MINISTRY OF PUBLIC
HEALTH AND HYGIENE

REPUBLIC OF MALI
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PHARMACIE POPULAIRE DU MALI

2015–2019 STRATEGIC PLAN FOR THE PEOPLE'S PHARMACY OF MALI

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USAID FROM THE AMERICAN PEOPLE

SIAPS Systems for Improved Access to Pharmaceuticals and Services

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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ACRONYMS AND ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
ARV	antiretroviral
CSCom	Community Health Center (Centre de santé communautaire)
DDG	Deputy Director General
DPM	Directorate of Pharmacy and Medicine (Direction de la pharmacie et du médicament)
DRC	Dépôt répartiteur de cercle (distribution warehouse for circle)
DRS	Regional Health Directorate (Direction régionale de la santé)
EPIC	*établissement public à caractère industriel et commercial* (publicly owned industrial and commercial establishment)
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
GMU	Global Fund Management Unit
HIV	human immunodeficiency virus
KPI	key performance indicator
LMIS	logistics management information system
MNCH	maternal, newborn, and child health
MSHP	Ministry of Public Health and Hygiene (Ministère de la Santé et de l'Hygiène publique)
NGO	nongovernmental organization
PDG	President Director General
GNP	gross national product
PPM	People's Pharmacy of Mali (Pharmacie Populaire du Mali)
PRODESS	Five-Year National Health Sector Development Program (Programme quinquennal de développement sanitaire et social)
SDADME	Essential Medicines Supply and Distribution Plan (Schéma Directeur d'Approvisionnement et de Distribution des Médicaments Essentiels)
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOP	standard operating procedure
SWOT	strengths, weaknesses, opportunities, threats
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
USD	US dollar
XOF	West African CFA franc

PREFACE

The Government of the Republic of Mali has identified the People's Pharmacy of Mali (PPM) an ideal tool for the execution of its national pharmaceutical policy for the supply, storage, and distribution of essential medicines. As part of this commitment, stakeholders have made agreements within a legal framework: the Performance Contract between the State and the PPM.

To ensure better implementation of the Performance Contract, the PPM has developed a five-year strategic plan (2015–2019); its performance will be regularly evaluated through outcomes from the implementation of annual action plans. This document presents the first strategic plan for the PPM; it has capitalized on its achievements and will overcome its challenges to excel in the procurement, storage, and distribution of essential medicines, medical devices, and reagents across the health pyramid at affordable costs.

This strategic plan was developed through seven key interventions, in accordance with the implementation of PRODESS-III (Programme quinquennal de développement sanitaire et social; Five-Year National Health Sector Development Program), which are also the strategies and outlines for the relevant solutions that will significantly help improve the availability of essential medicines, medical devices, and reagents and ensure their rational use throughout the country. These strategies are also aimed at further supporting government efforts to achieve the Millennium Development Goals through the health sector.

By implementing this plan, the PPM is determined to improve the quality of its services and increase customer satisfaction among its health facility and community clients. The PPM will provide them with reliable products through well-established, safe, and efficient distribution operation with a greater availability of stock, orders delivered on time at reduced operational costs, and with a skilled and motivated staff.

The results of the implementation of this plan will give health facilities and communities greater accessibility to essential medicines, medical devices, and reagents at affordable costs. This is only possible if the PPM commits to continuous monitoring of its services.

The PPM 2019, a standard for quality and local public services, supports the vision underlying the development of this strategic plan: a vision for better service quality, through better internal and external organization, improved communications, and better monitoring of outcomes related to key interventions.

Based on the key interventions and objectives identified in this strategic plan, I am confident that in the next five years, the PPM will become a model for quality and local public services, and a center of excellence in the health commodities supply chain.

The PPM will perform its mission with accompaniment and support from the Ministry of Public Health and Hygiene and its branches, national partners, SIAPS Mali, and other international partners in the health sector, without forgetting the consultants. They are fully committed to the development of this strategic plan, with the first version prepared during a participatory workshop organized by the PPM June 16–19, 2014, in Bamako to improve its purchasing, storage, and distribution process for medicines, medical devices, and reagents, in addition to improving the information and quality assurance system. Furthermore, I wish to express my gratitude to all those who have provided such high quality assistance. I would like

to thank them and offer my gratitude for their valuable contributions and expertise, which has effectively supported our planning assumptions and led to the finalization of this strategic roadmap.

I would like to specifically thank USAID through SIAPS Mali for all its contributions in completing this strategic plan.

Last, I want to thank the PPM management team and all its staff members for their tireless efforts to draft and finalize this strategic plan.

Dr. Abdrahamane Tounkara

President Director General

ACKNOWLEDGEMENTS

Having completed this strategic planning, we would like to extend our thanks to the administrative supervision and its branches, to all the partners who assisted us, to all the consultants, and to all the staff of the various PPM directorates for their valuable contributions. We also thank all those who provided support through their useful comments and valuable suggestions and information during the various formal and informal meetings, including the participatory workshop organized June 16–19, 2014; with a special mention of USAID, through SIAPS Mali, for all its contributions in driving this process forward and completing this strategic plan.

EXECUTIVE SUMMARY

The People's Pharmacy of Mali (Pharmacie Populaire du Mali; PPM) is a strategic entity in the supply chain for essential health commodities for the Government of Mali. The PPM operates under a Performance Contract signed with the government that is renewable every three years. The PPM's mandate is to offer the highest level of service in terms of product availability and quality of service in health facilities and for public health programs.

Since its creation, the PPM has striven to provide optimal services in the supply chain, particularly in the procurement of essential health commodities and their distribution to its customers. However, in performing these services, the PPM has faced numerous challenges, notably the low level of service delivery of essential commodities, inadequate financing, and insufficient human resource capacities (in terms of both number and skills). The PPM also has an inefficient information system, which does not allow for capturing, documenting, and reporting on the status of key products in real time. Moreover, the PPM is facing challenges related to the management and coordination of stakeholders, as well as for some key products for specific programs and the supply chains for diseases such as HIV and AIDS, malaria, and tuberculosis along with maternal, newborn, and child health (MNCH).

Recognizing the challenges and responding to the various stakeholder evaluations, studies, and recommendations, the PPM requested technical assistance from the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program of the US Agency for International Development (USAID) to help it identify the best strategies to improve its performance and strengthen is standard operating procedures (SOPs) and its supply chain.

In response to this request, SIAPS conducted an in-depth analysis of the PPM's current situation and identified the problems to solve, taking into account the PPM supply chain in its entirety rather than focusing on one or two intervention areas. This approach corresponds to the SIAPS Program's strategy to strengthen health systems. Following this analysis, SIAPS and the PPM held a workshop to disseminate and present key findings of the analysis and, with assistance from stakeholders, began to develop a five-year strategic plan aimed at solving the PPM's problems, improving its operations, and promoting the organization's growth.

Situational Analysis of the People's Pharmacy of Mali

The PPM accounts for less than 50% of business volume in the pharmaceutical sector in Mali (in terms of costs), and a stakeholder analysis established that there is genuine commitment to support the PPM. The SWOT (strengths, weaknesses, opportunities, and threats) analysis showed that the PPM is able to handle the most urgent issues, provided it has the necessary technical and financial support. For its supply chain functions, the PPM will need support to (1) develop a product catalogue and a master list, (2) strengthen the quantification process for essential medicines, (3) introduce innovative approaches in procurement management, (4) implement a robust system for inventory control, and (5) strengthen warehouses and the storage and distribution system to meet the already growing demands in essential health commodities.

An analysis indicated that the PPM has a paper and electronic management information system for its internal operations (stock status, processing orders, procurement, distribution planning, and even financial operations). The structure of the management information system reflects the PPM's operations as well as its administrative infrastructure. Given the technological changes and progress anticipated in the supply chain, the PPM should upgrade its systems, improve the availability of stock information in real time, and give its customers and partners access to stock status.

A financial analysis showed that 92% of PPM cash flow is directly related to essential health commodities (purchases and sales). The PPM's financial growth has been variable—moving from steady growth between 2010 and 2012 to a decline in 2013, most likely owing to the country's socio-political unrest.

Concerning asset management, the PPM owns many warehouses and other buildings located in prime locations. However, the analysis showed that no suitable system exists for determining the value of these properties or to document and manage them. These properties can be used by the PPM to generate income as well as for capital to upgrade the PPM's value, as a financial investment to trigger a capital injection.

Strategies for Strengthening the People's Pharmacy of Mali (2015–2019)

From a strategic perspective, the PPM is striving to follow a customer-driven business model, which targets a high level of service and a solid understanding and good coordination of customer needs in the interests of promptness, efficiency, and cost control, and based on a sound business model. The following strategic objectives have been identified to support the PPM's improvement and growth:

- Increase the availability of essential health commodities by strengthening the product selection process as well as the procurement system at the PPM level.

- Improve health facilities' access to pharmaceuticals by strengthening the inventory control and distribution system and by developing a PPM customer service plan.

- Improve storage capacity and conditions by building a new warehouse in Bamako and optimizing the space and storage conditions in other PPM warehouses.

- Strengthen the logistics management information system (LMIS) for the PPM to increase availability, access, and use of inventory in real time as well as other relevant information.

- Strengthen the capacities of PPM human resources to perform the required supply chain tasks by updating human resources policies and procedure manuals and by strengthening staff capacities, as needed.

- Improve the PPM's capacity to provide high-quality commodities.

- Consolidate the PPM's financial and business performance by improving financial efficiency and compliance and by increasing the PPM's working capital.

INTRODUCTION AND BACKGROUND

Background

The People's Pharmacy of Mali (Pharmacie Populaire du Mali; PPM) is a strategic entity in the supply chain for essential health commodities for the Government of Mali. It was created on October 5, 1960, in accordance with Ordinance no. 18/P-GP as a state-run company and business. Since June 11, 1993, it has been established as a publicly owned industrial and commercial establishment (*établissement public à caractère industriel et commercial*, or EPIC), in accordance with Law No. 93 032/AN RM. Its public service mission has been assigned by the State through the aforementioned law. The implementation of this mission is carried out through a Performance Contract with the State, renewable every three years. As an EPIC, the PPM has a semi-autonomous status, which gives it more flexibility regarding its strategic operations and decisions, under the direction of a board of directors.

