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# Evaluation of Logistics Improvements in Kenya

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draft

October 23, 1996

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LMIS; Forecasting; Procurement; Warehousing and Storage; Distribution; Organization and Staffing; Policy; Adaptability	

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### List of Acronyms

CMS	Central Medical Stores
CRHCS	Commonwealth Regional Health Community Secretariat
DANIDA	Danish International Development Agency
DASCO	District AIDS Coordinator
DFH	Division of Family Health
DHMT	District Health Management Team
DPHN	District Public Health Nurse
ESAMI	East and Southern Africa Management Institute
FP	Family Planning
FPLM	Family Planning Logistics Management Project
GOK	Government of Kenya
JSI	John Snow Inc.
KEPI	Kenya Extended Programme on Immunization
LMIS	Logistics Management Information Systems
LMU	Logistics Management Unit
MCH	Maternal and Child Health
MOH	Ministry of Health
MSCU	Medical Supplies Coordinating Unit
NGO	Non-Governmental Organization
ODA	(British) Overseas Development Administration
QR	Quarterly Report
SDP	Service Delivery Point
STI	Sexually Transmitted Infection
UNFPA	United Nations Fund for Population
USAID	United States Agency for International Development
WB	World Bank

## **Acknowledgments**

The evaluation team would like to acknowledge the efforts of the Ministry of Health staff who assisted in making this evaluation possible. Dr. James Mwanzia, Director of Medical Services provided advice on policy guidance to the team. Dr. C. Mailu, Acting Director DFH/ KEPI Programme Manager for coordinating the appointments for the team, Erastus Ndubi, acting programme coordinator for the Essential Drug Programme, Dr. Ominde Achola, Reproductive Health Programme Manager, and Dr. Mohammedali, Deputy Medical Officer of Health, Nairobi City Council.

The USAID Office of Population and Health, and particularly Milly Howard, Senior Health Advisor and the project manager, Jerusha Karuthiru, assisted the writing of the Scope of Work during a May/June 1996 FPLM visit. The project manager provide continuing assistance during the conduct of the evaluation.

Donor representatives from ODA, DANIDA, and the World Bank generously offered their time. The staff of the FPLM/Kenya office were particularly helpful in ensuring the ability of the team to generate the required work during a shortened visit.

## Executive Summary

This retrospective evaluation arose from a recognition of the pioneering role Kenya has played in developing family planning logistics management systems within the region. USAID funded contraceptive distribution activities began in Kenya earlier than in other countries within the region, and were more successful than in many other countries. This evaluation has been charged with documenting the sequence of these interventions and identifying the factors leading to success.

The FPLM project in Kenya continues to serve in a technical leadership role. The integration of contraceptives with other public health commodities into single delivery systems is being discussed or attempted in a number of countries. The LMU/FPLM has already assumed distribution responsibilities for drugs and reagents required by the STI project and is planning to pilot test the inclusion of essential drugs. The project in Kenya has also distinguished itself in the development of country-specific information systems, cross-border technical assistance, and regional initiatives. All of these are worthy of documentation.

The evaluation follows the direction included in a Scope of Work developed for the USAID mission during a June 1996 visit. The three evaluation objectives listed in the Scope of Work are:

- document GOK/FPLM efforts to improve logistics over the past decade - strategies and key decision points, management approaches, and impact;
- highlight lessons learned from this experience, especially those that may be applicable to other countries in the region and beyond; and
- recommend how GOK/FPLM technologies and techniques can best be expanded to other MOH areas of responsibility such as drug and vaccine distribution and

The transition from a role limited to contraceptive distribution within Kenya to an expanded task of integrating four distribution programs,<sup>1</sup> while simultaneously assuming responsibilities for cross-border regional logistics activities, requires a re-assessment of available resources. Recommendations following this summary (1) propose an expanded staffing pattern, and (2) suggest the LMU strengthen the collection and analysis of SDP Quarterly Reports as a means of ensuring adequate documentation of access to contraceptives by Kenyan clients as new integration and regional activities

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<sup>1</sup> family planning, STI, EDP, and KEPI.

are begun. The remaining action recommendations specify elements of integration and regional activities.

This evaluation was conducted in the context of a larger MOH commitment to Health Sector Reform. Health Sector Reform implementation and action plans call both for adequate and reliable drug supplies, and for integrated health services. This evaluation delineates how LMU/FPLM will achieve the relevant aspect of these Health reform objectives.

Team members for this evaluation include Clifford Olson, Evaluation Officer, FPLM/Washington, Margaret Gachara, UNFPA/Kenya Reproductive Health Advisor, and Anthony Ophwette, MOH/DFH Programme Officer for Logistics. Dr. Gachara served as a consultant to JSI/FPLM on this task while on leave from UNFPA.

The October 7 - 22 conduct of the evaluation began with a three day field visit by two teams to two different regions. Jerusha Karuthiru from the Office of Health and Population at USAID/Kenya and Gideon Nzoka from FPLM/Kenya joined team members in the field. Briefings were held with USAID mission staff upon return from the field and prior to departure.

The appendix includes the Scope of Work for this evaluation, a list of persons contracted, an annotated bibliography of reports and papers related to logistics management activities in Kenya, field trip notes, and presentation materials used for the evaluation team's meeting with the Director of Medical Services, October 18, 1996.

# Recommendations

The FPLM project has been recognized by many donors for the project's innovative reproductive health logistics procedures and technologies. The project has been requested to assist in improving logistics management for additional commodities. These requests have met with a positive response from USAID/Kenya. The USAID mission concurs with the use of mission funds and project staff in applying FPLM technologies to other MOH programmes. The mission has also endorsed project participation in regional logistics management initiatives.

The new initiatives both logistics integration and regional initiatives, will place an untenable workload on existing staff. Indeed, substantial additional staff are required both from the MOH and donors to achieve new objectives without compromising the ongoing work in Kenya in reproductive health logistics management.

Although the USAID/Kenya budget is unlikely to increase in the near future, new donors will increasingly contribute to help cover expanding distribution costs. This will allow FPLM to reallocate USAID/Kenya mission funds to support additional staff. This strategy will allow the mission to maintain a high level of "ownership" of FPLM activities and outcomes.

## Pre-Requisite Recommendations

- 1.1 Recommendation:** *Staffing at the LMU/FPLM must be increased to ensure capacity required by the expanded workload. This includes both MOH and non-MOH positions. These positions are listed on the attached table.*

**Finding:** Continued improvement in the Kenya family planning logistics management system, plus the anticipated integration of other public health commodities, plus regional cross-border activities will dramatically increase the workload facing the LMU/FPLM.

- 1.2 Recommendation:** *Additional space will be required by LMU/FPLM. This space should include: (1) the space currently used at the DFH for the library, and (2) permanent office accommodations at the MSCU.*

**Finding:** Current space is inadequate for the increased staff. Integration activities extend beyond the scope of the DFH and can be more effectively executed from the MSCU.

**TABLE: Current and Proposed Staffing at LMU/FPLM, MOH and non-MOH**

	<b>Ministry of Health</b>	<b>non-MOH</b>
<b>Current:</b>	Director, Division of Family Health, part time MCH/FP Programme Manager, part time Deputy MCH/FP Programme Manager, part time STI Programme Coordinator, part time STD Programme Manager, part time Assistant MCH/FP Programme Manager for Logistics Programme Officers Hospital Secretary (clearing and forwarding) Supplies Assistant Clerical Officer Statistical Clerk Sr. subordinate staff Drivers x3	Resident Logistics Management Advisor, MIS specialist Computer Programmer FPLM Project Administrator Field Accounts Assistant Programme Officer, ODA Data Manager, ODA Drivers: FPLM x 4 + ODA x 2 = 6
<b>Additional Proposed:</b>	supplies assistant x2 program officer x2 clerical officer/shipping and clearing x1 clerical/statistical officer x2 storemen x2 driver x 1	Medical Advisor Integration Coordinator Regional Coordinator Distribution Manager Data Manager Accounts Assistant Computer Programmer x2

## Implementation Action Recommendations

### 2.0 Sub-district Strengthening:

- 2.1 Recommendation:** *LMU FPLM should improve sub-district information systems by ensuring more complete submission of SDP Quarterly Reports.*

**Finding:** The objective of family planning logistics is to ensure contraceptives are available to the client at the SDP. Without more complete submission of the QRs this cannot be assessed.

- 2.2 Recommendation:** *The MOH should encourage optimal vehicle management at the sub-district level by assigning the newly arriving vehicles to persons with vehicle management experience.*

**Finding:** The World Bank STI budget includes approximately 45 vehicles for the district level. The last purchase of district vehicles were 13 vehicles in 1993, already three years ago. It is important these new vehicles become the clear responsibility of the member of the DHMT who has experience with vehicle management.

### 3.0 Integration of Logistics Management:

- 3.1 Recommendation:** *MOH and donor constituent support for logistics integration must be consolidated by : (1) forming an MOH/donor working group on integration, and (2) conducting an integration workshop.*

**Finding:** Incremental unanticipated integration is occurring out of necessity. The MSCU reports that for the last six months, FPLM has assumed responsibility for 50% of distribution from MSCU. Integration should result from consensual decisions, not as just as default option. The MOH/donor working group will organize the integration workshop and execute the implementation plan generated during the workshop.

- 3.2 Recommendation:** *FPLM/Kenya should accept any DANIDA request for consultation on the rehabilitation of the MSCU.*

**Finding:** The anticipated consultancy will examine the infrastructure, transport, and management procedures of the MSCU. This consultancy will produce a baseline against which future progress can be assessed. It will also serve as a first step in achieving improved efficiencies and effectiveness associated with integration.

- 3.3 Recommendation:** *FPLM should subcontract with Crown Agents and GTZ to assure funding for the continued distribution of ODA/STI and World Bank/STI drugs and reagents.*

**Finding:** The first of these subagreements, with Crown Agents should extend the provision of FPLM services beyond the current December 31 termination through September 1997. The second, with GTZ, should provide distribution services for the World Bank funded STI commodities.

- 3.4 Recommendation:** *LMU/FPLM should accept the World Bank invitation to make a presentation on FPLM Kenya capacity to the Bank in Washington in January.*

**Finding:** LMU/FPLM services provided to the Bank in Kenya are worthy of replication in other country contexts. The Bank should be better informed on this option.

- 3.5 Recommendation:** *The MOH should provide a forum for soliciting financial support for logistics from a broader range of health and population donors.*

**Finding:** Although discussions have occurred with key donors, UNFPA, ODA, DANIDA, and the World Bank, other donors remain uninformed about the availability of integrated distribution.

- 3.6 Recommendation:** *FPLM/Washington should secure the services of The Futures Group to document cost benefit issues related to integration.*

**Finding:** The Health Policy Reform recommendations emphasize the need for sustainability. Integration efforts are based in part on cost assumptions. These assumptions need to be tested.

#### **4.0 Regional Logistics Activities:**

- 4.1 Recommendation:** *LMU/FPLM should undertake activities described in the work plan for regional logistics activities.*

**Finding:** Initial activities have included Eritrea technical assistance and the Logistics and Quality of Care workshop in Nanyuki. Near-term future activities will include continuation of work with Eritrea and the CRHC Ministers' Workshop in Mauritius in November 1996. Longer-term future activities may include responding to expressions of interest from Tanzania, Ethiopia, Uganda, and Madagascar. The Ministers' meeting in Mauritius may yield still more requests.

## 1.0 Background

This retrospective evaluation arose from a recognition of the pioneering role Kenya has played in developing family planning delivery systems within the region. USAID funded logistics management activities began here earlier than in other countries within the region. The activities have proven more successful than in many other countries. This evaluation has been charged with documenting the sequence of these interventions and identifying the factors leading to success.

