow, training host-country nationals, and engaging local consultants in most of our work, all bear testimony to the creation of a resource pool for continuing activities and providing future technical assistance.

Interventions were designed working within the above parameters. Because of the federal system of government in India, one important aspect of the work there is that it was important to obtain written approval of interventions from both the central MOHFW in New Delhi and the state ministry. Therefore, the list of interventions was planned with full input and approval from the concerned GOI and state officials. Although DELIVER collaborated with the SIFPSA, there was some initial difficulty because SIFPSA's leadership did not view logistics management as a priority. This was overcome, however, with the intervention of a higher-level Ministry official.

The following is a summary of interventions and accomplishments:

LMIS Design and Setup: LMIS software was developed, field tested, and implemented in seven of the UP's 72 districts. A central LMIS section was created and staffed by the MOHFW on the premises of the state warehouse, staff were trained, manuals developed, and procedures outlined.

In UA, a web-based LMIS was designed and tested in three of the state's 13 districts. All relevant technical and operational manuals and training and monitoring materials were developed for LMIS users. Staff were trained in LMIS, an LMIS section was allocated within the state warehouse building, and the LMIS section was furnished and equipped with hardware. In June 2005, as per the USAID Mission, DELIVER handed over all UA LMIS operations to Futures Group India, the new bilateral contractor under the IFPS project.

Training/Performance Improvement: With DELIVER's technical assistance, IIM/Lucknow conducted three TOTs in logistics management, in which a total of 45 field-based trainers from the MOHFW received weeklong training. These trainers, in turn, were to train others in their geographic region in logistics management.

A comprehensive training manual, with curricula and accompanying materials for different levels of trainees, was developed by IIM/Lucknow for the TOT training program. Before the TOT program, GoUP developed and approved a statewide logistics management training strategy.

Logistics Study Tours: Two study tours were conducted during the project. The first, to Kenya, was for senior-level GOI and GoUP officials to learn more about the FP program, with specific attention to the logistics management system. Three officials from GOI and GoUP participated in this tour. The second, to the Tamil Nadu Medical Services Corporation (TNMSC) in Chennai, was for implementing-level officials. This tour, which included four officials from UP, was oriented toward the TNMSC's procurement practices for similar potential adaptations in UP.

Warehouse Operationalization: Four newly constructed warehouses in UP were operationalized by putting procedure and inventory control systems in place as per standard warehouse guidelines and training staff. The inventory control system of the state warehouse in Lucknow was also streamlined and standardized, and the *Storekeepers Manual* was developed.

Supervision and Monitoring: Because supervision and monitoring are critical components of an effective logistics cycle, much attention was paid in setting up an LMC, which was responsible for operating, supervising, and monitoring logistics activities. The scope of work for the LMC and individual staff job descriptions were developed as well, and LMC staff were trained. The manuals and monitoring materials,

such as the field monitoring checklist, feedback summary preparation, and reporting forms, were developed, and staff were trained in their use.

In addition, a three-year Logistics Management Strategic Plan, 2005–2007, was developed for the MOHFW/UA, which duly approved it. In addition, at the request of the MOHFW/UA, a Procurement Policy and Procedure Manual was developed and submitted to the MOHFW.

Because of limited funding, DELIVER maintained a small staff, hiring local consultants for most of the TA work from the pool of resources available in India.

SUMMARY OF DELIVER FUNDING AND STAFFING

DELIVER spent U.S.$1,523,000 over a five-year period; the average annual obligation over the lifetime of the project was U.S.$300,000. (All of the allocated funds were from USAID's population account.) The project included three management and technical staff and one support person, along with a team of two to four local, short-term consultants from the partners. See table 2.

Table 2. Summary of DELIVER Funding and Staffing

FY	Obligation ($)	Staffing	
2000	723,000	3	Technical & Mgt.
		1	Support
2001	200,000	3	Technical & Mgt.
		1	Support
2001	200,000	3	Technical & Mgt.
		1	Support
2002	300,000	3	Technical & Mgt.
		1	Support
2004	100,000	3	Technical & Mgt.
		1	Support
Total	**$1,523,000**		

PROGRAM RESULTS

ELEMENT I: IMPROVED LOGISTICS SYSTEM

As logistics management work was not viewed by many as a priority within the corridors of the MOHFW, it took some time to create awareness of the need for a functional logistics system that responded to the needs of the country's service delivery program. Therefore, initial technical assistance involved advocacy activities with senior-level officials.