When the PPM was created in 1960, its buildings (offices and warehouses) and operations adequately met the public health needs at the time in terms of systems and infrastructure when Mali's estimated population was about 5 million. However, the situation has changed since then: Mali's population currently numbers approximately 14 million and is facing major health challenges that require more essential health commodities compared with the 1960s. As a national entity to supply the public sector in Mali, the PPM must respond adequately to issues related to delivery capacity and overall performance management of the supply chain.

The key problems affecting the PPM's performance are the following:[1,2,3,4,5]

- *A less significant public sector role in the country's pharmaceutical trade.* Currently, the private sector covers approximately 50% of public sector demand, and the informal pharmaceutical sector accounts for up to an estimated 15% of trade.

- *A suboptimal level of service at all service delivery points.* PPM services range from an average 41% for essential medicines (the level of service also varies depending on the commodity) to 57% for antiretroviral (ARV) treatments and medicines for opportunistic infections.

- *Low availability of essential health commodities* (characterized by stock-outs and shortages).

- *Insufficient financing* for the PPM to maintain its working capital and to cover overhead.

- *A staff with limited capacities and expertise* to perform the quantification, procurement, distribution, storage, inventory management, and quality assurance of pharmaceuticals and to use the management information systems.

[1] SOLTHIS Report, March 2011.
[2] World Bank Private Health Sector Assessment in Mali.
[3] ACAME Project to improve quality assurance of pharmaceuticals for the PPM.
[4] SIAPS Evaluation of the Essential Medicines Logistics System in Mali, 2013.
[5] Situational analysis of the PPM by SIAPS, April to June 2014.

- *Inadequate information systems*.

- *The management and coordination of stakeholders*, the supply chain for essential health commodities linked to specific programs such as HIV and AIDS, malaria, tuberculosis, and maternal, newborn, and child health (MNCH).

Besides these difficulties, the PPM faces problems related to infrastructure, in particular at the central warehouse level and within the regional warehouse network. Regarding infrastructure, the PPM no longer has the required capacity needed to manage operations effectively (receiving, storage, management, and distribution of multiple commodities) because most of the warehouses do not comply with the minimal standards required for storing essential health commodities, notably the storage conditions, equipment, spatial arrangement, and size. In some cases, the warehouses are dilapidated.

Funding was recently increased through the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), and the US President's Malaria Initiative (PMI). This increase in funds has helped boost the procurement of essential health commodities in the areas of malaria, HIV and AIDS, and MNCH. In addition, the budget allocation to fund the purchase of essential health commodities by the PPM was increased by the Government of Mali. The volume of commodities received, stored, and distributed has increased, as shown by the rise in sales from 4.6 billion West African CFA francs (XOF) in 1997 to about XOF 9.5 billion in 2011. Needless to say, the warehouses built in the 1960s are having difficulties meeting demands for 2014 and beyond.

The PPM has made improvements to its internal systems and processes and has supported human resources capacity to ensure staff can perform their duties as required. Some examples of the activities undertaken are presented below:

- In October 2013, the PPM, in partnership with France Expertise Internationale (FEI) and the Association of Essential Medicines Procurement Agencies (Association des Centrales d'Achat de Médicaments Essentiels; ACAME), signed a framework agreement with the Pharmacy and Humanitarian Aid–Humanitarian Medical-Pharmaceutical Center (Pharmacie Aide Humanitaire–Centrale Humanitaire Médico-Pharmaceutique) for the implementation of the project "Strengthening the PPM's quality assurance system" at the central level.

- In 2012, the PPM drafted an SOP manual that provides guidelines to staff members for their day-to-day tasks, in accordance with the organization of the supply chain. This guide is currently being used by PPM staff, but it has not been finalized or formalized as a definitive document.

Need for a Strategic Plan to Guide the People's Pharmacy of Mali

The strategic plan is a framework or a roadmap to guide the PPM in carrying out its objectives by reaffirming the vision as well as the main goals, stages, and means for achieving the desired outcomes in a specified period of time. Without strategic planning, the expected outcomes are unlikely to be achieved.

This strategic plan should present an impartial roadmap so the PPM becomes a center of excellence through an understanding of its current situation, its strengths and weaknesses, technical and financial resources available to it, the timing, and the stakeholders involved. It should also provide a guideline for the priority areas over the next five years.

MISSION/VISION OF THE PEOPLE'S PHARMACY OF MALI

The People's Pharmacy of Mali is a publicly owned industrial and commercial establishment (EPIC) created by the state on June 11, 1993, according to Law No. 93-032/AN-RM.

Mission

The PPM mission is to ensure the procurement, storage, and distribution of essential medicines for the entire country. The PPM is an ideal tool for the implementation of the national pharmaceutical policy. As such, it is a strategic entity responsible for the purchase, storage, and distribution of pharmaceuticals from the central level to the regional or district level, depending on the commodities.

The PPM is also responsible for the storage and distribution of medicines purchased by donors such as the Global Fund, USAID, or some United Nations agencies.

Vision

The implementation of the 2015–2019 PPM strategic plan will aim to qualitatively and quantitatively adapt its services delivery by controlling and reducing its costs, which will be done through efficient management in the procurement, storage, and distribution of health commodities through the health pyramid.

Through the outcomes of the implementation of this strategic plan, the PPM will have established the necessary foundations for its development to become a standard for quality and local public services and a center of excellence for the health commodities supply chain, helping improve people's health. It will achieve this objective by providing people with high-quality essential medicines, medical devices, and reagents at a price compatible with their purchasing power and with a supply of pharmaceutical services in compliance with international standards, both in terms of infrastructure and service delivery. Commodities will be available at all times by prepositioning them in the extended network of hospitals, referral health centers, and community health centers.

CONTEXT OF THE PEOPLE'S PHARMACY OF MALI

Structure and Organization of the PPM

In January 2014, the PPM had 106 employees assigned as follows:

- The General Directorate, located in Bamako, headed by a President Director General (PDG) and a Deputy Director General (DDG)
- The seven Central Departments (Procurement, Distribution, Finance/Accounting, Information Technology, Stewardship, Administration, and Pharmaceutical Preparations)
- Five Regional Departments (Kayes, Koulikoro, Sikasso, Ségou, and Mopti)
- Warehouses at headquarters plus seven warehouses serving as retail outlets and one pharmacy in Bamako
- Three dispensaries in the regions

The PPM headquarters is located in the District of Bamako and includes seven warehouses or retail outlets: Darsalam, Moussa Travele, Daoudabougou, Boukenem, Pharmacie Jour et Nuit (a pharmacy with extended hours), and Korofina; the PPM headquarters also serves as a retail outlet.

PPM management is structured as follows:

- General Directorate, headed by a PDG and a DDG
- Steering Committee, comprised of the PDG, the DDG, department heads, and the two staff representatives

Figure 1 shows how the PPM is organized in performing its functions.

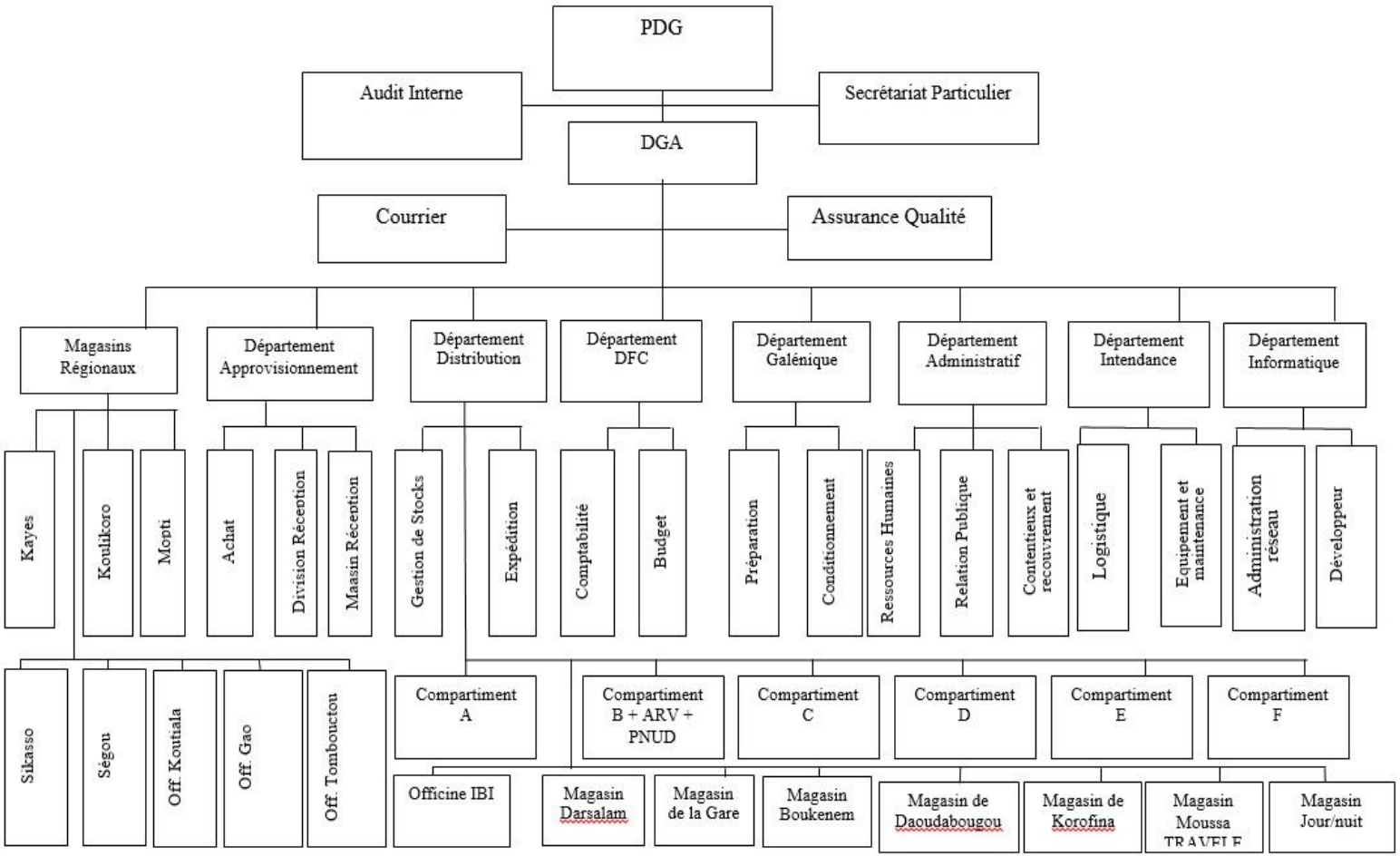


Figure 1. PPM organizational chart

PPM within the Ministry of Public Health and Hygiene

The PPM has been placed at the second hierarchical level within the Ministry of Public Health and Hygiene (Ministère de la Santé et de l'Hygiène publique; MSHP). In terms of operations, the PPM works with the MSHP, the Ministry of Finance, and all levels of medical services delivery in Mali at the national, regional, district, and community levels, for example, the community health center (Centre de santé communautaire; CSCom). The PPM also works with suppliers (local and international) and development partners.