The FPLM project in Kenya continues to serve in a technical leadership role. The integration of contraceptives with other public health commodities into single delivery systems is being discussed or attempted in a number of countries. The family planning logistics system in Kenya has assumed distribution responsibilities for drugs and reagents required by the STI (sexually transmitted infection) project and is planning to pilot test the inclusion of essential drugs. The project in Kenya has also distinguished itself in the development of country-specific information systems, cross-border technical assistance, and regional initiatives. All of these are worthy of documentation.

The reader should note that this is an internal evaluation. Two of the evaluation team members belong to organizations being evaluated. Mr. Olson is the Evaluation Officer at FPLM/Washington and Mr. Ophwette is a Ministry of Health employee.

Team members included:

Clifford Olson, Evaluation Officer, FPLM/Washington  
Dr. Margaret Gachara, UNFPA/Kenya Reproductive Health Advisor  
Anthony Ophwette, Programme Officer for Logistics, DFH, MOH

For this task, Dr. Gachara served as a consultant to JSI/FPLM while on leave from her UNFPA position. The October 7 - 22 conduct of the evaluation began with a three day field visit by two teams to two different regions. Jerusha Karuthiru from the Office of Health and Population at USAID/Kenya and Gideon Nzoka from FPLM/Kenya joined team members in the field. Briefings were held with USAID mission staff upon return from the field. A list of persons interviewed is included in the appendix.

## 2.0 Objectives

The three objectives specified in the Scope of Work for this evaluation include:

- document GOK/FPLM efforts to improve logistics over the past decade - strategies and key decision points, management approaches, and impact;
- highlight lessons learned from this experience, especially those that may be applicable to other countries in the region and beyond; and
- recommend how GOK/FPLM technologies and techniques can best be expanded to other MOH areas of responsibility such as drug and vaccine distribution and monitoring.

## 3.0 Context and History

A 1985 assessment, a 1988 national contraceptive inventory, and the 1989 Situation Analysis all provide quantitative information about the state of contraceptive logistics prior to USAID mission-funded FPLM technical assistance. Interviews and a review of trip reports provide information about the sequence of activities. Focus group discussions with those who served in key positions provide suggestions about elements contributing to success, constraints and barriers, and lessons learned.

### 3.1 Baseline Information

Baseline information about the state of contraceptive logistics prior to USAID/Kenya funded interventions include:

- a CDC and ESAMI assessment conducted in 1985,
- a REDSO funded ESAMI National Inventory Exercise in 1988,
- a Population Council Situation Analysis in 1989, and
- anecdotal information collected during interviews and extracted from consultant trip reports.

Informants suggest a rather poor state of contraceptive logistics in place in the mid-1980s prior to USAID-funded FPLM activities. These problems were evident from port of entry to SDPs.

Anecdotal information refers to large shipments of Microgynon expiring in port at Mombasa while waiting to clear customs. Other shipments, in this case of diaphragms and jellies, were mysteriously discovered under layers of dust at what was then Central Medical Stores.

The vertical distribution system for family planning contraceptives commenced in about 1989 for two reasons. First, family planning services and therefore contraceptives were generally regarded by policy makers and service providers as a low priority. Contraceptives were frequently left off those lorries leaving central medical stores with medical supplies for the districts. Upon arrival at the districts, the low priority assigned to family planning by district managers often meant the omission of contraceptives went unnoticed. Secondly, the shift from kit-based distribution to open stock distribution, and an effort to ensure better warehousing at the central level, segmented contraceptives from the main essential drug distributions leaving what was then Central Medical Stores.

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#### Contraceptive kit contents, 1987

Family Planning **contraceptive kits** were used to distribute contraceptives to SDPs until 1987. The Family Planning Program Manager at the time, reports that the kit-based system of contraceptive distribution led to a great deal of wastage. To replenish a single contraceptive method, - or sometimes just to obtain disposable gloves - SDPs would collect an entire kit. The remaining contents of the kit would remain in stock and be drawn down very slowly. The more popular method

Microgynon	300 cycles
Eugynon	100 cycles
Microlut	100 cycles
Copper T	10 pieces
Condoms	400 pieces
Foaming Tblts	100 pieces
Disp gloves med	100 pair
Disp gloves large	100 pair
First visit cards	50
continuation cards	25
Follow up cards	100

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would soon require the requisition of another kit. Still more of the less popular brands would be added to the shelf. There was no reporting system in place that would have enabled the identification of excess supplies. Even if that reporting system were to have existed, there was no provision for redistribution of oversupplies. The Family Planning programme's early experience with kit-based distribution is important for at least two reasons. First, ten years later kit-based distribution serves both essential drugs and STI drugs, producing many of the problems of uneven and erratic supply experienced at an earlier date by the family planning programme. Secondly, the shift from kit-based distribution to open commodity distribution segmented the family planning program from the main central medical stores warehousing and distribution system.

### The 1985 Commodity Management Needs

**Assessment** included three field teams led by advisors from ESAMI and CDC. The three teams visited 42 sites in twelve of the then forty districts in six of the seven provinces. The assessment included contraceptives, drugs, and vaccines. For contraceptives, teams reported particular problems on the part of non-MOH facilities (e.g. NGOs) in obtaining supplies, wastage resulting from the use of contraceptive kits, an absence of expiration dates for contraceptives, and only a two months supply of Depo-Provera at Central Medical Stores. Half of the district stores, and all of the MOH SDPs were entirely stocked out of contraceptive kits, while individual items accumulating from previous kits equaled many hundreds or even a thousand month supply. Again, many of these shelved items lacked expiration dates. For basic drugs, the 1985

Assessment found stockouts and oversupply comparable to that found for contraceptives. The teams recommended the introduction of forecasting, buffer stock concepts and a re-examination of kit contents. In contrast, for vaccines, no stockout was found and all facilities but one were within the prescribed stock level range.

The objective of the **1988 National Contraceptive Inventory Exercise** was to identify any improvements since the 1985 assessment. The inventory teams visited four national stores<sup>2</sup>, 17 district stores, and 16 service delivery sites. There were only 1,200 SDPs providing family planning services in 1985, compared to approximately 2,000 in 1996. The exercise reported: a year-long stock out of Depo-Provera - the second most popular method, understocking at the national-level warehouses typically at only one or two months of supply, and inventory control systems in place at about 25% of district stores. The authors reported as a common view the belief that, since contraceptives were donated supplies, there was no need for accountable stock records. A single SDP would use a separate register for each contraceptive method, sometimes as many as six different family planning registers.

Table: Number months supply, 1985

	FP kits	-----shelved items-----		
		Microg	Cu T	Depo
CMS	-	19	0	2
District Stores				
Mombasa	-	2	0	-
Embu	7	0	1	2
Murang'a	0	50	59	3
Nyeri	0	4	6	2
Nakuru	4	19	0	1
Baringo	94	285	0	2
kakamega	0	3	0	3
MOH SDPs				
Kenyatta	0	8	1	4
Nemburi	0	30	0	0
Runyenjes	0	0	0	0
Kangema	0	2	0	0

Table: Average Months Supply on Hand, 1988

<sup>2</sup> Three Central Medical Coordinating Units in Nairobi, Mombasa, and Kisumu, plus the FPAK stores in Nairobi.

	National	Districts	SDPs	Total
Microgynon	6	8	<1	15
Microlut	4	6	3	13
Depo Provera	<1	2	<1	2
Copper T	16	3	2	21
Condoms	6	4	<1	10

The 1989 Situation Analysis, conducted by the Population Council and the Ministry of Health only 18 months after the National Inventory Exercise, reported that “contraceptives were widely available.” The table below shows that the 1989 Situation logistics had rather low expectations about client access. Any brand of oral pill counted for the first category. Either Depo-Provera or Foaming Tablets counted for the third category.

**Table: Availability of Contraceptive Methods at SDPs, Situation Analysis, 1989.**

Oral Pills	99%
Condoms	85%
Depo-Provera and Foam	80%
IUDs	60%

**1995 Situation Analysis.** The 1995 Situation Analysis includes the following comparable information on contraceptive availability at surveyed service delivery points.

Table: Percent Distribution of SDPs by Method Availability and Stockout (n=254) <sup>3</sup>			
Method	Method Usually Provided	% Method Stockouts in the past 6 months	Method Unavailability on the day of Visit
COC	98	19%	4
POP	94	16%	16
Condom	98	12%	8
IUD	74	33%	47
Depo	95	10%	9
Noristerat	68	18%	40
Diaphragm	3	n/a	100
Spermicides	43	57%	99
Norplant	12	22%	22

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<sup>3</sup> pg 21, *Kenya, A Situation Analysis Study of the Family Planning Services*, The Population Council and the Division of Family Health, draft May 1966.

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## Family Planning Logistics Management Timeline

- 1980 *Integrated Rural Health Program*
- 1984 *Contraceptive Prevalence Survey*
- 1985 REDSO-funded ESAMI Regional training Phase II includes Kenyan district staff  
CDC Needs Assessment for contraceptive logistics management (July/August)  
Training of Trainers, ESAMI (November)
- 1986 District and sub-district level workshops (February - May)
- 1988 MCH/FP Logistics Management Systems Development *Plan of Action* recommends "topping up"  
distribution system, formats for Daily Activity Register and Quarterly Report, pilot testing in ten  
districts.  
Phase I logistics management training began in ten districts (August)  
*National Contraceptive Inventory* conducted by ESAMI
- 1989 Phase I assessment (July/August)  
Phase II implementation in additional nine districts (August/September)  
CCMIS installed in DFH  
*Kenya Demographic Health Survey (KDHS)*  
*Situation Analysis*
- 1990 Logistics Management Warehouse Workshop develops *National Transportation Plan* for contraceptive  
delivery routes.  
*Inter-Logistics Management Concepts* proposed integrated sub-district transport  
Completion of nationwide logistics management training (August)
- 1991 Resident Logistics Management Advisor arrives.
- 1993 *Kenya Demographic Health Survey (KDHS)*
- 1993 Logistics Management Curriculum Review by MOH and JSI
- 1994 Competency-based logistics training for CLMTs and service providers (-> 1995)
- 1995 Distribution begins of ODA procured STI drugs and reagents
- 1996 Distribution begins of World Bank procured STI drugs and reagents  
Tender issued for MSCU Assessment consultancy
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### 3.2 Implementation

Implementation began with the contraceptive logistics management assessment was conducted during July /August 1985, as part of the second phase of a joint CDC and ESAMI East and South Africa assessment process. In Kenya, three teams conducted investigatory field tours with consultants from ESAMI and CDC. These teams met with the MOH in August 1985 to present findings that noted overstocking - at times as much as a one hundred year supply, great duplication in data capture - SDPs used one register for each method, an absence of reporting forms, no system for local distribution within the districts, and difficulties in assuring space for contraceptives on vehicles moving from the Central Medical Stores to the districts.

The assessment process led to a design workshop which standardized and won Ministry of Health approval for a single set of standardized recording and reporting tools including a register and quarterly report - both of which remain in use. The workshop also selected a "topping up" distribution system to be tested in ten pilot districts, plus two Nairobi districts. A two day long workshop including senior Ministry of Health managers was organized after the needs assessment in August 1985. The workshop reviewed the findings and made several recommendations. One of these recommendations was that the Training of Trainers program be initiated with ESAMI. Trainers from the ten pilot districts were to be trained in contraceptive logistics management. In November 1985, thirty-four officers from the pilot districts participated in the training conducted at the ESAMI campus in Arusha. This group was joined by two participants from Somalia and one from Mauritius. After the Training of Trainers course the Ministry of Health, with technical support from ESAMI and CDC, conducted a 1986 series of workshops in the ten pilot districts. The workshops for service providers included DPHNs and supplies assistants, medical records officers, and pharmaceutical technologists.