First to recognize the need for an effective logistics system was the Ministry, which approved a separate LMC and staff allocation for the newly created cell. Much remains to be done to motivate people in the public sector system and to bring them up to speed in running an effective logistics system. As the program grows, those working in the northern part of the country will face the need for more resources to handle the larger volume of commodities passing through the supply chain system (e.g., warehousing capacity, transport, and staff at all levels of distribution tiers. (The delete system progresses from point A to B, and then from point B to C.)

An often-cited and -perceived impediment to ensuring availability of FP supplies is a lack of resources; however, when one looks deeper, the problem actually lies in the allocation and use of resources. Because of UP's size, its physical infrastructure has not been well developed, and the state's problems have been exacerbated by the lack of proper procedures and oversight. This allowed a lot of wastage to occur, whereas greater efficiencies could have resulted from using the LMIS. Unlike many developing countries, India is fortunate in that all of its contraceptives are manufactured within the country. In addition, the central government supplies all public sector contraceptives to the states free of charge. In the case of UP, the central government has always been able to meet the states' annual demand for contraceptives.

Therefore, many of DELIVER's interventions focused on setting up procedures, streamlining and strengthening the system, and training the staff.

The key areas are as follows:

- Streamlined the UP logistics system, which resulted in increased availability of contraceptives in the districts (from 50 percent availability in 2001 to 85 percent in 2004, as indicated in the LMIS report).
- Set up inventory management system in the state warehouse and in selected regional and district warehouses.
- Set up, formalized, and operationalized the LMC in UP.
- Identified the facility and refurbished and operationalized an interim state warehouse in Ranchi for MOHFW/Jharkhand.
- Developed the *Supply Procedure Manual* and the supervision and monitoring checklist.
- Developed the *Storekeepers Manual* and trained key staff in its use.
- Established an LMIS that was field tested and implemented in two states, including the pipeline report and state monthly summary report (Uttaranchal).
- Set up a pipeline report showing the status of shipments ordered/shipped from MOHFW/Central.

ELEMENT II: IMPROVED HUMAN CAPACITY IN LOGISTICS

Equipping staff with the right tools and skills is critical to an efficient, effective logistics system. In India, as in many countries where DELIVER works, training could not proceed because many logistics positions did not exist in the public sector, even when they did exist, the position was often either vacant or filled by a temporary person who was doing many other activities not directly related to logistics. Taking this into consideration, the first challenge was to have the appropriate staff in place, ensure that there were job descriptions with specific logistics responsibilities for the positions, and put both into place where no positions or job descriptions existed. To reap the benefits of the training, it was important to identify, before any training took place, the right person, whose future responsibilities would actually relate to logistics. Given DELIVER's objective to focus on sustainability and capacity building, selecting partners to work in logistics was done carefully.

With an objective of improving human capacity in logistics management, DELIVER provided formal and on-the-job training to the MOHFW staff in logistics management and the logistics information system.

Logistics Training: To equip staff with skills in logistics management, DELIVER trained three IIM/Lucknow instructors through a TOT organized in Bangladesh. These three trainers later designed, developed, and conducted a TOT for MOHFW/UP in which 45 field-based trainers were trained.

LMIS Training: LMIS software was developed as per the needs of the program. To introduce and implement LMIS in UP and UA, a total of 78 headquarters and district-based staff were trained and retrained. In addition, during a field visit, on-the-job training was part of DELIVER's technical assistance program to ensure smooth implementation of the LMIS.

Orientation Workshops: Ongoing support to the logistics program from senior officials at the policy level of the Ministry is critical. Several logistics workshops were organized for policy-level officials, along with the implementing level staff. This provided a forum to discuss current problems and their remedies and to seek further guidance from their supervisors.

Tools and Materials Development: The training manuals, LMIS operation manual, supervision and monitoring checklist, review and analysis process checklist, and procedure manual were developed to help logistics system managers and practitioners.