Geographic Coverage

In addition to the seven retail outlets for the Bamako District, the PPM distribution network is composed of eight regional stores. The PPM is present throughout the entire country, with the exception of the Kidal region, where commodities go through the PPM retail outlet in Gao. The PPM is the only wholesale distributor of pharmaceutical products; it covers all regions and markets all commodities included on the national list of essential medicines. From a logistics standpoint, the PPM serves the following levels:

- Central/national level, including programs specific to a disease or aspect of health, such as malaria, HIV and AIDS, family planning, and MNCH. At the national level, the PPM also serves the referral hospitals and health centers and the special programs (e.g., immunization) and provides essential health commodities to control epidemics.

- At the regional level, based on the Essential Medicines Supply and Distribution Plan (Schéma Directeur d'Approvisionnement et de Distribution des Médicaments Essentiels; SDADME), the district hospitals and warehouses get supplies from the regional PPM.

- At the district level, the CSComs get supplies from the district stores in accordance with the SDADME; for free commodities provided through malaria control, based on the contract between the PPM and PMI/DELIVER, the PPM carries out the distribution up to the district store level; for ARVs, the PPM carries out the distribution up to the treatment centers.

- At community level, the community health workers get supplies through the CSComs.

A recent study conducted by the World Bank indicates that the PPM covers less than 50% of the country, with the remainder covered by the private sector.

PPM Customers

Within the health system, the PPM provides commodities to the following customers:

- Public sector customers: national and regional hospitals, health centers, national programs (for example, for tuberculosis and malaria control), and medical/health research institutes. These institutions obtain their essential health commodities directly from the PPM retail outlets and, currently, account for the majority of its clientele.

- Community: community health centers, nongovernmental organizations (NGOs), and faith-based centers and organizations also receive supplies from the PPM.

- Private sector customers: approved pharmacies and health facilities.

DEVELOPMENT OF THE STRATEGIC PLAN

To develop the PPM strategic plan, the scope of work was drafted and a situational analysis was conducted; next, strategies were selected based on the analysis, and key priorities for the national supply chain were identified. These are strengthening of SOPs for the PPM, inventory control system, improving services and customer satisfaction, strengthening the management information system, increasing PPM staff capacities, and developing infrastructure.

This strategic plan has been disseminated to the relevant stakeholders for feedback on, involvement in, and finalization of the document.

Strategic Plan Process

Stage	Details	Schedule
Defining problems	The PPM, with assistance from SIAPS, identified the vital organizational needs in response to several evaluations and reviews conducted by various partners and donors in recent years. The key identified priorities are as follows: • Updating SOPs • Strengthening PPM staff capacities to perform their duties and responsibilities • Developing a comprehensive strategic guideline to strengthen the performance of the PPM supply chain and improve customer satisfaction (ensure product availability) • Improving infrastructure and asset management • Improving the PPM's capacity and financial performance	February 2014
Consulting with stakeholders	The PPM, in partnership with some key stakeholders such as PSI, United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), Directorate of Pharmacy and Medicine (Direction de la Pharmacie et du Médicament; DPM), PLAN International (Mali), and USAID, held a one-day meeting to discuss the identified priorities and address areas for improvement. SIAPS facilitated this consultative meeting.	March 2014
Data collection and analysis	SIAPS collected the data with PPM assistance. This process followed these steps: • A document review of various reports, particularly evaluations, audit reports, manuals, existing SOPs, and external documents • Collection of data concerning inventory, procurement, finances, storage, transport, and the information systems as well as the various reports and tools used by the PPM • Physical observation of the PPM buildings, in particular the central warehouse, the compounding unit, other storage buildings in Bamako, service delivery points and regional	March to June 2014

Stage	Details	Schedule
	warehouses, the Regional Health Directorate (Direction régionale de la santé; DRS), and the CSComs • Consultations, group discussions, and individual interviews with the key informants from the PPM, the MSHP, donors, development partners, and others SIAPS analyzed collected data and information using various modeling and projection tools as needed. In addition, diagraming, modeling of the supply chain, and validation of certain information and data were carried out. For instance, the following analyses were performed: • Supply chain environment o Stakeholder analysis o SWOT analysis o Situation of the country's pharmaceutical market • Supply chain operations o Inventory analysis—level, number of articles (items), ABC analysis; weight/volume analysis, product flow, turnover, delivery time, level of service, expired products, and stock modeling o Analysis of storage conditions and space, including options for new warehouses and the necessary improvements for existing warehouses o Transport and vehicles o Quantification, procurement, and product management processes o Management information system—tools, process, and functions • Financial and asset analysis o Cash flow o Financial ratios o Profit analysis o Expenditure analysis o Asset management system	
Validation of data and information, analysis of outcomes, and ranking of identified problems through situational analysis based on their priority	This was conducted by SIAPS and the PPM during a two-day workshop during which the data and analyses of information and outcomes was presented by SIAPS and discussed with the PPM management, supervisory staff, and experts from each PPM department. After having validated the data, analyses, and outcomes, SIAPS and PPM ranked the observations in order of priority into three main areas: • Supply chain operations, focusing on optimization o Supply chain performance: key performance indicators (KPIs) o Increased service level o Operational effectiveness and efficiency	June 2014

Stage	Details	Schedule
	• Business position/PPM analysis—financial projections, asset management, financing strategies, and overall business growth Implications for the supply chain environment: policy, governance, responsibility, good business relations with customers, and stakeholder management	
Dissemination of results from the situational analysis and development of the strategic plan	Results were disseminated during a workshop bringing together key stakeholders from Mali's public health system, for example, the MSHP departments involved in pharmaceutical management, NGOs, the director of the Country Coordination Mechanism for the Global Fund, and United Nations agencies, such as UNDP. During this workshop, SIAPS, the PPM, and stakeholders developed strategies to address the main problems identified during the situational analysis. It was decided that the PPM strategic plan would focus on the customer and would aim to strengthen the PPM's capacity to provide suitable products and services. The strategic planning sessions dealt with the following points: • Improving the PPM's capacity to raise the service level and customer satisfaction • Strengthening the inventory control system by the PPM to ensure better supply chain performance • Improving the PPM's infrastructure and logistical network capacities • Optimizing information systems for management to boost access to data and information and to use them in decision making. • Equipping PPM staff with the required knowledge, expertise, and skills	June 2014
Stakeholder consensus and finalization of the strategic plan	At this point, the PPM organized a forum at the highest level to present the strategic plan and request support, technical resources, and financing necessary for its implementation.	November 2014

SITUATIONAL ANALYSIS OF THE PEOPLE'S PHARMACY OF MALI

The in-depth situational analysis of the PPM conducted by the SIAPS technical team has shown that the PPM is a robust institution, with an extensive storage and distribution network, committed leadership, and a dedicated staff. The PPM has significantly improved its internal operations in recent years, in response to several evaluations, audits, reviews, and recommendations—and thanks to technical assistance from various partners.

A document review, discussions, and field visits have helped provide a clearer picture of what the supply chain should be for the public sector, at least for the next 10 years. A summary of the environment of the PPM logistics chain is presented below.

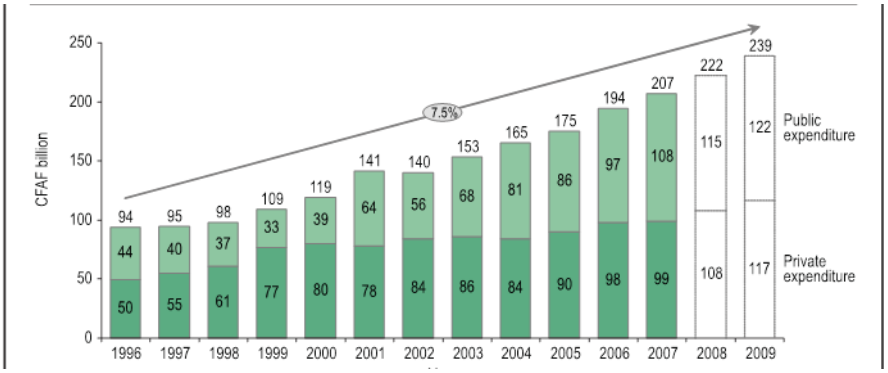
Current Market Situation

According to the Private Health Sector Assessment in Mali, published by the World Bank in 2011, the PPM accounted for less than 50% of the public pharmaceutical market in 2008. In addition, estimates from this evaluation of the private health sector show that the illegal drug market accounts for about 15% of the country's market.

Although these data indicate that the PPM did not meet expectations for the public health commodities supply system, they do show that the PPM has the potential to increase its sales and level of service—even up to twice the current situation in terms of size and scope.