An on-site evaluation was conducted in each of the pilot districts three months following the training of service providers. This district level on-site evaluation was an opportunity to provide on-the-job adjustments to training based on observations. It was resulted in changes in the curriculum before the curriculum was used to support nationwide training. This nationwide training was conducted in a phase manner, first for an additional nine districts, then for the remainder of the then 42 districts. Upon completion of nationwide training, the LMU was receiving and processing quarterly stock status reports from all districts. Feedback was sent to the districts. The nationwide database facilitated more accurate forecasting of contraceptive requirements.

In mid 1987 USAID together with the MOH reviewed the already stalled logistics management information streamlining process which had started in 1985. This meeting proposed a follow up meeting in February 1988 that included the senior Ministry of Health officials, donors, and NGOs involved in family planning. Consultants from ESAMI, CDC, and JSI also participated. The meeting made several recommendations:

- country-wide logistics management training in a phased manner, and
- printing and distribution of agreed upon data collection tools, i.e. the Daily Activity Register and Quarterly Reports.

In August/September 1988, training commenced for both DHMTs and service providers in the first ten districts. An additional nine districts were added in 1989 and the remainder were brought in 1990 after the mid-term review of 1989.

The 1989 mid-term review was sponsored by USAID with participants from JSI, CDC, ESAMI, and the MOH. The review recommended a resident logistics management advisor be placed at the LMU. This position was filled in 1991.

Nationwide training occurred again in 1994-95 using a curriculum revised to emphasize a more competency-based and skills transfer training approach. This training commenced with a pre-training day for the selected contraceptive logistics management team from each district, followed by additional days for service providers from the district.

### 3.3 Elements Contributing to Success

Informants identify several components contributing to the success of contraceptive logistics management in Kenya. Frequent references were made to the commitment of key DFH officers who have been retained over long periods of time. The current Assistant MCH/FP Programme Manager for Logistics has headed the Logistics Management Unit since its creation in 1987. The Family Planning Programme has had only two programme managers. The KEPI programme, for example, has had eight programme managers in the last eight years. Both USAID and the DFH have been willing to take programmatic risks, e.g. assuring dedicated space at the CMS, organizing parallel distribution systems, and insisting on improved storage conditions for contraceptives. The previous Family Planning programme manager and the resident advisor credited both DFH and USAID with resisting temptations to micro manage logistics improvement activities. They allowed the LMU and FPLM project to retain a relatively low profile within the DFH and the MOH. The maintenance of a separate transport fleet and separate central warehousing space have limited reliance on less predictable inputs. The automated information system has facilitated improved forecasting, procurement, inventory control, and distribution.

### 3.4 Constraints and Barriers

Many factors remain outside the control of the Logistics Management Unit. Occasionally, donors will commit to purchase, then fail to comply with that commitment. An expanding family planning program requires ever-increasing quantities of contraceptives while the availability of funding for contraceptive procurement remains inelastic. Time required for customs clearance at the Mombasa port has reportedly lengthened due to new regulations imposed within the last six months. Regional depots have increased in number during the course of the project activities but have never performed their intended function. The absence of vehicles and funds have left the regional depots as little more than a Central Warehouse overflow for contraceptives. Subdistrict distribution has continued to occur in an ad hoc manner. Submission rates for SDP Quarterly Reports which had reached 76% in 1993 has dropped to about 40% of government facilities. The availability of vehicles to carry contraceptives from district to SDP varies considerably. There is no vehicle at the district level dedicated for the distribution of contraceptives. District stores were built a few years and, in most cases, already prove inadequate given the increase in demand for condoms, a very bulky commodity, and given the irregular movements of EDP kits. New districts are created without ensuring these districts the infrastructure, vehicles, trained staff, and storage space required to assume these new responsibilities. Staff turnover, particularly at the district and subdistrict level diminishes the impact of training events.

### 3.5 Lessons Learned

Interviews with Officers participating in the early implementation process suggest the following lessons learned:

- Simplification facilitates implementation. Whereas multiple registers and duplicative reporting forms had failed to produce appropriate stock levels, simplified data collection and reporting provided timely supply of correct quantities.
- *Number of months supply of stock on hand* served as a common denominator for self-assessing appropriateness of stock supply.
- Elevation of the status of family planning logistics management was one result of the sequence of interventions. Whereas at the onset, vehicles would leave CMS for the districts without carrying contraceptives because they were low priority commodities, after training a definite demand at the district level led to an expectation that contraceptives would be found on the truck upon its arrival.
- Logistics served as an integrated part of Family Planning efforts when the Program Manager regularly brought together team leaders from the various units within the program, e.g. training, IEC, clinical service, and logistics.

- As discussed in the above text, dedicated warehouse space and a vertical distribution system facilitated client access to contraceptives during earlier periods when, in a more integrated system, a lack of support for family planning was constraining contraceptive distribution.
- The phased but persistent training approach sensitized stakeholders and gradually built a constituency at every level for improved contraceptive logistics management.
- The early abandonment of computer software developed outside of Kenya and its successful replacement with locally developed applications suggests the importance of both a sense of ownership and the availability of local support.

### 3.6 Adaptability and Sustainability

There are many elements involved in integrating logistics more completely into the MOH. These elements include, for example, personnel issues, host country procurement. Personnel issues require that staff posted to LMU from other units to dedicate their time one hundred percent to the success of logistics. For the initiation of host country procurement, the LMU has assisted the MOH in the preparation of procurement documents for both condoms and oral pills. LMU procurement assistance has also included forecasting, and the preparation of specifications and tender documents. Although most of the commodities have been donor funded, the LMU has been instrumental in requesting emergency procurements to avert stock outs, for example of condoms from UNFPA and ODA. The MOH has posted staff to ensure timely customs clearance of commodities. Distribution has been done by a fleet of trucks up to the district level. Subdistrict distribution is the responsibility of the DHMTs. The daily activity registers at the SDPs provide consumption data and the quarterly reports are expected to report the same.

What is the critical path - what is the best plan of action - for successfully institutionalizing logistics management responsibilities within the GOK? At the central level FPLM/JSI works had in hand with the MOH staff posted at the LMU. At the district level the activities are already institutionalized. The SDPs are supervised by the DHMT with back up support from the LMU in the form of on-the-job training.

What is required to assure continuing progress with institutionalization? As spelled out in Health Sector Reform documents, improved logistics management to ensure availability of essential commodities at the service delivery level is a pre-requisite to the feasibility of effective cost sharing and cost recovery mechanisms. The GOK commitment to this has been demonstrated by the approval of health sector policy reform (1994) and the implementation plan developed thereafter.

The FPLM project has been instrumental in ensuring sustainability of the Family Planning programme in the medium term by coordinating several donor contributions to the MOH commodity supply in response to rapidly increasing demand for family planning services.

## 4.0 Future Directions

- |  |
|--|
| <ul style="list-style-type: none"> <li>• Sub-district Strengthening</li> <li>• Integrated Distribution</li> <li>• Regional Activities</li> </ul> |
|--|

### 4.1 Sub-district Strengthening

- sub-district information systems
- sub-district transport management
- remedial attention for new districts

**Sub-district information systems.** The goal of any contraceptive logistics management system is to ensure the availability of contraceptives at SDPs. The sequential nature of logistics management means that early interventions are often focused upstream, at forecasting, procurement, shipping, warehousing, inventory control, and distribution. Attention to any and all of these steps in the process is justified by the larger objective of guaranteeing client access to contraceptives. Success at meeting this objective is measured by analysis of the Quarterly Reports submitted by the SDPs. These reports document the stock-on-hand and consumption. Stock-on-hand divided by consumption produces the number of months stock on hand probably the best single indicator of the efficacy of the logistics management system. Submission rates for SDP Quarterly Reports which had reached 76% in 1993 has dropped to about 40% of government facilities.

The FPLM project should increase the submission rate of SDP quarterly reports by using distribution stops at the districts as an opportunity to collect SDP Quarterly Reports. Reviving the expectation that these reports are indeed important should gradually bring submission rates at least back to their earlier levels.

Examples of the ways in which Quarterly Report information should be used includes:

- **Subdistrict logistics management diagnosis.** Districts which report any stockouts or any significant number family planning methods below the minimum number of months

supply, should receive a logistics management diagnostic visit. The problem should be identified and resolved.

- **Assessments and evaluations.** The best single indicator of the state of logistics prior to FPLM logistics assistance is the number of months supply on hand at SDP. Without better submission of Quarterly Reports, we are not able to generate a comparable indicator. The comparison of stockouts and number of months supply of contraceptives at SDPs is the single best impact indicator for contraceptive logistics interventions.
- **National Forecasting.** The reliability of forecasting can be increased when consumption data from SDP Quarterly Reports are available in addition to national and district distribution data.
- **Surrogate Service Delivery Data.** The family planning programme lacks uniform and complete reporting of service delivery data. Contraceptive consumption data from the SDP Quarterly Reports can be converted into indicators which compare performance across time and between facilities.
- **Regional vs. Kenyan time investments.** Text later in this document will describe opportunities for the LMU and FPLM/Kenya to provide cross-border technical assistance within the region. Regional activities should not occur at the expense of the Kenyan program. SDP Quarterly Reports provide the source data from which client access to contraceptives can be assessed. Any interruption in reliable access should result in attention being reassigned more fully to the Kenyan family planning program.

#### **Sub-district transport management.**

Most informants refer to transport and vehicle access as the major constraint to distribution of contraceptives, or for that matter any public health commodity, at the sub-district level.

The KEPI program believes 57 of the 62 districts currently have at least one functional vehicle. The newest of these vehicles are the 13 vehicles bought three years ago in 1993.

Given that KEPI expects vehicles at the district level to last about five years, even these most recently procured vehicles are already past their half age. KEPI provides the following data on recent vehicle losses by cause.

Table: Districts without Vehicles, by Cause.

Newly created districts	6
Road accidents	2
Repairs	1
Stolen	1

An additional 45 vehicles for use at the sub-district level are included in the World Bank STI budget. The risk is that these vehicles may be assigned to the DASCOS, District AIDS

Coordinators, many of whom have no experience with vehicle management. It would be better if the MOH were to ask KEPI to assign these vehicles to the DHMT member in each district who has experience with the vehicle management.

**Remedial Attention for New Districts.** Reporting problems and vehicle problems at the sub-district level are often associated with new districts. These districts are created by an administrative decision without being given the necessary infrastructure, vehicles, training, budgets, and commodity storage space. The family planning program in general, and specifically the LMU will have to provide particular attention to ensuring the proper initiation of these new districts.

#### 4.2 Integrated Distribution

- The LMU/FPLM, in response to a request from the Ministry of Health, has begun to distribute ODA procured STI drugs, reagents, and equipment.
- The World Bank mission and the STI Programme Coordinator has requested LMU/FPLM continue to distribute STI drugs and reagents using World Bank STI loan funds. The proposed funding mechanism will follow the ODA/Crown Agents model and utilize World Bank funds through the GTZ procurement agent
- Subject to government concurrence, FPLM/Kenya will provide DANIDA-funded technical analysis regarding the rehabilitation of the Medical Stores Coordinating Unit. This consultancy will assess, in part, opportunities for integrating logistics distribution systems.
- Pilot testing of phased EDP integration including capacity building through training in integrated logistics.

**Distribution of ODA procured STI drugs and reagents.** ODA began procuring STI drugs, reagents, and equipment as a bridging activity in high HIV/AIDS prevalence areas until the World Bank STI project funds were available to support procurement. The ODA commodities are being phased into ever increasing numbers of SDPs as staff at these facilities are trained. To date 350 SDPs receive ODA/STI commodities. Another 40 SDPs will be added in the next month. Unlike the nation-wide contraceptive delivery system, ODA/STI commodities are delivered directly to SDPs rather than to district stores. Although the ODA project uses standardized drug kits, a Logistics Management Information Systems module (LMIS) tracks individual items rather than kits. This tracking system indicated early on that the consumption rates were only a fraction of

what had been anticipated.<sup>4</sup> Item-specific tracking allowed early redistribution, thereby preventing wastage due to expiration and increasing the number of SDPs served from the anticipated 150 to the current 350, soon to be 390. Pilferage is discouraged by combination registers and stock records that link prescriptions to diminishing stock. The information system has proved so successful, the DFH is now in a position to move from standardized kits to customized kits. The distribution of ODA commodities is contracted to FPLM through the Crown Agents procurement agreement.