ELEMENT III: IMPROVED RESOURCE MOBILIZATION FOR CONTRACEPTIVE SECURITY

As in many countries, contraceptive security (CS) is a relatively new term in India. Although the system is integrated in Uttaranchal and Jharkhand, there is a separate Directorate for Family Welfare (DFW) activities in UP. At the state level, the DFW is charged with the responsibility for CS in UP, while the Directorate of Health within the MOHFW handles contraceptive needs. In India, injectables are still not yet approved in the public sector, and the supplies needed for sterilization generally seem to be in full supply. Thus, the GOI supplies oral pills, condoms, and intrauterine devices (IUDs).

Estimating Needs: In estimating needs, an arbitrary 10 percent increase over the previous year's consumption was applied in UP to establish a consumption figure, due to the lack of a functional LMIS. With DELIVER's technical assistance, a much-needed LMIS was set up and made functional to give a more accurate figure for consumption and better information about stock on hand. Accordingly, the LMC was given the responsibility of estimating contraceptive requirements based on LMIS information.

The estimate of needs is based on consumption and planned program growth. Each state sends a requisition for its annual requirements for contraceptives to the central MOHFW during the first quarter of the calendar year (July 1–June 30).

Financing and Procurement: Each state's contraceptive needs are procured and supplied by the central MOHFW/GOI; there is no procurement activity at the state level for contraceptives.

Shipment Delivery/Distribution: Insofar as the demands of the three states are concerned, the records indicate that the GOI has been supplying the contraceptives as per their demands. However, the shipment delivery schedule seems erratic as it depends on the production and manufacturer's convenience. This could lead to overstock, exceeding warehouse capacity, or to stockouts. Therefore, a staggered delivery schedule was planned and introduced to meet the needs of the program, taking into consideration buffer stock and warehousing capacity.

In UP, with DELIVER's technical assistance, a distribution plan was developed, based on LMIS and SDP data and taking into consideration max-min levels and buffer stock. The LMC implements and monitors this plan.

ELEMENT IV: IMPROVED ADOPTION OF ADVANCES IN LOGISTICS

DELIVER was able to provide technical assistance to the MOHFW in two areas under this element:

- use of a computerized system to manage inventory control and operation of the LMIS, thereby increasing efficiency, accuracy, and timeliness of reports (previously a cumbersome paper-based system was used)
- introduction of a web-based LMIS in UA whereby the district can enter reports on the Internet and view them on the Web, thereby reducing paper, increasing accuracy, and enhancing the ability to receive immediate feedback.

LESSONS LEARNED AND FUTURE DIRECTIONS

- With a population of 1.1 billion, India is a vast country with diverse geographic and demographic variations. Technical assistance for health and family planning supply chain management was designed to be carried out through the Ministries of Health and Family Welfare at the state and central government levels. As the program is expected to grow over time, it is important to identify which areas are seeking private sector participation to meet their needs.
- The Ministry of Health is being pressed to deliver basic health services in light of staff and resource constraints. Moreover, because the Ministry of Health's core competence simply is not in logistics management, one feasible option is to outsource this responsibility to the private sector. The government recognizes the potential role of private sector resources, particularly in such areas as transportation for delivery of commodities, management of information systems, and warehousing. Bureaucratic constraints make appointing and filling job positions time consuming. With India's abundance of resources and leadership in information technology, allocation of resources and manpower can be used to meet India's family planning needs.
- More opportunity for outsourcing in various components of supply chain management, such as drug procurement, warehousing and distribution, and LMIS, should be explored. There are examples of this taking place elsewhere in India. DELIVER organized a tour to TNMSC for UP MOHFW officials to demonstrate how the TNMSC manages its management information system, drugs, and health equipment procurement as an agency outside of the MOHFW. The tour was very helpful, particularly in following up the work in UP. In planning any study tour program, it is important to select the right people who can champion or be able to guide the follow-up/implementation plan.
- It should also be remembered that outsourcing demands a new set of rules and procedures to manage and monitor contracts. As India moves forward with privatization, perhaps the direction in future technical assistance should be geared toward what can be outsourced, how it can be outsourced, development of scopes of work, and management and monitoring of contracts.
- For the logistics system to function effectively there needs to be enough manpower in terms of numbers and skills in the public sector to manage and monitor the LMIS. Additionally, ongoing training and supervision should be an integral part of improving human capacity.
- The technical assistance plan should stress the importance of having local organizations carry out training. To institutionalize logistics management skills and knowledge, it is essential to ensure that local capacity is developed to train other subsequent managers. This is illustrated in the example of the DELIVER-trained IIM/Lucknow instructors, who were then able to train down to the field level in logistics.