Growth in Health Care Spending in Mali

Spending on health in Mali is in a predictable and constant growth phase, as illustrated in figure 2. This could be extrapolated in future planning exercises. For example, between 2004 and 2009, public health expenditures have shown positive growth, ranging between 7% and 10% each year. Careful analysis shows that if the other variables remain constant, by extrapolating this trend to 2020, an increase of more than 50% can be expected for health expenditures compared with 2009.



Source: WHO n.d.; Malian National Health Expenditures, http://www.who.int/nha/country/mli/en/BCG, Projections for 2008 and 2009.

Figure 2. Growth in health care spending in Mali

PPM Service Level

Although it is difficult to predict an increase in sales based on improved services, the current service level (50%) is low. Any improvement in the level of service, even with an increase in sales of 1% from year to year, should definitely yield cumulative results over time. This result depends on variables such as growth in population and gross national product (GNP) as well as in the total market. With the required support (technical, financial, and policies for facilitation), the PPM can achieve up to a 95% level of service. It should be noted that even if the PPM is limited to maintaining its market share, its sales would still be almost doubled. Table 1 shows a projection of the market share, taking into account its growth.

Table 1. Projected Share of the Pharmaceutical Market and Market Growth

	2013	2014	2015	2016	2017	2018	2019	2020
GNP growth	4.0%	5.2%	4.5%	4.6%	4.6%	4.6%	4.6%	4.6%
Population growth	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
Total market growth	100%	109%	118%	127%	138%	149%	161%	174%
PPM sales volume if its market share remains unchanged (XOF, thousands)	7,500	8,158	8,819	9,540	10,320	11,164	12,076	13,063
Increase in market share	0%	1%	2%	3%	4%	5%	6%	7%
Projected PPM sales volume, taking into account an increased market share (XOF, thousands)	7,500	8,954	10,547	12,421	14,613	17,175	20,169	23,668

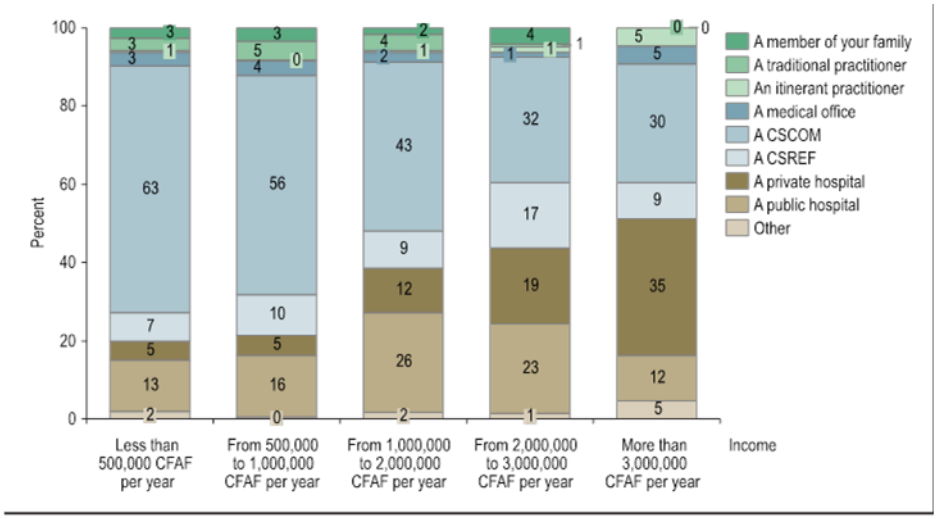
Source: SIAPS staff reports.

Further analysis indicates that PPM service varies depending on the type of product and the funding source (in the case of products funded by donors); this variation can range between 42% and 65%. This information shows that by simply increasing the level of service, the PPM can considerably boost its sales.

Clients' Choice of Health Care Service Providers

Based on the analysis of health care service providers, the CSComs are the main delivery point for consultations, chosen by people at a rate of 58% in 2008.[6] Health care comprises products and services. Figure 3 shows that the CSComs are the first places chosen by people with an annual income equal to or below XOF 500,000. The PPM should recognize the role of CSComs in direct service delivery and position itself to be their main supplier. Given that GNP in 2012 was USD 1,200, figure 3 clearly shows that from 43% to 63% of the population will choose CSComs as the first service provider.

[6] Survey conducted in Malian households; BCG analysis.



Source: WHO n.d.; Malian National Health Expenditures, http://www.who.int/nha/country/mli/en/BCG, Projections for 2008 and 2009.

Figure 3. Service provider choice, based on household income

Figure 3 shows how the PPM could benefit from a strategy specifically designed to improve the availability of essential commodities to the DRCs and send the CSComs a positive message as a preferred customer, in addition to designating a specific supply chain or special supplies for the Dépôts répartiteurs de cercle (DRCs).

Stakeholder Analysis

Table 2 presents a list of the main stakeholders and how they partner in the pharmaceutical supply chain.

Table 2. Analysis of PPM Stakeholders

Stakeholders	Technical domain
Ministry of Finance	• Financing the procurement of essential health commodities • Advising on asset and equipment management
MSHP	• Monitoring of the PPM Service Contract with the Government of Mali
USAID	• Donor
Global Fund	• Donor
European Union	• Donor
World Bank	• Donor • Partner in procurement
DPM	• Development of policies and a manual for pharmaceutical management • Quantification • Training • Supportive supervision • Capacity building • Coordination with health centers and health programs
Main suppliers (e.g., Laborex, Copharma, Africalab, and Camed)	• Pharmaceuticals supply • In some cases, they are competitors
Catholic Relief Services	• Principal recipient of the Global Fund • Support for the National Tuberculosis Control Program
PLAN	• Support for the National HIV and AIDS Control Program
Global Fund Management Unit (GMU) UNDP	• Recipient of the Global Fund • Support for the National HIV Control Program
Population Services International (PSI)	• Support for the National Family Planning and Malaria Control Programs o Family planning services delivery in the private sector (social marketing)
Stakeholders	• Pharmaceutical/technical domain
World Health Organization	• Develop of policies and guidelines on pharmaceuticals management
UNICEF	• Malaria and HIV prevention
Customers: DRCs, regional and national health centers	• Essential products supply from the PPM • Quantification of essential products

SWOT Analysis

A summary of the SWOT analysis (strengths, weaknesses, opportunities, and threats) conducted internally by the PPM on the management system for the supply chain in Mali is presented below (table 3).

Table 3. SWOT Analysis of the PPM

Strengths	**Weaknesses**
• Existing logistics networks • Knowledge of the public supply chain context • Autonomy • Technical capacities of PPM staff and its management	• Management of partners • Weak infrastructure • Weak reporting system • Weakness of policy for human resources performance • Weak procurement system for laboratories
Opportunities	**Threats**
• Improvement of the contract terms with the Government • Partner engagement • Technological progress • Growth and stability of private sector business • Broad potential clientele • Procurement system	• Internal stability (country's politics) • Insufficient financing to support the implementation of the strategic plan • Private sector dominance in the pharmaceuticals market • CSComs' relationship with current suppliers

Product Selection by the PPM

The PPM inventory files show that there are over 900 commodities (items), even though only 250 to 300 are actively in circulation. A more in-depth analysis showed the following:

- At present, no product catalogue exists to inform customers which products are available through the PPM.

- No assessment has been conducted to determine the necessary essential products for the country, and there is no forum to enable the MSHP and stakeholders to assess the country's overall pharmaceutical needs, apart from the essential medicines list and treatment protocols.

- There is no documentation indicating if or how the PPM list of commodities (items) is reviewed and updated or if products are removed from the PPM inventory list.

Quantification (Forecasts and Procurement Planning)

According to the Performance Contract, the DPM must supply the PPM with its annual essential medicines needs for the following year no later than September of the current year.

However, most of the time, forecasting exercises for essential medicines are conducted annually by the PPM procurement team, and the procurement plan is completed before product procurement acquisition. Quantification specifically for the tuberculosis, HIV and AIDS, malaria, MNCH, and family planning programs is conducted under DPM supervision, and procurement is done using other mechanisms, for example by the program, the development partner, or donors, and sometimes by the PPM. It is important to note that the PPM and the DPM simplify the quantification exercises and are institutionalizing best practices in the quantification management process.

Procurement

The PPM procurement system is fairly robust and follows the country's guidelines. The PPM uses an annual procurement cycle, corresponding to the budget (fiscal) year; in principle, suppliers must make two shipments per contract per year. However, the conditions of the contract have not been fully respected. The contracts do not last more than one year and are not subject to any framework contract or any prequalification. Moreover, the shipments arrive at irregular intervals over the year and do not necessarily correspond to the correct quantities. Figure 4 shows the shipments of ordered items from suppliers under contracts.