**Distribution of World Bank STI commodities.** The World Bank mission and MOH officers are discussing with FPLM/Kenya the possible continuation of the FPLM STI distribution role. Under an agreement with GTZ, the designated procurement agent under the WB STI project, LMU/FPLM would estimate drug shortfalls in ODA standardized kits and request the STI project begin by supplementing the remaining ODA procured items. As ODA items were consumed, WB STI procured items would be repackaged into customized kits at MSCU based on the consumption data accumulated through earlier distribution experience. Distribution of STI commodities would continue to be based on real consumption data rather than theoretical pre-allocations.

**DANIDA-funded Consultancy: Restructuring and Streamlining of the MSCU.** Upon receipt of government concurrence, FPLM will commence this MSCU management review. The study responds to the ODA/Dutch consultancy which states, "... the immediate reorganization of the MSCU is a consummation devoutly to be wished." The study will address the feasibility, design, and implementation of a comprehensive and integrated medical supply system, as proposed in the *Kenya Health Policy Framework Implementation and Action Plan*. The terms of reference for this study assumes the conclusion that FPLM system will be used for MSCU and KEPI.

**Pilot testing of phased EDP integration.** The Kenya Health Policy Framework Implementation and Action Plans includes objectives that emphasize the drug availability and an integrated comprehensive set of management systems respectively. A June 1996 FPLM/Kenya proposal describes how this can be achieved through a pilot test scenario. The pilot test is organized into three phases. Phase one includes a limited range of new products distributed in only three districts. The major objective will be to precisely identify the resources required to accomplish the work. Data will also be gathered from two control districts which continue to receive vaccines and essential drugs through the current mechanism, so that the benefits as well as the costs of integrated distribution can be quantified. In Phase II of the trial, which may be undertaken at least partially in parallel with phase I, district and sub-district hospitals will be added to the test if the RHC and Dispensary portion of the experiment appears to be successful.

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<sup>4</sup> typically one-fifth the anticipated usage for the kit as a whole and even smaller fractions for less used individual commodities.

Any extension to additional districts and sites will also be managed on a phased basis, and only if the Ministry and its supporting donor organizations can assure in advance that the resources necessary to sustain the new system are available.

#### 4.3 Regional Activities

- REDSO Regional Logistics Activities
- Eritrea Technical Assistance
- Nanyuki Workshop on Logistics and Quality of Care
- Commonwealth Health Secretariat Ministers' Workshop, Mauritius, November, 1996

**REDSO Regional Logistics Activities.** REDSO/ESA has allocated Africa Bureau field support funds for the conduct of regional logistics activities. Activities are directed toward sharing experiences, lessons learned, models and methodologies in key development areas in the East and Southern Africa region. They emphasize enhancement in the quality of services, sustainability, and the integration of STD/HIV and MCH/FP services. Cross-technical links will associate logistics interventions with health care financing, decentralization, and sustainability. The work plan for these activities includes region-wide workshops, cross-border technical assistance, and the development of indigenous technical cadres. Each of the following activities are early examples of the regional logistics initiative.

**Eritrea Technical Assistance.** MOH officers from Eritrea visited FPLM/Kenya in June 1996 and expressed an interest in the logistics management systems serving the Kenyan MOH. In August FPLM/Kenya staff participated in a Contraceptive Logistics Assessment visit to Eritrea. Following that visit, the MIS specialist at FPLM/Kenya has adapted software developed by Kenyan staff at FPLM/Kenya. This inventory control software application will manage essential drugs at the Central Medical Stores in Asmara. A follow-up trip is planned to install the software and conduct training in its use.

**Nanyuki Workshop on Logistics and Quality of Care.** REDSO organized a workshop in Nanyuki in September on Logistics and Quality of Care. The workshop was attended by representatives from USAID missions and host country governments within the East and Southern Africa region. Participants from Tanzania, Uganda, Ethiopia, and Madagascar expressed interest in country-specific assessments or technical assistance.

**Commonwealth Health Secretariat Ministers' Workshop, Mauritius, November.** Staff from the LMU, FPLM/Kenya, and REDSO traveled to Arusha early in October 1996 to visit the Commonwealth Health Secretariat. Discussions with the CRHC executive director produced the designation of the Kenyan MOH as the technical lead in the area of logistics management. The LMU/FPLM will present to an expected 14 Ministers of Health attending the annual CRHC Ministers' workshop in Mauritius in November, 1996.

### 4.3 Expanded Staffing Requirements

The activities discussed above under integration and regional activities suggest an expanded workload and the need for additional staff. This following list of additional staff, both non-MOH and MOH, describes the justification for each position.

#### **Non-MOH Local Hire Positions :**

**Medical Advisor.** As LMU/FPLM project activities expand from a singular focus on contraceptives to a focus on a broader range of commodities, there will be on-going discussions about how to use sampled morbidity data and consumption data in determining a more appropriate mix of kit contents. The Medical Advisor will identify officers relative to these discussions and facilitate these decision making processes.

**Integration Coordinator.** This officer will collect and analyze data on the current experience and procedures for the KEPI, EDP, and STI distribution systems. The officer will analyze the information in comparison to what has been learned from successful contraceptive distribution in Kenya and propose procedures and methodologies. The Integration Coordinator will staff the MOH working group on integration and will supervise implementation of Integration Pilot Test.

**Regional Coordinator.** This officer will assume responsibility for administering the various aspects of REDSO regional logistics initiatives. This will include monitoring requests for assessments and cross-border technical assistance. It will also include recruiting and monitoring the creation of an indigenous logistics technical cadres.

**Distribution Manager.** This person will manage the distribution fleet, schedule distribution tours, assign drivers. This will include supervision of day-to-day distribution activities.

**Data Manager.** The data manager will be in charge of ensuring that appropriate data has been collected from each level: central, district, and SDP. Tasks will include regular analysis of data for completeness and the generation of appropriate reports. This manager will be responsible for feedback to district level.

**Accounts Assistant.** As sources of funding for project activities become more diverse, accounting and reporting responsibilities will increase. The accounts assistant will work under the supervision of the Project Administrator.

**Computer Programmer x2.** As integration and regional responsibilities in information systems expand, the current MIS Specialist will increasingly devote himself to system design work and must rely on programmers to convert design into programme code in appropriate software packages and for the maintenance of existing systems.

## MOH Positions

**Supplies Assistant x2.** These officers will receive and issue commodities and maintain bin cards at the MSCU. This work will expand under a rehabilitated MSCU.

**Program Officer x2.** These officers will conduct on-site supervision and monitoring of distribution. They accompany drivers during distribution tours.

**Clerical Officer/shipping and clearing.** This officer will be in charge of government customs clearing and forwarding procedures. This additional officer is justified by the additional customs clearing and forwarding work entailed in ensuring adequate supplies of commodities beyond contraceptives.

**Clerical/Statistical Officer x2.** This officer will be responsible for data entry and report generation related inventory control.

**Storemen x2.** These officers have responsibilities for the administration of the stores and for inventory control.

**driver x 1.** The additional driver will be required by the additional volume implied by an integrated system.

## 5.0 Logistics Elements

The following text reviews the current characteristics of the LMU/FPLM logistics systems in Kenya. Both retrospective material and recommendations for the future are found in other parts of this document. This technical analysis is divided into the eight components of a logistics system. These are the same components used in the composite indicator for logistics. The definition of each component reflects the questions listed for that component in the composite indicator questionnaire.

Eight Components of a Logistics System:

- LMIS
- Forecasting
- Procurement
- Warehousing and Storage
- Distribution
- Organization and Staffing
- Policy
- Adaptability

## LMIS

Source data for the LMIS in Kenya includes the Daily Activity Registers at SDPs and bin cards at district, regional, and central stores. Stock status is reported quarterly from each SDP, district store, and regional depot. Quarterly Reports from district stores is collected during distribution tours. SDP quarterly reports come in through a variety of means, though the mail, collection during distribution tours, and through a cumbersome Ministry-wide process that includes aggregation at each administrative level. There are four automated components to the LMIS. The automated components forecast commodity requirements, track inventory, plan distribution, and graphically present stock level information to managers and other audiences. These automated systems have been developed in-country by local staff. Earlier attempts to use generic software not specific to Kenya proved unsuccessful due to a lack of local technical support. Stock level Information at district and regional stores is verified through physical counts conducted on-site during quarterly distribution trips.

The four automated components are discussed under the technical area to which they relate:

*ForeCast* in the forecasting section,  
*Inventory Control Systems* in the Warehousing and Storage section,  
*Distribution Resource Planning* in the distribution section, and  
*Pre.Sent* in the policy section.

## Forecasting

Kenya has multiple contraceptive donors. The list of donors shifts continually with some donors diminishing their level of commitment and new donors being recruited to procure contraceptives. The solicitation of donors to join in contraceptive procurement, efforts to use limited resources effectively, brand shifts resulting from donor-specific tender processes, and at times the need to

compensate for commitments not fulfilled makes contraceptive forecasting in this context dynamic if not volatile in the short term. Donors meet with MH and MSCU officers monthly to review the current status. Long term forecasts extend five years into the future, but the challenge has more to do with the capacity to adjust short term forecasts in response to unmet commitments and the unanticipated pipeline delays that are inherent in a situation where new donors are introducing new procurement and shipping procedures.

The monthly donor meetings include officers from the DFH, the MSCU, UNFPA, USAID, ODA, the World Bank, GTZ and other donors. The DFH chairs the meeting which reviews the updated forecast for condoms, injectables, progesterone only pills, IUDs, Norplant, and disposable gloves. Each commodity review reviews the status of each commitment. Has it been ordered? Is it at sea? Is it clearing customs? Delays are identified early and forecasts adjusted to take into account the new information. Forecasts are also adjusted to take into account programmatic changes. Example include the discontinuation of high dose and tri-phasic oral pills, the phasing out of a second injectable brand, and retraining of service providers in response to shifting oral pill brands.

Contraceptive forecasts in Kenya are based on historical distribution from MSCU, from the central level. Normally, the technical preference would be to base forecasts on consumption data from SDPs. Project staff in Kenya have chosen to use central level off-take rather than consumption data because reporting of consumption data by SDPs is incomplete and delayed. District level off-take does not include NGO and major SDPs which collect directly from the MSCU. But perhaps most importantly, the challenge for forecasting in Kenya is ability to anticipate shorter term problems and quickly identify solutions. They believe central level off-take better serves this purpose.

Continuing efforts to match contraceptive requirements to donor funding capacity requires attention to forecasting procurement costs. These financial forecasts assume an additional 10-15% cost to cover distribution. ODA has begun to include these costs in its contractual agreements with Crown Agents which pass the distribution fees on to LMU/FPLM. KfW, and the World Bank via GTZ procurement, anticipates a similar arrangement.

***ForeCast Software Application:*** *ForeCast* uses historical distribution data to generate procurement requirements. It anticipates the lead time required between the time of commitment to procure and the actual arrival of the shipment. The *ForeCast* component tracks commodity consignments through stages that include donor commitment, the placement of the order, shipping, and customs clearance. Once cleared the consignment is tracked by the next automated component, *Inventory Control Systems*. Tracking under *ForeCast* enables the arrival date and anticipated balances to be frequently readjusted to reflect delays in shipping and any other eventualities that may befall a consignment before it arrives in Nairobi. *ForeCast* predicts shortfalls in commodity stock levels and calculates the financial cost of this shortfall. Conversely, It also advises the optimal use of newly identified funds. A new donor or newly available funds

can be matched to the optimal procurement configuration for the specified amount of money at any point in the future. This can be adjusted according to an donor procurement constraints e.g a method specific aversions or preferences.