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APPENDIX 1

CS BRIEF

INDIA (UTTAR PRADESH*)

*Also includes selected information on Uttaranchal and Jharkhand.	*(SOURCE: International Institute for Population Sciences and ORC Macro, 2000)*
	(IN MILLIONS; 2001 CENSUS)
Population	India: 1,027.0 Uttar Pradesh: 166.1 Uttaranchal: 8.5 Jharkhand/Bihar: 82.9
Population Growth Rate	
WRA	India: 1.38
Fertility Rate	India: 2.85;
CPR (Modern Methods)	UP: 3.99, Uttaranchal: 2.61
Health regions, districts, and SDPs providing RH/FP services *(their numbers)*	India: 42.8 UP: 36.6, Uttaranchal: 40 UP over 30,000 SDPS Uttaranchal: 11,000+ SDPS

FORECASTING	
1. Current method mix and projected trend *(for the whole country, preferably based on DHS or from selected programs)*	In UP, about 80 percent of total mix amounted to temporary methods after the setback of sterilization during the 1970s and 1980s, but it is increasing.
2. Presentation and use of CPTs in management decision making 3. Assumptions related to data used in the CPTs *(approach used)* 4. Sources and accuracy of data used in forecasting *(data quality)* 5. Role of technical assistance	No CPTs are prepared, as India is not a USAID supply source country for contraceptives. However, in UP, with the setting up of LMIS, they are just beginning to use the consumption figures and buffer stock information for sending annual demands to central government.

PROCUREMENT	
1. Existence and role of the procurement unit 2. Stock status analysis over one year period (overstocks, stockouts, and consistency of procurement plans) 3. Contraceptive supplier situation *(percentage of commodities provided by supplier)* 4. Historical, current, and future role of USAID as a contraceptive donor	All procurements are done by units of the government. No outside TA was provided in procurement except developing a policy manual in Uttaranchal. Central government/GOI provides all contraceptives to the states. Annual requirements are sent to the GOI in March each year. In UP and Uttaranchal, use of LMIS consumption and buffer stock information is part of the annual requirements.
FINANCING	
1. Commodity funding mechanism (i.e., basket funding, cost recovery, local public funds, etc.) 2. Current and future donor contribution to commodity financing plan over the next five years 3. USAID/Mission intervention strategies *(strategic objectives and plan for contraceptive security)*	All contraceptives are funded through GOI and sent to the states as per their requirements on a yearly basis. DELIVER's technical assistance was provided but was limited to responding to the needs of the respective state governments.
SUPPLY SYSTEMS	
1. Length of the pipeline 2. Local institutions involved in RH/FP activities 3. LMIS status *(level of efficiency)* 4. Commodity availability at SDPs	• It varies (in state) from 6–10 months. However, it usually takes the states 2–3 months to receive supplies from the GOI. • SIFPSA works in 30+ districts in UP, and logistics system strengthening is included in its monitoring system. • LMIS is in its infancy in UP, while in Uttaranchal a successful field test was conducted before handing over to another bilateral technical assistance contractor. • In UP, stockout was brought down from 50% in SDPs to 10% in 2004, although SIFPSA claimed that there is no stockout in their districts (30+).
MAJOR ISSUES	
In India, with GOI supplying the contraceptives as per the needs of the states, the two important parts of contraceptive security, financing and procurement, are taken care of at the central level. However, use of information in decision making and management of delivery of contraceptives to the SDPs remain weak, which potentially leads not only to having stockouts in many SDPs, but also results in wastage. Lack of proper monitoring and supervision in the public sector remains a weakness that needs to be addressed.	

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