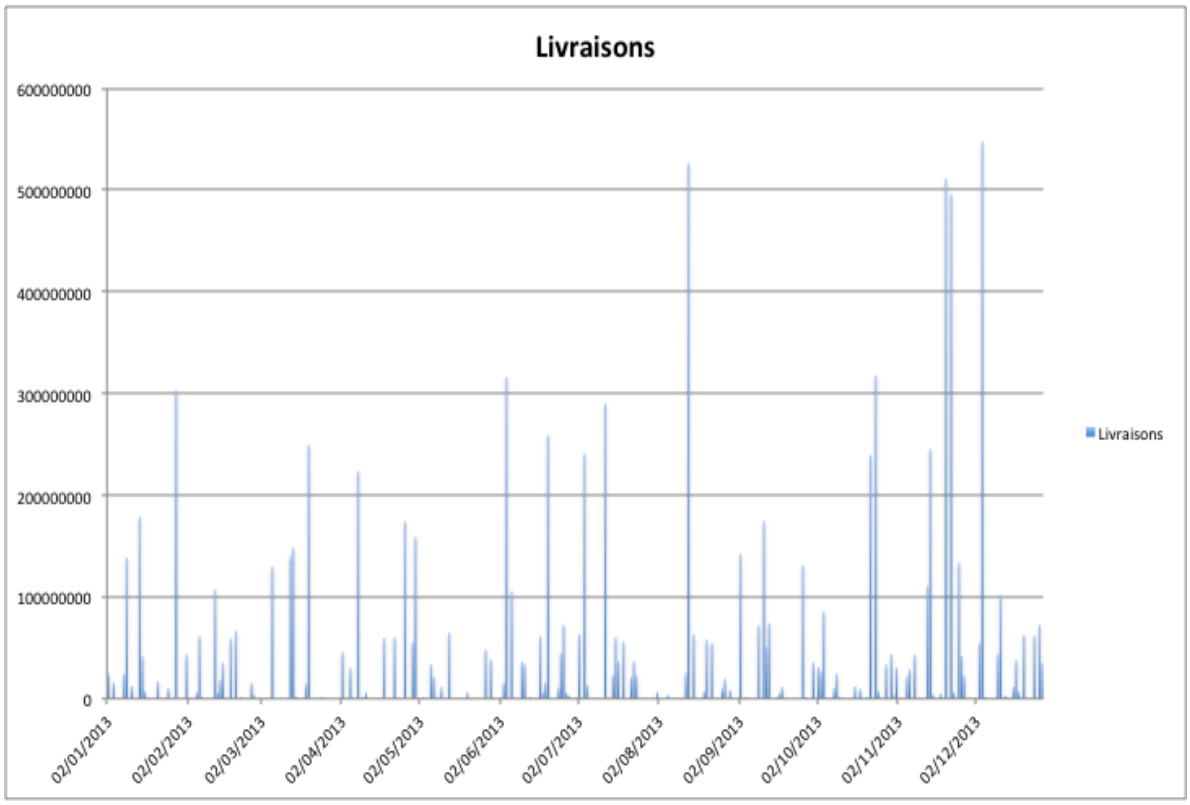


Figure 4. Shipments of orders by suppliers, 2013

This analysis indicates that, from a financial perspective, the PPM could benefit from improved procurement management and the introduction of a flexible or scheduled supply of products to better manage payments, storage space, and inventory turnover. During the period covered by the situational analysis, measures were taken to change the frequency of shipments (from two to three times per year), and the addition of smaller deliveries as needed has helped reduce central inventory levels by 10%, which has lowered retention costs and improved management of stock levels.

Inventory Management

An inventory analysis highlighted the following situation:

- Overall, the central warehouse has a large inventory; moreover, the level for some products fluctuates greatly.
- The regional stock levels are lower than at the central warehouse, both in terms of quantity and the number of items carried.
- Data show that a large volume of products are expired: over the last three years, in terms of cost, this has ranged between USD 250,000 in 2010 and USD 2.3 million in 2013.
- The working capital in 2013 was approximately USD 16 million.
- Storage costs appear to account for 25% of the inventory cost, but this figure has not been validated.
- The total (annual) stock accounts for approximately USD 12.4 million, and over 80% is stored in the central warehouse.

Overall Product Flow at the Central Level (ABC Analysis)

Product flow at the central level was assessed based on amount, volume, and weight. Category A products comply with the Pareto Principle (using ABC analysis) according to each of the three criteria (table 4). This information is used in the stock modeling scenarios in cases where a segmentation is applied.

In table 4, the percentage standard deviation (STD %) column represents the standard deviation of each month in 2013. It is over 100% for several items, which means that the orders and allocations vary greatly at all levels (from districts to regions, from regions to the central level). This amplification effect of variations is one of the main challenges to overcome in the PPM supply chain.

The volume analysis (table 5) shows a significant percentage of the total physical volume of products is taken up by a small group of products. This will have implications both for solving the existing space problems in warehouses and for planning new warehouses. A strategy that includes a "super A" inventory (in addition to category A) with a different storage, distribution, and management approach should be considered. Even though more than 900 items are listed, many of them account for a very small volume of the total. It may be useful to limit stock to a smaller number of items.

Table 4. Product Shipments in 2013 (ABC Analysis, Category A items)[a]

Nom du produit	Forme	Dosage	Présentation	STD %	total	cumulative	%tage de total
Seringue + aig. usage unique	-	10 ml	-	86%	2438551	2438551	10%
Quinine	Injectable	100 mg/ml	ampoule 4 ml	78%	2304029	4742580	20%
Quinine	Injectable	100 mg/ml	ampoule 2 ml	121%	1973136	6715716	29%
Seringue + aig. usage unique	-	5 ml	-	94%	1227194	7942910	34%
Eau pour preparation	Injectable	-	ampoule 5 ml	144%	1073800	9016710	39%
Artemether + Lumefantrine (USAID-PNLP)	Comprimé	20/120 mg	plaquette 6	134%	770088	9786798	42%
Artemether + Lumefantrine (USAID-PNLP)	Comprimé	20/120 mg	plaquette 24	272%	701650	10488448	45%
Microgynon	Comprimé	-	plaquette 28	94%	696360	11184808	48%
Glucose plastique	Injectable	5 %	flacon 500 ml	117%	615036	11799844	51%
Artemether + Lumefantrine (USAID-PNLP)	Comprimé	20/120 mg	plaquette 12	172%	531813	12331657	53%
Ampicilline	Injectable	1000 mg	flacon	159%	511730	12843387	55%
Artemether + Lumefantrine (USAID-PNLP)	Comprimé	20/120 mg	plaquette 18	152%	486000	13329387	57%
Perfuseur	-	-	-	80%	455444	13784831	59%
Crachoir	-	-	-	322%	380200	14165031	61%
Depo-provera	Injectable	-	flacon	96%	312347	14477378	62%
Sodium Chlorure plastique	Injectable	0,9 %	flacon 500 ml	93%	310718	14788096	63%
Ringer Lactate	Injectable	-	flacon 500 ml	85%	224190	15012286	64%
Paracetamol	Comprimé	500 mg	plaquette 10	241%	217310	15229596	65%
Paracetamol	Solution	120 mg / 5 ml	flacon 60 ml	115%	206071	15435667	66%
Oxytocine	Injectable	10 UI	ampoule 1 ml	61%	201511	15637178	67%
Cotrimoxazole	Solution	240 mg / 5 ml	flacon 100 ml	169%	200214	15837392	68%
Compresse tissée Stérile	-	40x40 cm	sachet 10	137%	185684	16023076	69%
Diazepam	Injectable	5 mg/ml	ampoule 2 ml	43%	176228	16199304	69%
Microlut (Levonorgestrel)	Comprimé	-	plaquette 35	67%	170230	16369534	70%
Sels de réhydratation orale	-	20,5 g/litre	sachet	114%	153900	16523434	71%
Amoxicilline	Solution	250 mg / 5 ml	flacon 60 ml	61%	149032	16672466	71%
Poche à sang (FN-CNTS)	-	-	unité	289%	143700	16816166	72%
Carbocisteïne	Solution	2 %	flacon 100 ml	94%	141208	16957374	73%
Catheter court IV	-	20 g	unité	72%	127172	17084546	73%
Lames de bistouris	-	N° 24	-	115%	124300	17208846	74%
Amoxicilline	Injectable	1 g	flacon	101%	123156	17332002	74%
Citrate de Carbetapent.	Solution	0.2mg/ml	flacon 100 ml	52%	118650	17450652	75%
Polyvidone iodée	Solution	10 %	flacon 100 ml	99%	116771	17567423	75%
Dexamethasone	Injectable	4 mg / ml	ampoule 1 ml	154%	116290	17683713	76%
Ceftriaxone	Injectable	1000 mg	flacon	76%	115912	17799625	76%
Glucose plastique	Injectable	10 %	flacon 500 ml	145%	108594	17908219	77%
Acide acétylsalicylique	Comprimé	500 mg	plaquette 10	131%	102909	18011128	77%
Paracetamol	Comprimé	500 mg	plaquette 12	155%	101789	18112917	78%
Coartem dispersible (DON WORLD VISION)	Comprimé	20/120 mg	plaquette 6	228%	101670	18214587	78%
Catheter court IV	-	24 g	unité	162%	101520	18316107	79%
Lamivudine+Nevirapine+Zidovudine (VPP)	Comprimé	150+300+200 mg	boîte 60	81%	100846	18416953	79%
Cotrimoxazole	Comprimé	480 mg	plaquette 10	190%	100665	18517618	79%
Flacon plastique blanc + bouchon	-	-	flacon 100 ml	201%	100000	18617618	80%
Gants chirurgicaux steriles	Pair	N° 8	-	63%	99592	18717210	80%

a. Data collected by SIAPS staff during the PPM study, April 2014.

Table 5. Volume and Weight for the Top 50% of Products[a]

Nom du produit	Forme	Dosage	Présentation	Poids	total	total poids	cumulative	percentage de total
Glucose plastique	Injectable	5 %	flacon 500 ml	600	615036	369021.6	369021.6	20%
Sodium Chlorure plastique	Injectable	0,9 %	flacon 500 ml	600	310718	186430.8	555452.4	30%
Ringer Lactate	Injectable	-	flacon 500 ml	600	224190	134514	689966.4	37%
Glucose plastique	Injectable	10 %	flacon 500 ml	600	108594	65156.4	755122.8	41%
Microgynon	Comprimé	-	plaquette 28	90	696360	62672.4	817795.2	44%
Artemether + Lumefantrine (USAID-PNLP)	Comprimé	20/120 mg	plaquette 24	80	701650	56132	873927.2	47%
Lamivudine+Nevirapine+Zidovudine (VPP)	Comprimé	150+300+200 mg	boîte 60	500	100846	50423	924350.2	50%

Nom du produit	Forme	Dosage	Présentation	volume	total	total volume	cumulative	percentage de total
Glucose plastique	Injectable	5 %	flacon 500 ml	700	615,036	430,525	430,525	16.5%
Sodium Chlorure plastique	Injectable	0,9 %	flacon 500 ml	700	310,718	217,503	648,028	24.9%
Ringer Lactate	Injectable	-	flacon 500 ml	700	224,190	156,933	804,961	30.9%
Seringue + aig. usage unique	-	10 ml	-	50	2,438,551	121,928	926,888	35.5%
Compresse tissée Stérile	-	40x40 cm	sachet 10	500	185,684	92,842	1,019,730	39.1%
Perfuseur	-	-	-	200	455,444	91,089	1,110,819	42.6%
Crachoir	-	-	-	200	380,200	76,040	1,186,859	45.5%
Glucose plastique	Injectable	10 %	flacon 500 ml	600	108,594	65,156	1,252,016	48.0%
Microgynon	Comprimé	-	plaquette 28	90	696,360	62,672	1,314,688	50.4%

a. Data collected by SIAPS staff during the PPM study, April 2014.