## **Obtaining Supplies and Procurement.**

Attempts to coordinate a variety of procurement processes into a single predictable schedule of optimal arrival dates have led LMU/FPLM into investigations of the tasks and times required by the procurement processes serving contraceptive donors. It has also resulted in LMU/FPLM technical assistance in the preparation of technical specifications to support competitive tendering procedures. Examples include the scheduling of 150 million condoms to be procured by the GOK with World Bank loan funds. The condoms are like to require 18 months lead time and will be required during 1997. This number of condoms implies considerable bulk compared to the capacity of the Kenyan warehousing pipeline. The shipments will have to be scheduled carefully. Another example is the failure during pre-shipment compliance testing of an ODA procured shipment of Upjohn injectables. Project interventions succeeded in rerouting the next available batch via air freight to Kenya.

LMU staffing includes a clearing and forwarding agency who walks the necessary paper work through Finance and various offices within the Ministry of Health. This officer is responsible for obtaining the correct documentation and obtaining the appropriate clearances from offices at the port.

## **Warehousing and Storage**

The family planning program has been assigned dedicated secure space at the MSCU. Additional designated space exists at regional depots and is used when contraceptive stocks exceed the capacity at MSCU. Regional depots also make contraceptives available to districts and SDPs who choose to collect stock at their locations. The absence of transport and budgets means that regional depots rarely distribute. District level stores were built by DANIDA in 1993 based on the expectations of required storage space at that time for the combined programs. In part due to the additional bulk resulting from increased condom use, the space available at district stores is now generally inadequate. The DRP software discussed below converts forecasted contraceptives quantities into space requirements for the forecasted five year period. On-site distribution stops at district stores include assessment of good warehouse practices, storage conditions, bin cards, inventory control and compliance with FEFO procedures. Each delivery stop includes a physical count of contraceptives on hand.

**Inventory Control System software** tracks receipts, issues and balances for each family planning commodity. ICS generates an electronic bin card at the central level for each of these commodities. MSCU uses these electronic bin cards to better manage and account for contraceptives. The ICS software also tracks batch numbers and expiration dates and ensures adherence to FEFO in distribution procedures. It also alerts programme managers of any risk of commodities expiring in the field. This is done by comparing information batch-specific expiration dates with distribution information on the district quarterly reports. This process enables program managers to estimate the likely location in the pipeline of any stocks at risk of expiration. Plans for the future development of ICS include the adding the capacity to predict monthly balances in the future based on current distribution rates. ICS will also report the number of months stock on hand.

## Distribution

Distribution is driven by calculations of the anticipated requirements based on the last physical count and historically based assumptions about off-take rates. Four trucks ( 2 x 3 tons, 1x 5 ton, 1 x 9 ton) are used to distribute to district stores on a quarterly basis. Fifty seven of the sixty two districts reported have KEPI vehicles which are used to distribute contraceptives from district stores to SDPs.

DRP software dictates the tours. Each district store is visited at least once per quarter. The system uses nine standard routes to cover country. Minimum and maximum stock levels are used at each level: three and six months for SDPs, two and six months for the regional depots, and six and twelve months for the central level MSCU.

**Distribution Resource Planning software** identifies regional and district stores holding the lowest number of months stock on hand and quantifies their commodity requirements based on their latest quarterly reports and physical counts. It then prescribes the optimal use of available transport resources. DRP will sequence all district stores according to their risk of stocking out of any of the three key commodities: condoms, injectables, and low dose oral pills. It then calculates the date at which the district store is likely to go below minimum stock level in any of the three key commodities. The district stores are prioritized in order of their required distribution due date. It specifies the quantity of each stock required for each priority recipient sites. These requirements are converted to standard packaging sizes. The user may select the site, select the vehicle and the software determines what portion of the vehicle will be required to stock that specific destination. An option in the software then tells the user which set of

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### The Nine LMU Distribution Routes

- #1= day trips from Nairobi
  - #2= eastern and Mt. Kenya
  - #3= central and North Rift Valley
  - #4= south Rift Valley
  - #5= western Kenya, Lake Victoria side
  - #6= western Kenya, remainder
  - #7= eastern/Ukambani
  - #8= coast
  - #9= difficult regions in NE typically requiring air delivery
-

destination requirements along the same route are priorities for filling the remaining space on the vehicle. Packing lists are generated for each destination on the route. Total mileage and the number of days required is calculated for the route. DRP also has a module which tracks stock levels for STI drugs and HIV testing reagents at over 300 SDPs. It is also able to compare available storage capacity to required space. at the MSCU, regional depots, and districts.

## Organization and Staffing

Staffing of the LMU/FPLM include both JSI, ODA and MOH employees:

<b>JSI and ODA</b>	<b>MOH</b>
Resident Logistics Management Advisor	Assistant MCH/FP Program Manager, Logistics
MIS specialist	Programme Officer
Computer Programmer	Hospital Secretary (clearing and forwarding)
FPLM Project Administrator	Supplies Assistant
Field Accounts Assistant	Clerical Officer
Programme Officer, ODA	Statistical Clerk
Data Manager, ODA	Sr. subordinate staff
Drivers: FPLM x 4 + ODA x 2 = 6	Drivers x3

An existing counterpart issues involves the need for the MOH to clearly assign appropriate responsibilities and authorities to the assistant MCH/FP Program Manager for Logistics who services as the counterpart for the Resident Logistics Management Advisor. Similarly, the MOH has not assigned an appropriate counterpart for the MIS Specialist. Anticipated expansion of logistics activities to include a broader range of commodities will require a re-examination of the counterpart issues.

The project has conducted two nationwide logistics management training exercises. Both have included two components, one for DHMT officers, another for service providers. The most recent training, 1994- 1995 emphasized competency based training and skills transfer. Additional training occurs on-site during distribution visits to district stores. The project has trained about 2,000 in 1994 - 1995, and a total of approximately 4,000 participants over the last five years.

## Policy

Discussions with Ministry of Health officers and representatives from other donor agencies suggest that the work of LMU/FPLM is very well regarded. LMU and FPLM staff, though, frequently refer to their "low profile." Work that is specific to logistics and specific to family planning commodities is easily positioned within a single niche within the family planning program. It does not normally attract a great deal of organizational attention, except when performance excels. This appears to be about to change. Integration issues are already, and will increasingly, attract attention from a broader range of officers within the Ministry of Health. Distribution of commodities from four vertical programs will result in greater visibility. Similarly, regional work may similarly result in greater visibility. Together, these two new initiatives could result in an elevated role for logistics and attract greater resources and political will.

*PreSent software* is used to interpret and analyze stock data for managers and donors. It uses information gathered from quarterly reports to generate charts on commodity offtake, distribution, and availability. It is most commonly used at monthly logistics meetings. It is very effective in attracting the attention of donors and MOH officers to the importance of logistics.

## Adaptability

The LMU/FPLM logistics system is proving itself very adaptable and dynamic. The integration and regional activities discussed elsewhere in this evaluation are evidence of adaptability. Nationwide training is perhaps another example of adaptability. New skills are transferred using a new training system, competency based training, in response to noted high attrition rates in relevant positions at the district and SDP levels. Because the LMIS is locally developed and maintained it is a very dynamic process, changing to meet current and anticipated needs. It can be adjusted to meet local strengths and to decrease reliance on less reliable data sources.

# Appendices

## Evaluation of Logistics Improvements in Kenya

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## Persons Contacted

### USAID/Kenya

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### Nairobi City Council

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### Donors

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### LMU/FPLM/Kenya

John Wilson, Resident Logistics Management Advisor  
Gideon Nzoka, MIS specialist  
David Karite, Administrator

see trip notes for persons contacted during field trip(s)

**Scope of Work**  
**Evaluation of Logistics**  
**Improvements in Kenya**

## 1.0 Background

USAID-funded technical assistance to the GOK in the area of contraceptive logistics dates back to the mid-1980's. Much of the early assistance was directed toward the organization of training courses. A 1986 trip report describes a *Commodity Management Needs Assessment and Feedback Design Workshop*. FPLM assistance commenced in June of 1987 and much of the early design work was undertaken in 1988 following a national contraceptive stock inventory which provided evidence of widespread stockouts and an absence of standardized reporting procedures. A DFH/FPLM/CDC workshop in the same year led to the adoption of a "topping up" approach to restocking facilities. The implementation plan for this system included six months of field testing in nine districts with later expansion to what was then the remaining 22 districts during the following two years. The action plan emphasized standardized reporting.

Since that time, the situation appears to have changed dramatically. Information available from a variety of sources in 1996 indicates that stockouts of contraceptives are now rare.

## 2.0 Objectives

The evaluation will provide a retrospective analysis of the logistics development experience in Kenya over the past ten years. The evaluation will highlight lessons learned in the implementation process and provide guidance for future activities DFH's FPLM/Kenya and other organizations concerned with health sector logistics. Particular attention will be given to identifying ways in which the logistics experience in Kenya can serve as a technical resource for the region.

Specific objectives will include:

- o document GOK/FPLM efforts to improve logistics over the past decade - strategies and key decision points, management approaches, and impact;
- o highlight lessons learned from this experience, especially those that may be applicable to other countries in the region and beyond; and
- o recommend how GOK/FPLM technologies and techniques can best be expanded to other MOH areas of responsibility such as drug and vaccine distribution and monitoring.

The evaluation exercise will assess the current situation and provide appropriate guidance in terms of the FPLM country strategy, not limited to USAID concerns and priorities, but inclusive of other donor needs and commitments. The exercise will document work completed to date, work

applicable to other countries, and recommended new directions for the Kenya logistics development effort.

### 3.0 Scope of Work

The evaluation will review and document: (1) the context and history of the logistics system development effort, (2) roles and responsibilities of stakeholders, (3) elements contributing to success, (4) constraints and barriers encountered during implementation, (5) lessons learned, and (6) suggestions for future directions.

Logistics elements subject to review will include: (1) the LMIS (logistics management information system), (2) forecasting, (3) procurement, (4) warehousing and storage, (5) distribution, (6) organization and staffing, (7) policy, and (8) adaptability and sustainability.

Questions to be answered during the evaluation include:

Context and History:

Contraceptives: What was the status of contraceptive logistics at the commencement of technical assistance? What baseline data exist on the adequacy of supplies or frequency of stockouts? Do data on increases in quantities of contraceptives distributed provide a surrogate measure for improvements in the logistics system? What sequence of interventions were undertaken? How has the MOH appreciation of the importance of information changed during the course of technical assistance? What are the parallel benchmarks and developments for STI, KEPI, EDP?

Roles and Responsibilities of stakeholders:

Who are the stakeholders and what stakes do they hold? What was the relationship between the MOH/DFH and FPLM at the beginning of the project? How has that relationship evolved? What were and are the relationships regarding logistics among the primary donors in the health sector? How has the DFH's sense of ownership of logistics improvements changed over time? Has the commitment of DFH resources changed?

Elements contributing to success:

Why has the contraceptive logistics system worked here in Kenya? Is it possible to attribute success among the contributing factors? For example, which factors were most

important and why? How important has been the level of commitment from the DFH? How has control over inventory and distribution accrued over time? What has been the role of the LMIS?

Constraints and barriers encountered during implementation:

Which aspects of comprehensive success, e.g. subdistrict distribution, remain elusive and why? What are some alternative approaches for resolving these issues? Which other constraints were encountered and how were they overcome? What is the status of the LMIS at SDPs?

Lessons learned:

What has been learned from the Kenyan experience? What worked? What did not work? Are these lessons of use to others in parallel vertical programs within Kenya? Are they of use to other programs in the region? Has Kenya already demonstrated success in areas recently mandated by CLM and in the FPLM SOW? If so, would dissemination of this success to others be useful?

Adaptability and Sustainability:

What are the steps required to integrate logistics more completely into the MOH? (e.g. add a budget line item, fund the budget line item, create new personnel posts, fill personnel posts, train new staff, initiate host country procurement, monitor the placement of orders, production, shipping, customs clearance, warehousing, distribution, and consumption.) What is the critical path plan of action for institutionalization of these responsibilities within the GOK? What is required to assure continuing progress on these institutionalization issues?

Suggestions for future directions:

Which improvements are cost effective and worthy of investment? What is the likely role of regional warehouses? How can subdistrict distribution be improved? What transport alternatives exist at each level? How can reporting from SDPs be improved? Are there methodologies for improving the precision of forecasted requirements at district levels? How will GOK decentralization affect the distribution of contraceptives?

What has been demonstrated by the pilot integration of STI, KEPI, and EDP? Has the pilot test demonstrated the extent to which the delivery truck system must be expanded to

assume the additional capacity? Has the pilot test predicted the additional cost in dollars, vehicles, staffing, warehousing, increased management, administration, and supervision? Is it possible to predict the savings in units of diminished procurement cost, wastage, pilferage, and expiration? Most importantly, will this produce improved quality of care for clients at SDPs?

## 4.0 Outputs

The process will produce an evaluation document that responds to the stated objectives and answers questions described in this scope of work. Selected topics that contain lessons and products applicable to other countries or programs will be described in more detail in stand-alone case studies. Wherever possible these case studies will be written in a manner suitable for submission for publication in professional journals. Examples of such topics include:

- o Kenya's experience with the comparative advantages of kits vs. the topping up distribution system,
- o documentation of any increase in the magnitude of service delivery, and/or changes in method mix, or prevalence associated with the presence of adequate supplies of drugs and contraceptives,
- o the role of LMIS *ForeCast* software to facilitate, coordinate, and monitor donor procurement,
- o the use of the LMIS *Distribution Resource Planning* software in optimizing the use of transport resources while diminishing the risk of stockouts.
- o the use of LMIS *Present* software to solicit greater management involvement in and commitment to the logistics process,
- o early experience with integrated distribution system (e.g. contraceptives, STI drugs and reagents, KEPI, and EDP drugs,

## 5.0 Evaluation Team Activities

Evaluation Team Activities will include:

- o initial briefing to an evaluation advisory group consisting of relevant offices of the GOK and donor organizations,
- o review of relevant literature and documentation,
- o examination of information systems used - and in use - by STI, KEPI, and EDP,
- o key informant interviews regarding logistical systems past, present, and planned for each of the programmes (e.g. contraceptives, STI, KEPI, and EDP),
- o field visits intended to provide experience with a variety of logistical situations, and on-site assessment of pilot testing,
- o writing of the evaluation document, case studies, articles suitable for submission to professional journals,
- o final debriefing for evaluation advisory group, and
- o debriefing for Permanent Secretary and any other relevant GOK offices.

## 6.0 Evaluation Team and the Advisory Group

**6.1 The Evaluation Advisory Group.** This group will have the following responsibilities:

Initial meeting:

- o comment on the scope of work for this evaluation,
- o advise on the list of informants and site visits, and
- o review the list of documents to be reviewed.

Final Debriefing:

- o review and comment on final verbal and written presentations, and
- o assist in organizing a presentation to the Permanent Secretary.

The following agencies and organizations will be invited to send representatives to the evaluation advisory meetings:

Ministry of Health:

Division of Family Health  
 Family Planning Programme Manager  
 NASCOP  
 KEPI  
 EDP  
 HSSP  
 MSCU  
 HEROS

Donors:

UNFPA  
 World Bank  
 USAID/Kenya  
 USAID/REDSO  
 ODA/Kenya  
 ODA/Regional  
 DANIDA  
 the Belgian Embassy  
 the Dutch Assistance Agency  
 SIDA  
 KfW  
 European Community

**6.1 The Evaluation Team.** The evaluation team will be facilitated by the FPLM/Kenya office with technical assistance provided from FPLM/Washington. Additional team participation will be invited from the Division of Family Health and UNFPA/Kenya. ODA will join FPLM/Kenya in providing technical guidance.

## 7.0 Time Table and Proposed Dates

The evaluation will be conducted during two time periods. Phase I, documentation of achievements to date will occur September 11 - October 9, 1996. The second phase will be scheduled to coincide with documentation of the results of the integrated logistics system pilot test.

## Annotated Bibliography for Evaluation of Logistics Improvements in Kenya

Crown Agents, (Tydeman), *Kenya, Essential Drugs Programme Emergency Procurement, Final Monitoring Report*, October 1995.

Concerns ODA and Government of the Netherlands emergency procurement to cover unmet need between DANIDA commitments that exhausted October 94 and recommenced March 1995. Documents absence of auditable accounts at MSCU. Only 55% of entitlement had arrived at facilities; but this had met need "suggesting that the entitlement overall was overstated by 25%." Recommends reduction by 25%. For all but two drugs planning figures exceeded morbidity data by as much as a factor of eight. Notes imbalance of contents. Recommends against use of provisional warehouses in distribution chain. "Immediate re-organization of the MSCU Nairobi is a consummation devoutly to be wished." Consultant notes MSCU Nairobi unable to hold anticipated shipments and districts generally able to hold only one months supply (#33, pg 7), "random forecasting" (#36, pg 7). Fixed annual plan allocates fixed number of each type of kit to each district. MSCU/NBO issues to provincial depots which redistribute???. Notes absence of regular supplies for last four years (#43). Morbidity reports inflated by as much as eight times actual figure (#44). Recommends review of kit content (#49). No system for commodity accountability, need for training (#51 ->)

Dalmat, McConnon, *Evaluation Report: MCH/FP Commodity Management Needs Assessment and Feedback/Design Workshop*, CDC, August 1985.

Describes plans for the Daily Activity Register and Quarterly Report, training at ESAMI, cluster training at the local level, and repeating the fact-finding exercise in the pilot districts. Includes recommended maximum and minimum stock levels (pg 12). **NB: many references to contraceptive kits????** The team was asked to assess adequacy of five basic drugs and found these varying from stocked out to oversupply. The predominate form of restocking was "going to get when stocked out." This system favored urban SDPs. Vaccine distribution was characterized by frequent distribution of small quantities. Text includes description of S3 stock control card and S5 bin card, as well as the S12 issue and receipt voucher and the S11 Issue voucher.

"Of the seven districts for which storage and handling information was collected, none have expiration dates clearly marked, two separate new and old stock, three practice FIFO, ... and four keep items away from the walls." (pg 24) Of 24 sites, 17 kept multiple FP registers. pg 29 includes references to "endemic stock imbalances" resulting from use of kit-based system. Appendix has tabular results of field survey: number of months stock on hand, record keeping, storage, et al.

DANIDA, *Sector Programme Document: Kenya Health Sector Support Programme*, February 1995.

Describes DANIDA assistance programme. Programme activities include systems development for MSCU Management, KEPI, and EDP. Text describes efforts toward decentralization, eventual integration of KEPI and EDP, an endorsement of zonal depots, (pg 14), stationary support, six vehicles for district activities. and a logistics management Specialist at the MSCU. The three year budget (95-97) includes seven and half million USD for EDP kits and another eight and half million for vaccines.

Division of Family Health, MOH, *MCH/FP Logistics Management Systems Development, Plan of Action*, March 1988.

Officers from the MOH, NGOs, KEPI, MSCU, KEPI, USAID, FPLM and CDC recommend: "topping up" distribution system, LMIS formats for the Daily Activity Register, and Quarterly Report, and pilot testing in ten districts, program-wide minimum and maximum stock levels (11 and 23 months respectively), a nationwide physical inventory, custom clearance procedures, quality assurance procedures, and a reduction in the number of brands.

Division of Family Health, MOH, *MCH/FP Logistics Management Systems Development, Plan of Action, Phase II*, June 1989.

Notes Phase I success with initial twelve districts in introduction of Daily Activity Register, Quarterly Report, data entry, and feedback. Within district "topping-up" works less well due to problems with release of budget for local expenses and cumbersome and time consuming procedures. Districts report problems obtaining contraceptives from CMS. Phase I assessment scheduled for July/August 1989. Phase II (additional nine districts) scheduled to begin August/Sept 1989.

Division of Family Health, MOH, *MCH/FP Logistics Management Information System, Instructions for Recording and Reporting, District and Service Delivery Point Levels*, no date.

Division of Family Health, MOH, and The Population Council, Africa OR/TA Project, Kenya, *A Situation Analysis of the Family Planning Program in Kenya, The availability, Functioning, and Quality of MOH Services*, December 1989.

Microgynon found in 97 of 98 clinics. Depo Provera and foaming tablets found in 80% of SDPs, condoms in 85% of SDPs, IUDs in 60% of clinics visited. Eight types of oral pills were available. Records kept for FP clients in 87% of SDPs, half of these were hand drawn registers.

FPLM, *The Kenya Success Story*, Pipeline, Spring 1994.

One page article in periodical describes the automated LMIS in 1994

FPLM, DFH, MOH, *LMIS Procedures Guide*, 13 October 1995.

Operational procedures grouped by frequency (e.g. daily, weekly, monthly, quarterly, annual). Generated reports include: packing list and distribution schedule, Route info report, DRP update, Stock level, procurement planning, Stores' Logistics Management Summary, Stores' Reporting Summary, Stores' Distribution Summary Report, District SDPs Reporting Summary Report. *Note: ask Gideon to review for team.*

FPLM, DFH, MOH, *LMIS, version 1.5 REFERENCE GUIDES*. Four separately bound documents:

**Component #1: ForeCast** generates over a dozen reports that aggregate information about commodity projection, donor commitments and track orders until they are finally cleared through customs. Within *ForeCast: Projection Reports, Commitment Reports, Ordered Commitments Reports, Shipping Reports, Clearing Reports*

**Component #3: *DRP (Distribution Resource Planning)*** DRP generates the following types of reports: *District reports, DRP reports, SDP reports, Store reports, Distribution scheduling, Main Commodities Distribution Summary, Stores' Logistics Management Summary, Stores' Reporting Summary.*

**Component #4: *Present*** software creates presentations appropriate for formal meetings, seminars, and workshops.

Friedman, Glatzer, Graves. *Foreign Trip Report: Esami Logistics Training Needs Assessment*, CDC, August 1984.

"ESAMI, in collaboration with CDC, and sponsored by USAID is conducting a three year program for improving the logistics and supply management for contraceptive commodities in nine countries in ESA." Kenya is a phase II country. Report describes Phase I country assessments.

Friedman (CDC), Springsteen (JSI), Thube (ESAMI). *Contraceptive Logistics Management, DFH, MOH*, August/September 1988.

Describes workshop which formulated 1988 Plan of Action, the adoption of DAR and Quarterly Report. National Inventory Exercise, May 1988, included CMS and two sub-depots, Central Stores for FPAK, 28 district and sub-district stores in 16 districts, and 187 SDPs. Although the report had not been finished, preliminary study findings note "virtually no Depo-Provera available anywhere," due to a shortage that commenced in 1987, many instances of contraceptive stock below established minimums, SDPs not using standardized DARs, and "generally poor storage facilities."

Friedman, *Foreign Trip Assistance: Kenya-Logistics Assistance*, CDC, August/September 1988.

Gilliland (CDC), Owens (FPLM), Springsteen (FPLM), Thube (ESAMI). *MCH/FP Logistics Management Systems Development*, April 1989.