Expired Products

Table 6 presents the expired drugs reported over the last five years, amounting to an average expenditure of USD 16 million, with a comparable amount in stock.

Table 6. Expired Medicines over the Last Five Years[a]

Year	Amount (XOF)	Amount (USD, thousands)
2014	446,403,958	938
2013	1,551,786,724	3,260
2012	376,087,365	790
2011	244,962,082	515
2010	123,435,024	259
Total	2,742,675,153	5,762

a. Data collected by SIAPS staff during the PPM study, April 2014.

These amounts may appear quite high, but one must take into account the unrest within the country that negatively affected the distribution of essential commodities in the regions. Maintaining inventory was considered when estimating the value of essential commodities.

Inventory and Level of Service at the Regional Warehouses

The analysis conducted on the stock inventory in late 2013 and early 2014 is presented in Table 7.

Table 7. Level of Service at the Regional Warehouses

For 216 general items	Amount, USD, thousands	Service, %, Level of service	Stock-outs, N (incidence)
Kayes Regional Department	163	42	123
Koulikoro Regional Department	319	48	110
Mopti Regional Department	222	51	104
Ségou Regional Department	228	36	135
Sikasso Regional Department	183	42	122
Gao	78	40	128
Boukemen store	62	39	130
Daoudabougou store	72	36	136
District store	130	42	123
Gare store	29	23	163
Jour et Nuit store	76	38	132
Korofina store	78	50	105
Moussa Travele store	59	42	123
IBI dispensary	76	48	111
Koutiala dispensary	60	52	101
Tombouctou dispensary	78	31	147
Total	1,912	41	1,993
For 119 ARV and OI[b] commodities			
Kayes Regional Department (ARV+OI)	159	67	39
Koulikoro Regional Department (ARV+OI)	41	51	58
Mopti Regional Department (ARV+OI)	54	59	48
Sikasso Regional Department (ARV+OI)	96	52	57
Total	350	57	202

a. Data collected by SIAPS staff during the PPM study, April 2014. b. OI = opportunistic infection.

The approach used was to count stock-outs at each warehouse based on the range of 216 items in stock in at least one of the warehouses. Thus, some items that should be in stock were possibly out of stock in all the warehouses, and other items may not have been stocked at each location. However, this approach provides an initial view of the level of service at the warehouses and data for modeling the supply chain and stock.

Warehouses and Storage

The SIAPS team, which visited the Kayes and Bamako warehouses and the small retail outlets in Bamako as well as the PPM compounding unit, recommends that the conditions in the warehouses need immediate attention, particularly in the case of the central warehouse. Problems were identified related to the size of the warehouses, their location, the equipment, lighting, air conditioning, shelving, refrigerated storage, stock movements, and staff and product safety. Moreover, it will be difficult to be efficient using the current number of staff in a situation where several small storage buildings are located in or around the main storage area. Tracking essential commodities could also be problematic.

Bamako Central Store

- The central warehouse was built in the 1960s, and the building's conditions are no longer suitable for modern storage, particularly with the goal of increasing the PPM's level of service and market share, which will necessarily result in more stock, faster turnover, and better storage conditions.

- The central store has several substores in Bamako, which complicates working conditions, stock tracking, and supervision of warehouse operations for staff.

- Storage conditions, namely temperature control (particularly during the dry season), humidity control, and lighting, are not optimal.

- The central warehouse is located in a high-density area, which is not ideal for warehousing work and logistics. Also, the current premises are crowded and do not have enough space to fit all the essential commodities in a manner that ensures optimal storage conditions.

- The size of the stores (central and others) in Bamako could not be determined because of their constant expansions and modifications. Therefore, it is difficult for the PPM to accurately predict lack of space at any given time.

- Because many small-sized storage areas are used, movement of staff and products within the PPM may be higher than necessary. Also, the maintenance costs for the stores is likely higher than if all goods and staff were located in a single central modern building.

- The amount of equipment for handling goods, shelves, and pallets is insufficient.

Selecting Warehouse Size

Three main variables should be taken into account when planning for warehouses:

- In the final scenario, it is assumed that the volume of sales will triple over the next five years.

- Resupply and shipment frequency by suppliers: in the final scenario, it is assumed that there will be a minimum of four shipments per year.

- Changes in the facility over the next five years: it will be necessary to develop significant planning and execution capacities to reduce variations.

It is expected that an increase in volume will be accompanied by greater capacity. If volume further increases, the number of deliveries per year from suppliers should be even higher, and work hours could be extended to include three shifts per day, including on weekends.

Summary of Warehouse Size Selection

Five scenarios were reviewed to determine how the facility's capacities and volumes could change over the course of the next five to seven years. A stock modeling tool was used to estimate the required levels of safety stock and the length of the inventory turnover cycle, based on shipment frequency and changes in demand, flow, and level of service. Table 8 shows that a storage space for about 5,000 pallets would be needed at the central level to accommodate the expected volume. It is strongly advised to test the data used for stock modeling using more sophisticated growth forecasting models and to determine if the facility could realistically implement the necessary growth for shipments. Table 8 shows that stock requirements at the regional level should not increase and, in some cases, may even decrease.

Table 8. Projections for Stock Held in Number of Pallets, according to Shipment Frequency, Level of Service, and Variations in Demand[a]

Scenario		Current	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Throughput in Pallets/yea		3,000	3,000	4000	6000	10000	12000
	Central	Stock Total Pallets	Stock Total Pallets	Stock Total Pallets	Stock Total Pallets	Stock Total Pallets	Stock Total Pallets
Central	A	1858	1446	1928	1712	2499	2047
	B	1252	1563	1625	2116	2110	1730
	C	500	391	406	529	527	433
	Total	3611	3400	3958	4356	5136	4210
Kayes	A	45	23	33	24	19	24
	B	39	19	26	19	15	19
	C	9	5	7	5	4	5
	Total	93	47	65	48	38	48
Koulikoro	A	54	28	39	29	23	29
	B	48	23	32	23	18	23
	C	11	6	8	6	5	6
	Total	113	56	79	59	46	59
Sikasso	A	59	30	43	32	25	32
	B	52	25	34	25	20	25
	C	12	6	9	6	5	6
	Total	123	61	86	64	50	64
Ségou	A	52	27	38	28	22	28
	B	46	22	30	23	18	23
	C	11	6	8	6	4	6
	Total	109	54	76	57	45	57
Mopti	A	75	38	54	40	32	40
	B	66	31	43	32	25	32
	C	16	8	11	8	6	8
	Total	156	78	109	81	64	81
	Grand Total	4205	3696	4373	4664	5378	4518

a. Data collected by SIAPS staff during the PPM study, April 2014.

However, demands in management capacity will increase considerably at all levels. This will have implications for human resources and the information systems. Scenario 5 is based on the assumption that the central warehouse will prepare orders for all CSComs[7] each week and that products would be distributed through the regional stores to the district level (table 9).

[7] This scenario would only be usable if the current logistics management system were changed to allow the PPM to make direct shipments to the CSComs.

Table 9. Flow Projection: Receiving, Outflow, and Number of Orders to Process per Year[a]

	Sit Actuelle			Scenario 1			Scenario 2			Scenario 3			Scenario 4			Scenario 5		
	Recept	Sortee	Commandes	Recept	Sortee	Commandes	Recept	Sortee	Commandes	Recept	Sortee	Commandes	Recept	Sortee	Commandes	Recept	Sortee	Commandes
Central	250	375	204	250	375	204	333	500	204	500	750	408	833	1250	884	1000	1500	78000
Kayes	24	28	28	24	28	84	24	28	84	24	28	84	24	28	182	24	28	364
Koulikoro	24	28	28	24	28	84	24	28	84	24	28	84	24	28	182	24	28	364
Sikasso	24	28	28	24	28	84	24	28	84	24	28	84	24	28	182	24	28	364
Ségou	24	28	28	24	28	84	24	28	84	24	28	84	24	28	182	24	28	364
Mopti	36	40	41	36	40	180	36	40	180	36	40	180	36	40	390	36	40	780

a. Data collected by SIAPS staff during the PPM study, April 2014.