Major activity during this field trip was to extend pilot system to additional nine districts. Recommendations refer to need for more training workshops, strengthening of DHMTs, use of budgeted funds for district "topping up," and the supply of equipment and guidelines. "In April 1989, three major events occurred, including installation of Kenyan version of generic CCMIS on a microcomputer at DFH."

Glatzer, *Trip Report: Status of Family Planning Logistics Project*, January 1987.

Glatzer and Art Danart (REDSO/ESA) had visited ESAMI to discuss actions taken following an internal audit which had suspended ESAMI project in June 1986. The meeting resulted in an agreement to employ a new project coordinator at ESAMI and recommence activities.

Glatzer (CDC), Barbara Felling (JSI), *Foreign Trip Report*, April/ May 1987.

Participation in third ESAMI Contraceptive Logistics Management Workshop.

Graves, *Foreign Trip Report*, CDC, October/ November 1984.

A joint CDC/ESAMI needs assessment in four Phase I countries and the conduct for a three week workshop for 25 participants from the four Phase I countries.

Graves (CDC), Springsteen, *Foreign Trip Report*, June 1987.

This CPT trip report includes information on contraceptive kit contents (pg 7). Attachment #2 is a draft contraceptive supply manual. The manual is a collection of nine registers and forms.

Hudgins, *Foreign Trip Report*, CDC, August 1986.

Trainer for three in-country logistics workshops. These were three out of five all of which were part of the phase II of CDC/ESAMI ESA project.

Hudgins (CDC), Thube and Omuodo (ESAMI), Owens and Springsteen (FPLM), *FPLM Trip Report: MCH/FP Logistics Management Systems Development*, February 13 - March 4, 1988.

This trip produced the document entitled, *MCH/FP Logistics Management Systems Development Plan of Action*.

Ministry of Health, *Kenya's Health Policy Framework: Implementation and Action Plans; The First Steps*, February 1996.

The working group looked at five broad areas: establishing health reform institutions, marketing the health reform idea, strengthening health services delivery, financing health care, and strengthening public health management capacity and capability, health and management information systems. Defines the task and budgets the activities of the Health Reform Secretariat.

Ministry of Health, *Kenya's Health Policy Framework, Implementation and Action Plans*, February 1996.

Objective #11 (pg 5): To ensure the constant availability of safe and cost effective drugs to the Kenyan population. Objective #15: To contribute to the achievement of the national goal of reducing the population growth rate and improvement of the health of the family. Key concepts include decentralization and sustainability.

Ministry of Health and DANIDA, *Background Workshop Information: The Role of the Health Sector Support Programme in the Implementation of the Health Reform Policy*. May 1996.

The workshop, in part, assumed responsibility for, "... drafting of terms of reference for the subsequent elaboration of a physical monitoring system, based on the monitoring system in use within the MOH for family planning supplies and equipment."

Nzoka, FPLM, DFH, MOH, *LMIS, TECHNICAL DOCUMENTATION: Component #1: DRP*, 18 August 1995.

Documents file structures for each file and relationships between files for three sub-systems: SDPs, Stores, and DRP. Provides annotated lists of procedures.

Olson, *LMIS Lessons Learned, with Case Studies from Bangladesh, the Philippines, and Kenya*, FPLM, August 1995.

"... in Kenya, despite considerable training for host government staff, a 1988 national inventory documented widespread stockouts." (pg 6) Narrative text compares the LMIS in Kenya to that in the two other countries according to six LMIS components: goals and objectives, data collected, collection methodologies, processing, reporting to managers, and implementation. Includes six page Kenya LMIS case study and four sample Kenya graphs.

Springsteen, Thube, Merrill, Proper, *FPLM Trip Report: Kenya Ministry of Health, Division of Family Health*, October 15 - 17, 1989.

This visit expanded pilot activities to Phase II, an additional nine districts. Additional recommendations included improved supervision,

Springsteen, Brandt, Merrill, *Division of Family Health, MOH, MCH/FP System Development, Logistics Management Warehouse Workshop*, FPLM, March 11-28, 1990.

Two objectives: (1) conduct a one week contraceptive logistics management warehousing course for both NGO MOH district, regional, and central level warehouse personnel, and (2) join participants in the design of a National Transportation Plan. The Plan lists the recommended contraceptive distribution routes.

# **Field Trip: Coast**

## **Evaluation of Logistics Improvements in Kenya**

Gideon Nzoke and Clifford Olson  
Monday - Wednesday, 7- 9 October 1996  
Mombasa Depot, plus Mombasa, Kwale, and Kilifi Districts

### **Field Sites Visited:**

Mombasa:	MSCU sub-depot Mkomani Clinic Society, BOMU-Changamwe clinic Ganjoni Health Center Likoni Health Center
Kwale:	Tiwi Rural Health Training Center Kwale District Stores Kinango Sub-district Hospital
Kilifi:	Kilifi District Hospital Malindi Hospital Municipal Clinic, Malindi

## Findings/ Observations:

ICS: for family planning commodities, the predicted stock on hand, and bin card were close to predicted amount

staffing: records technicians and storemen were not reliably present at HCs

storage: standardized district stores built by Danes some time back now inadequate due to increasing bulk required, note condoms.

FP/STI distribution includes two decision points: (1) what to put on truck, (2) what to leave at facility

EDP MIS: earlier reporting of stock status discontinued due to lack of stationary

KEPI Polio stockouts common during August '96 campaign because impossible to know what is in stock at SDPs

FP subdistrict distribution constrained by lack of transport

EDP training hasn't occurred in many years?

STI Reagents distributed to 50 facilities, some old machines, some new

STI current distribution to 330 SDPs out of approximately 2000 +

FP SDP reporting at about 50%

KEPI need to redo ledger card

Transport System: no drivers associated with vehicles at sub-district level

EDP began about 1983?? objectives included getting rational choice of drugs to SDPs

EDP lack of stationary constrains (eliminated) reporting on stock status

STI kit includes 10 drugs of which six are monitored/tracked

## Field Trip Persons Contacted

### Monday, 7 Oct:

Wilson C. T. Komora, Sr Pharm Tech, Mombasa MSCU Depot  
 Andrew Ndolo, Sr. M.I., Mombasa MSCU Depot  
 Phillip Taro, S/M II, Mombasa MSCU Depot  
 Frederick Masila S/M II, Mombasa MSCU Depot  
 Miss Evelyn Mwii C.O., Mombasa MSCU Depot  
 Dr. Onyango Josiah, Mkomani Clinic, BOMA-Changamwe clinic, Mombasa  
 Jackson Barva Mmokalama, Storeman, "  
 Fatuma Mashed, enrolled midwife  
 Dr. Z. Essajjese, in-charge, Ganjoni Health Center  
 Abdillahi Ali, Clinical officer, Ganjoni Health Center  
 Alice Mwingalu, Nursing Officer, Ganjoni Health Center  
 Likoni Health Center

### Tuesday, 8 Oct:

Esther P Karisa, Registered Clinical Officer, Likoni Health Center  
 Khamis N. Mwakidudu, Nursing Officer, Likoni Health Center  
 Elinor Sidi, Public Health Nurse, Tiwi Rural Health Training Center  
 Mutinda Kissinan, Clinical Officer, Tiwi Rural Health Training Center  
 Gaspar T. Chilumo, KECN/FP, Tiwi Rural Health Training Center  
 Ewans M. Kitsao, Health Records and Information Technician, Tiwi Rural Health Training Center  
 Hilary S. Murira, Storeman, Kwale District Stores  
 Mwacheo H. Chibwenao, Pharmaceutical Technician, Kinango Sub-district Hospital

### Wednesday, 9 October

Lawrence Kenga Charo, retired, Storesman, Kilifi District  
 Nancy M. Karisa, Public Health Nurse, Malindi Hospital  
 Agnes Bakari, Kenya Enrolled Community Nurse/FP, Malindi Hospital  
 Douglas Masha, Kenya Enrolled Community Nurse/FP, Malindi Hospital  
 Mrs. Janet Kittu, Nurse, Municipal clinic, Malindi  
 Mr. Alex Ramia Chakacha, Nurse in charge, Municipal Clinic, Malindi

## List of EDP kits identified during field trip:

Health Centre I  
 Health Centre II  
 Health Centre IIa (a= coastal area) parts one and two  
 Health Centre IIb (b= upcountry)  
 Health Centre Dressing/Lotion Kit

Dispensary I  
 Dispensary IIa (a= coastal)  
 Dispensary IIb (b= upcountry)  
 Dispensary Dressing/Lotion Kit

Anti-Malaria Area Supplemental kit

Hospitals but found at large health centres: OPD kits A, B, C, D, E

## List of logisites related recording and reporting formats found during field trip:

KEPI:           daily immunization tally sheet  
                   monthly immunization summary sheet  
                   ledger tally sheet (looks like bin card)  
                   refrigerator record sheet  
                   (S11 generic ordering form used for vaccines)

EDP:           column totals in register, for antibiotics only  
                   (outpatient and inpatient morbidity reporting)  
                   (no ordering system; no stock status reporting)

FP:             Quarterly stock report  
                   Service Delivery report (informal local initiative)  
                   Daily Activity Register for FP

STI:            STI daily register (with column totals)  
                   STI tally sheet

## Field Trip: Central

### FPLM TREP REPORT

7th - 9th October 1996

TEAM: 1. JERUSHA KARUTHIRU - USAID  
2. ANTHONY OPHWETE - MOH/DFH

### DISTRICTS VISITED

1. **THIKA DISTRICT:**
  1. -GATUNDU S/D HOSPITAL  
-MCH/FP  
-PHARMACY
  2. THIKA DISTRICT LABORATORY  
(TO SUPPLY REAGENTS FOR HIV)
2. **EMBU DISTRICT:**
  1. -EMBU DISTRICT STORE
  2. -STI CLINIC
  3. -MCH STORE
  4. -LABORATORY (SUPPLY OF REAGENTS)
3. **THARAKA NITHI**
  1. DISTRICT STORE
  2. MCH CLINIC
4. **MERU DISTRICT:**
  1. DISTRICT STORE
  2. MCH/FP CLINIC
  3. LABORATORY (FOR RESUPPLY OF REAGENTS)
  4. GATHONGO H/CENTRE
5. **LAIKIPIA DISTRICT:**
  1. DISTRICT STORE
  2. MCH/FP CLINIC

6. **NYERI DISTRICT**
1. MSCU DEPOT
  2. DISTRICT STORE
  3. STI CLINIC
  4. PHARMACY
  5. MUKURUENI H/CENTRE
  6. LABORATORY (SUPPLY OF HIV REAGENTS)

**DISTRICT STORE BALANCES**  
**CONTRACEPTIVES**

	<u>Gatundu</u>	<u>Embu</u>	<u>Tharaka Nithi</u>	<u>Meru</u>	<u>Laikipia</u>	<u>DEPOT</u>
Condoms	132,600	98,000	42,300		21,000	154500
1739000						
Depo Provera	4,300	1,000		4,700		1,500
13,100						
Lowdose oral	19,800	8,400		6,600		20,910
33,600						
CuT	400	200		0	400	200
0						

**EDP/OPD KITS**

	<u>Gatundu</u>	<u>Embu</u>	<u>Tharaka Nithi</u>	<u>Laikipia</u>	<u>DEPOT</u>
H/C I		0	22	6	1
H/C II	0	73	9	2	0
DISP I		0	62	18	0
DISP II	0	59	0	0	215
OPD KITS (PARTS)	4	0	0	6	76*
IN PATIENT	1	0			1

**VACCINES**

	<u>Gatundu</u>	<u>Tharaka Nithi</u>	<u>Meru</u>	<u>Laikipia</u>	<u>DEPOT</u>
Measles	340	10,630		13,330	12,000
19,000					
Polio	7320	7,980		21,000	42,000
186,000					

draft Appendices, Oct 23, 1996

for review and comment

DPT	240	13,700	20,000	10,300
	62,000			
TT	260	7,200	13,000	5,000
	32,000			
BCK	320	9,080	23,000	15,200
	91,000			

\*OPD A-8, B-17, C-26, D-17, E-8.

#### ABORT REAGENT FOR HIV - KIT

THIKA LAB	-	1
EMBU LAB	-	1
MERU LAB	-	1
NYERI LAB	-	1

### FINDINGS:

(A) **DAR:** -Filled out correctly in all the MCH/FP Clinic visited

(B) **QR** 3rd -Quarterly Reports in three District Stores visited were not done except for Meru District Store.

-Gatundu and Laikipia had completed their second, quarterly reports while Tharaka Nithi and Embu had completed the 1st quarterly report for this year.

© **Bin Cards**

In all the station visited the Bin cards were completed or filled out without any problems.

(D) **F.P. Commodities:-**

All the District stores had adequate stock except for CuT and microval which were not in stock at Tharakanithi.

(E) **DRUG:** - EDP drugs were found to be drastically in short supply at al the District Stores. The OPD Kit contains inadequate supply of certain drugs according to service

providers

-The EDP drugs. were issued without being paired from the Nyeri Depot to the Districts. This is quite unsatisfactory to service provider as some vital drugs are missed out or supplied less.

**(F) DISTRICT STORES:**

-Some of the District Stores which were built by the EDP/DANIDA are becoming smaller as a result of large quantities of commodities required by the districts. These stores cater for essential drugs, contraceptives and vaccines in some districts.

**STI Drugs:**

All the STI clinic visited had all the drugs in supply. Some centres will require re-supply within the next two weeks. In two stations Service providers did not fill out the columns for balances in the registers.

**CONCLUSION**

-the supply status of contraceptives is fairly good but the status of EDP drugs is pathetic. The supply of vaccines is also good.

-There is need for improvement on reporting in some of the District stores (Quarterly reports).

-All the shortcomings noted were discussed with the MOH of that particular district for future follow-up.

**PERSONS CONTACTED**

**Monday October 7th 1996**

Dr. Kiraruli	- MO in charge Gatundu S/D Hospital
Mr. Kilonzo	- S/M in charge “
Mr. Kairu	- Pharm Tech. “
Ms. Wankiru	- ECN MOH/FP Gatundu SD Hospital
Mr. Miki	- Lab Tech. - Thika District Hospital
Dr. Garagara	-MOH - Embu District Hospital
Ms. Mwangi	- DPHN- Embu District Hospital
Mr. Njeru	- Lab Tech. “ ” “
Mr. Mugambi	- Supplies Officer In charge Embu District Hospital
Mr. Makugi	- Hospital Administrator

draft Appendices, Oct 23, 1996

for review and comment

**Tuesday October 8th 1996**

Dr. Migaro - MOH - Laikipia District.  
 Mr. Njao - " " "  
 Ms. Kaburu - S/M  
 Dr. Murithi - MOH - Meru District Hospital  
 Ms. Murithi - ODHN " " "  
 Mr. Stanley - S/M  
 Mr. Mwandu - Lab Tech. " " "  
 Ms. Beatrice Ngare - ECN in charge Gathogo H/C

**Wednesday October 9th 1996**

Dr. Mbuthia - MOH - Tharaka Nithi District  
 Ms. Mwalalu - DPHN " " "  
 Ms. Arista - PHN  
 Mr. Gakuhi - S/M in charge " "  
 Dr. Karuru - MOH - Nyeri District Hospital  
 Ms. Nderitu - OPHN - " " "  
 Mr. Michael Mouie - Lab Tech.  
 Mr. Njoroge Kinyanyu - CO in charge Mukurueni H/C  
 Ms. Rosemary Kangethe - ECN

# DHS presentation materials

## Evaluation of Logistics Improvements in Kenya

Director of Medical Services

Afya House

16 October 1996

### The Evaluation Exercise: Why Kenya?

Retrospective Assessment, Lessons Learned

Current Issue: Logistics Integration

Current Issue: Comparative Distribution Systems

### LMU Innovations:

Activity: Eritrea

Activity: Nanyuki: Tanzania, Ethiopia, Uganda, Madagascar

Activity: Commonwealth Health Secretariat Ministers' Workshop,  
Mauritius, November

Activity: Inclusion of STI drugs and reagents

Activity: Health Sector Reform

Activity: MSCU DANIDA consultancy

## Role of Logistics Management and Proposed Staffing Pattern

## Presentation Notes

### The Evaluation Exercise: Why Kenya?

*Kenya was chosen because it is among the earliest FP logistics activities, for the last decade it has provided the model replicated within other countries within the Region, Kenya is earliest to initiate on-the-ground activities in areas of technical interest, such as integration of logistics, and comparative distribution systems.*

### Retrospective Assessment, Lessons Learned

*Kenya FP logistics demonstrates key factors in success: e.g. continuity of staffing, commitment, willingness to take risks, pre-planning, phased implementation, taking on new challenges like STI, an effective communication system, and the proper use of information to ensure availability of commodities.*

### Current Issues: Logistics Integration

*Integration of logistics within the health sector is discussed globally, but Kenya is among the first to add STI drugs and reagents to the FP distribution system and the first to develop a study for phased implementation of EDP and KEPI commodities.*

### Current Issues: Comparative Distribution Systems

*Standardized kit-based distribution on a pre-allocation basis was introduced a decade ago in an attempt to assure arrival of essential drugs at SDPs. The LMU uses computerized information systems which ensures supply-based or actual need and usage an alternative approach to assuring adequacy and accountability. Customized kits present an intermediate choice.*

### LMU Innovations:

#### Activity: Eritrea

*The LMU, at the request of the Eritrean MOH and Central Medical Stores is installing an adapted version of the LMIS used in Kenya. This LMIS will forecast national requirements of essential drugs.*

**Activity: Nanyuki: Tanzania, Ethiopia, Uganda, Madagascar**

*Regional workshop on Logistics and Quality of Care produces requests from four MOH for technical assistance from the Kenyan LMU*

**Activity: Commonwealth Health Secretariat Ministers Workshop, Mauritius, November**

*An October 1st visit to the CHRC secretariat in Arusha resulted in an invitation to the Kenya LMU (1) to serve as a regional technical reference center for logistics and (2) to present on logistics and quality of care to assembled Ministers in Mauritius in November 1996.*

**Activity: Inclusion of STI drugs and reagents**

*LMU currently distributes door to door to 350 SDPs with trained staff. Collection of inventory and morbidity data yields ever increasing precision.*

**Activity: Health Sector Reform**

*LMU strategic approach to logistics facilitates capacity for Health Sector Reform objectives e.g. decentralization, financial sustainability, constant availability, and integrated systems.*

**Activity: MSCU DANIDA consultancy**

*FPLM is likely to be contracted by DANIDA to assess the efficacy of the MSCU and suggest interventions and improvements.*

## FPLM Technical Assistance Record

**Country:** Kenya

**TA Providers:** Clifford Olson

**Title/Project/Cooperating Agency:** Evaluation Officer, FPLM, John Snow, Inc.

**Dates of Visit:** October 4 - 24, 1996

### Scope of Work for the Visit:

This evaluation visit was conducted under a Scope of Work developed during a May/June 1996 visit. The Scope of Work includes three objectives: (1) document GOK/FPLM efforts to improve logistics over the past decade - strategies and key decision points, management approaches, and impact; (2) highlight lessons learned from this experience, especially those that may be applicable to other countries in the region and beyond; and (3) recommend how GOK/FPLM technologies and techniques can best be expanded to other MOH areas of responsibility such as drug and vaccine distribution and monitoring. The Scope of Work for this evaluation is included in the appendix document attached to this TAR.

### Principal Findings; Outcomes; Accomplishments during the Visit:

This internal evaluation, *Logistics Improvements in Kenya*, was conducted by a three person FPLM-fielded team including Clifford Olson, Evaluation Officer, FPLM/Washington, Dr. Margaret Gachara, UNFPA/Kenya Reproductive Health Advisor on contract as a consultant with JSI during leave from UNFPA, and Mr. Anthony Ophwette, Program Officer for logistics within the MOH family planning program.

The retrospective portion of this evaluation arose from a recognition of the pioneering role Kenya has played in developing family planning logistics management systems. The evaluation describes the early logistics interventions in Kenya, the sequence of these interventions, and identifies the factors that have contributed to success. Many of these factors reflect a willingness on the part of both the GOK and USAID to establish a vertical logistics system specific to family planning commodities. Separate warehouse space was designated and made secure. A separate transport fleet was procured. The project provided nationwide training in family planning logistics management and maintained an information system specific to family planning. Prior to the USAID-funded activities, contraceptives were a low-priority commodity for the MOH and stockouts were common. As a result of these activities, contraceptive distribution is now more reliable than parallel distribution systems for vaccines and kit-based essential drugs.

A second part of the evaluation describes how the successful family planning distribution system is being expanded at the request of the GOK and other donors. With USAID concurrence, ODA procured drugs and reagents for the sexually transmitted infections program are already integrated into the family planning distribution system. Essential drugs and vaccines are targeted for future incremental inclusion. Donors and the GOK contribute financially and in-kind to offset the added costs of expanding distribution. The team concludes that, just as Kenya's early success with vertical distribution proved a model for other countries in the past, current innovations in integrated multi-program distribution will serve as an international model in the near future. The World Bank, for example, has asked FPLM project staff to present their integrated logistics model to staff at the Bank's Washington offices in January.

The evaluation document also lists REDSO/ESA funded regional logistics activities involving the Kenya project. These began only a few months ago but already include cross-border technical assistance to Eritrea from the Kenya project, a presentation at a multi-country workshop on Logistics and Quality of Care, Commonwealth Regional Health Community designation of the Kenya MOH as regional lead for the technical area of logistics, and plans for a presentation to the November CRHC Ministers of Health meeting in Mauritius.

A technical analysis included in the evaluation report describes the project's automated information system. The system has four components which: (1) forecast commodity needs based on historical data, (2) automate inventory control procedures, (3) guide distribution, and (4) present a graphics slide show on commodity stock levels. The distribution module uses state-of-the-art private sector distribution resource planning techniques to obtain an optimal match between commodity requirements at destinations en route and the available transport space. This automated information system has been developed and is maintained by Kenyan staff. REDSO/ESA intends to use these applications as a base for the development of a regional cadre of African nationals capable of installing and maintaining similar automated information systems.

#### **Problems Addressed or Identified:**

The team emphasized that in the context of a broader range of activities, the project should take care not to compromise the existing success with family planning logistics in Kenya. Regular reporting of contraceptive stock levels at service delivery points will enable the USAID Mission to join project staff in monitoring client access to contraceptives in Kenya.

The team also noted distribution difficulties encountered at the sub-district level. The evaluation document discusses the definition and resolution of these problems.

**Other Issues or Suggestions:**

The evaluation team recognizes the additional resources required to accomplish this broader range of activities and suggests a new staffing pattern. New positions will be required from both the MOH and donor sources. The donor supported positions include: Medical Advisor, Integration Coordinator, Regional Coordinator, Distribution Manager, Data Manager, Accounts Assistant, and two Computer Programmers. Debriefings with the GOK, USAID, and other donors produced concurrence that these positions will be added incrementally over time as the workload demands and resources permit.

**Follow-up Actions Needed:**

FPLM/Kenya should pursue the recommendations listed at the front of the report, particularly those related to new staffing positions and the improved use of quarterly reports from service delivery points.

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**LMU/FPLM/Kenya**

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**Associated Reports/Written Products Relevant to this Trip:**

**Specific Products from this Visit:** Written products include the narrative text *Evaluation of Logistics Improvements in Kenya*, and the separately bound associated *Appendices*.

**Associated Reports/Background Documents:** The appendices include an annotated bibliography of the reports and background documents used during this evaluation.