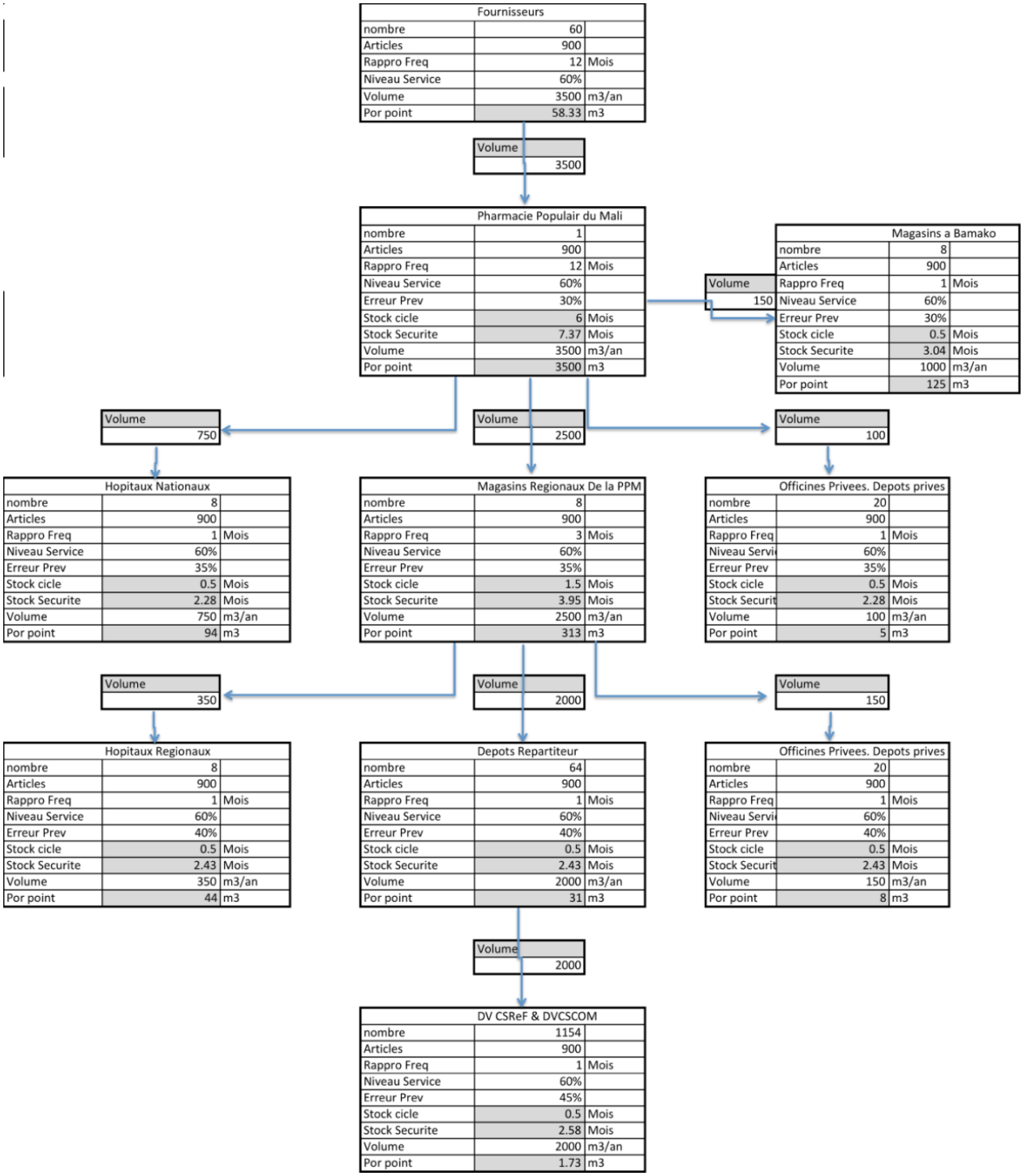
Other warehouses/buildings:

- The warehouse in Kayes is not as outdated as the one in Bamako. However, the warehouse needs major improvements, beginning with renovation, followed by installation of new shelves, pallets, racks, handling equipment, and air conditioning (temperature, humidity, and lighting). Also, improvements should be made to the offices and parking lot for trucks as well as in the loading/unloading zones and in terms of security and fencing.

- The production building is old and does not have basic facilities such as suitable lab benches or modern equipment for compounding.

Supply Chain Modeling

Figure 5 shows the structure of the supply chain.



Source: Field analysis by SIAPS program staff.

Figure 5. Diagram of the supply chain

Problems with Inventory Management Practices

- Data on shipments in the regions is low quality, and the trucks used for distribution are not in good condition.

- There are no details on product dimensions, which is needed to plan for the storage space required.

- Information and details about the delivery network are insufficient, particularly the number and location of delivery points.

- Variations and manipulations exist in the ordering and subsequently in the allocation process.

- Supply chain operations vary considerably, in part because of the manipulations mentioned above, but also because of the lack of structure in the ordering process at the district level.

- The terms of contracts with suppliers involves the delivery of six months' of merchandise in just one day, which creates space problems in the central warehouse and contributes to variability in the supply chain.

- The resupply cycle is too long and too slow all along the supply chain.

- Inventory is not calculated correctly. Too much is allocated to cyclical inventory, and there is not enough safety stock.

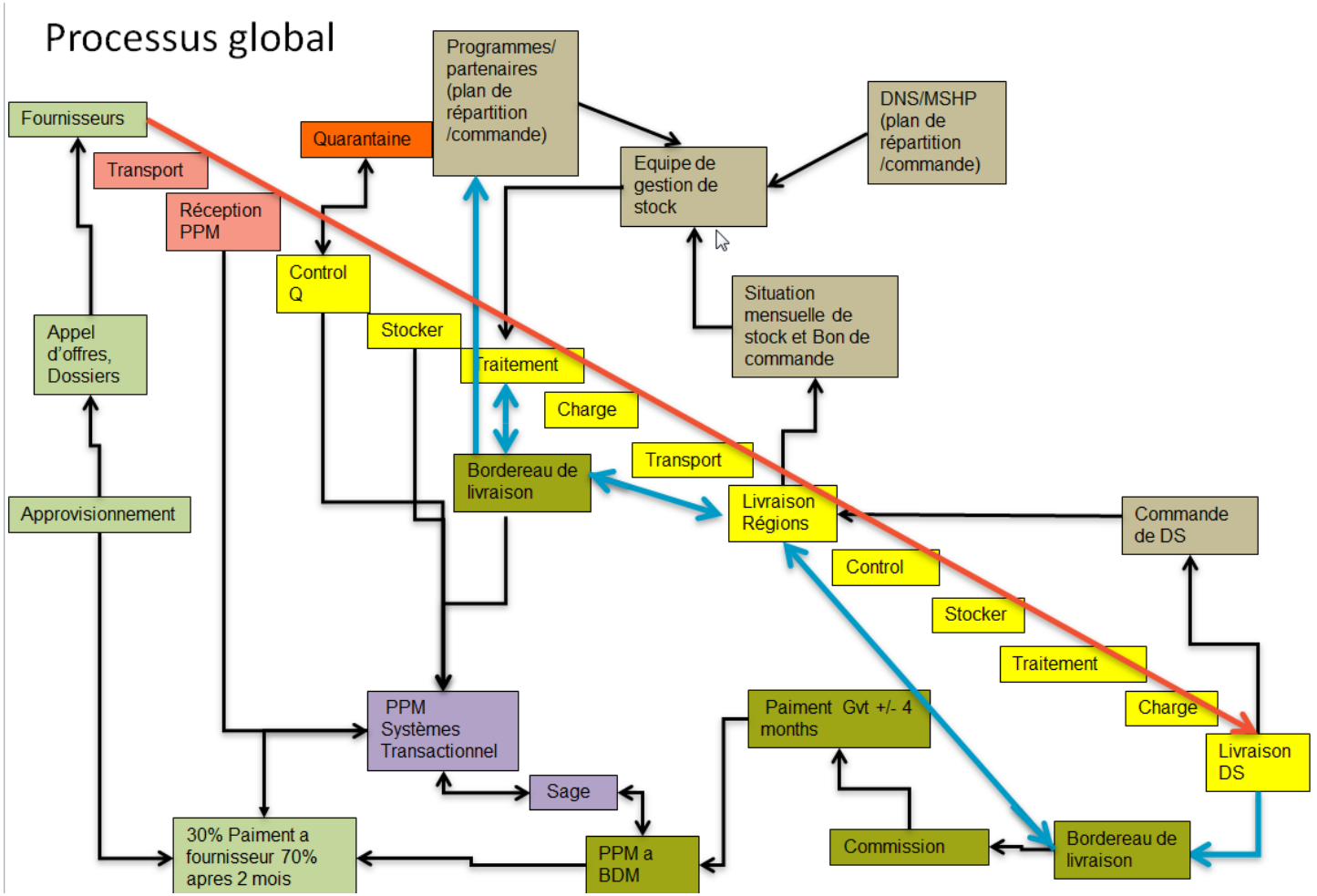
- Supply chain performance is not measured in a clear way.

Distribution

The distribution of commodities by the PPM depends on orders from the regional warehouses, the DRCs, and some distribution plans for essential commodities for programs such as HIV and AIDS, malaria, tuberculosis, and family planning. In the current situation, the PPM distribution system complies with internal standards. A management system is in place for the schedule and vehicles, the routes are clearly defined, documentation is filled out correctly, and the available vehicles are suitable in terms of transfer volumes. Nevertheless, ascertaining adequacy of vehicles at this stage is difficult because the PPM service level remains low. If the stock levels and distribution frequency increase, the number of vehicles very likely would be insufficient to meet demand.

Figure 6 shows the flow of essential commodities from the central level to the peripheral level.

Despite a robust distribution system overall, it should be reorganized to enable options such as high-volume direct delivery to customers (hospitals, CSComs, referral centers at the national and regional levels). Distribution frequency and data for distribution needs should be assessed so that a suitable standardized delivery schedule can be developed.



Source: Field analysis by SIAPS program staff

Figure 6. Distribution process

Management Information System

The PPM uses three management information system tools:

- Paper-based tools, such as stock cards, account books, and registers
- MS Excel files, used for essential commodities for HIV, regularly updated
- A simple software called LogiPPM, programmed within the PPM and maintained by an external consultant

LogiPPM records the current logistics operations, such as processing orders after they are received and preparing pick lists, packing lists, and delivery slips. Although this system meets the current needs, capacities for generating reports are limited. Once requirements are known, a series of reports should be prepared that can then be generated monthly to facilitate planning and modeling activities.

A system with more powerful features should be implemented soon. The PPM does not require anything out of the ordinary, and the desired features can easily be obtained from numerous professional software companies. A brief study should be conducted to identify the basic requirements to be sent to suppliers for consideration. The software should cover the following aspects: procurement; receiving; warehouse management; inventory management; distribution, transport, and schedule planning; vehicle management; and report preparation.

Financial Analysis

Sales Revenue

PPM activity involves the following revenue streams (table 10):

- Pharmaceutical sales (92%)
- Accessory revenue drawn from management fees and rental income (2%)
- Operating subsidies from the State and technical and financial partners (0%)
- Other income related to accessory products collected by the PPM (2%)
- Financial income on bank deposits (0.4%)
- Exceptional revenue, such as proceeds from sales of assets and other items (3%)

Table 10. Changes in Sales by Revenue Stream (XOF, Thousands)

%	Sources of income	2013	2012	2011	2010	Variation 2010–12
92	Pharmaceuticals	5,905,360	7,390,978	9,456,764	8,107,887	–9%
2	Accessory products	101,673	170,141	64,680	92,227	84%
0	Subsidies	137,281	0	84,936	78,647	–100%
2	Other products	121,512	183,412	152,452	135,886	35%
0.4	Financial products	15,416	31,454	15,266	70,141	–55%
3	Products for extraordinary activities	66,304	238,449	177,151	180,296	32%
100	Total	6,349,559	8,016,446	9,953,260	8,667,094	–12%

PPM sales have seesawed around XOF 8 billion in the period 2010–2012, with an overall downward trend of 12%. Sales also dropped significantly in 2013, to XOF 5.9 billion.

The decrease in sales is accompanied by a drop in cash amounts received, which has a negative impact on the institution's treasury.

The decreased sales are explained by the decreases in the following:

- Pharmaceutical sales, which make up the bulk of activity (92%), because of lack of control of medicine procurement, storage, and distribution processes
- Accessory products drawn from management fees and rental income (2%), because of problems related to managing PPM property rents across the country and the lack of control over the cost of management fees
- Operating subsidies from the State and technical and financial partners, because of irregularities in mobilizing subsidies
- Financial income on bank deposits, because of the lack of a cash flow management policy.

Expenses

PPM expenses comprise the following items (table 11):

- Purchase of medicines in accordance with the Master Plan
- Purchase of raw materials for the laboratory and pharmaceutical preparations
- Transport/transfer costs for the institution's staff and goods
- External services related to services delivered by providers
- Taxes and duties paid to the State for business activities
- Other expenses for various expenditures paid by the PPM
- Personnel expenses for salaries and other benefits paid to employees
- Depreciation costs and provisions for decreases in the value of durable goods and the value of cyclical assets
- Extraordinary expenses from the net value of sold capital assets and other costs unrelated to the institution's current activity
- Taxes paid on year-end earnings (industrial and commercial profits)

Table 11. PPM Expenses (XOF, Thousands)

Expenses	2013[a]	2012	2011	2010	Variation 2010–2013
Medicine purchases	2,930,807	4,005,930	7,495,705	6,188,320	−35%
Stock variation	551,864	1,251,552	−621,709	−803,458	−256%
Purchase of raw materials for laboratory and pharmaceutical preparations	115,003	84,515	72,800	126,079	−33%
Other purchases	258,961	202,354	209,106	201,967	0%
Transport/travel	140,401	131,161	210,649	217,986	−40%
External services	547,143	586,324	579,659	503,751	16%
Taxes and duties	75,941	87,186	141,659	257,900	−66%
Other expenses	165,483	153,513	218,427	185,240	−17%
Personnel costs	667,179	749,919	751,949	698,652	7%
Depreciation and amortization	126,927	128,395	129,854	148,956	−14%
Total ordinary business expenses	**5,579,709**	**7,380,849**	**9,188,099**	**7,725,393**	**–4%**
Exceptional expenses	139,082	60,292	36,978	70,752	−15%
Business income taxes	198,797	171,988	216,972	287,570	−40%
Total	5,917,588	7,613,129	9,442,049	8,083,715	−6%

a. The 2013 data are not included in the totals for the changes but are suitable for trends analysis.

Expenses have also seesawed over the period 2010 to 2012, with an overall downward trend of 6%, amounting to XOF 7.6 billion in 2012. They dropped dramatically in 2013 (XOF 5.9 billion) owing to decreased business activity at the PPM.

An expense analysis noted that the decrease in activity has not been accompanied by a reduction in some of the following major components of expenses:

- The costs of external services, which increased by 16%, in contrast to the downward trend for activity
- The costs of personnel, which has also risen by 7% over the period, in contrast to the change in activity

Business Revenue

Activity for the PPM, which has seesawed, remained profitable throughout the period. However, the period 2010 to 2012 saw an overall downward trend of 31% (table 12).

Table 12. Profit Analysis, 2010–2013

Heading	2013	2012	2011	2010	Variation 2010–12
Net profit (FCFA)	431,971	403,317	511,211	583,379	–31%

The revenue analysis reveals that with turnover down 12% and expenses down 6%, revenues have deteriorated by 31% for the period 2010 to 2012.

- The PPM's profitability is decreasing year by year, with decreases in revenues (31%).
- The progression of expenses is not in keeping with the institution's changes in sales.
- The PPM operates in a fairly large geographical area dealing with several types of products for which the profitability is not individually known.

Business Profitability

In accordance with the institution's earnings, the PPM's profitability decreases from year to year because of changes in expenses and sales.

The structure of the expense analysis at the PPM allows breaking down expenses into direct and indirect. However, the concepts of "direct" and "indirect" are relative, because of the lack of cost accounting. This classification is approximate, but it provides a clear indication of the urgent need to control costs (table 13).

Table 13. Earnings Analysis (XOF)

%	Heading	2013[a]	2012	2011	2010	Variation 2010–12
100	Sales revenue	6,349,559	8,016,446	9,953,260	8,667,094	–12%
63	Direct costs	3,999,049	5,677,524	7,368,562	5,932,904	–4%
37	Margin/Direct costs	2,350,510	2,338,922	2,584,698	2,734,190	–14%
	Margin rates	37%	29%	26%	32%	
30	Other expenses	1,920,552	1,937,617	2,075,498	2,152,821	–10%
82	Breakeven point (revenues)	5,188,090	6,641,009	7,992,412	6,824,216	
	Breakeven point (month)	9.80	9.94	9.64	9.45	5%
7	Net earnings	429,958	401,305	509,200	581,369	–31%

a. The 2013 data are not included in the totals for changes but are indicated for trends analysis.

The profitability analysis of PPM activity produced the following findings:

- The year 2011 was a record year, during which the PPM was able to earn approximately XOF 10 billion in revenues and a net profit of approximately XOF 600 million.

- Direct costs did not decrease at the same rate as the institution's revenues, which points to inadequate control of direct costs.

- The contribution margin does not have a significant effect on PPM earnings because of high indirect expenses.

- Indirect expenses are high, since they absorbed almost all the margin (30%, for 37% of the margin obtained).

- The breakeven point (the point when the business begins to generate profit) is very high (82% of sales), which means that it is reached late in the year—in the 10th month for the four years studied.

- Revenue is low compared to the level of business activity (7%) and especially with respect to the type of business (trade) and in comparison to businesses in the pharmaceutical sector.

PPM's Financial Situation

An analysis of the PPM's financial situation focuses on the analysis of several significant ratios and comments on the cash flow.

Ratio Analysis

Analyzing certain ratios provides an overview of the PPM's financial and asset situation (table 14).

Table 14. Ratio Analysis

Heading	2013	2012	2011	2010	Norm
Financial independence = equity/assets	0.99	0.94	0.99	1.00	1.00
Essential medicines = essential medicines purchased/total purchases	1.00	1.00	1.00	1.00	1.00
Productivity = value added/staff	12.65	7.86	13.08	12.10	3.60
Technical purchase = number of PPM essential medicines/number of generic essential medicines	0.96	0.99	0.99	0.99	1.00
Expired products = number of expired products/ number of unexpired products in stock	0.02	0.01	0.02	0.02	0.00
Inventory turnover = cost of goods sold/average inventory	1.77	1.34	1.54	1.53	1.50
Inventory turnover period = 360/turnover rate	203.00	268.00	233.00	235.00	
Share of receivables/sales revenue = total receivables/sales revenue	0.63	0.73	0.57	0.59	0.20

The ratio analysis presented above produced the following findings:

- The PMM remains financially independent from the outside because of the type of

sustainable resources (PPM property), but their management should be studied because of the gradual decrease in earnings and the profitability of its business.

- The PPM has complied with the standard required by the Performance Contract, namely making essential medicines available compared to medicine purchases (100% or 1).

- Staff productivity is very high compared to the number of staff. This situation should not preclude an analysis of staff-related expenses (number and cost) to determine the relevance and performance by position and service.

- The inventory turnover cycle remained slightly above the norm for the entire period. However, stocks are only replenished once yearly, which means stocks are just sitting at the PPM stores.

- The inventory turnover period is very long (about 260 days). If the 6 months needed for sending the delivery slips required for triggering the payment process are added to this period, then the lead time reaches 15 to 17 months.

- Thus, the financial impact of high inventory combined with the delivery slip recovery process prevents having high amounts of available cash.

- The sales recovery ratio is 60%, meaning that 60% of sales regularly remain receivable. This situation creates ongoing stress in terms of the treasury. However, revenues were reported following the measures taken as part of the improved debt repayment procedures.

Cash Flow

Cash flow reflects an organization's ability to fund its activities (operations and investment) with its own resources (table 15). It is calculated by adjusting the earnings by unpaid expenses and uncollected proceeds.

Table 15. Cash Flow (XOF)

Asset	2013	2012	2011	2010	Variation
Net earnings	429,958	401,305	509,200	581,369	–31%
Depreciation and amortization	126,927	128,395	129,854	148,956	–14%
Cash flow	556,885	529,700	639,054	730,325	–27%

The cash flow, similar to its component parts, is deteriorating from year to year because of the institution's lower performance for the period 2010 to 2012. This situation is gradually leading to the destruction of the financial autonomy if the institution, which will be forced to turn to financial partners to fund its activities.

Management of PPM's Assets

The PPM's assets consist of land, buildings, office equipment and furniture, and rolling stock and other financial assets (deposits and securities).

Receivables

The PPM's receivables comprise receivables from the State and rents collected from rental property throughout the country.

- Receivables from the State include the bills for medicines sold to health facilities throughout the entire country. These debts arise after the delivery slips have been sent by the health facilities that have consumed the products. The delivery slips reach their destination about 6 months after the medicines are delivered to the health structures. When the 9-month period between the time the items are received and the moment they are distributed to health facilities is added, the duration of cyclical assets in the circuit before the actual collection of funds extends to 17 months after receiving them, compared with the 2-month period for payments to suppliers. Receivables ranged between 60% and 70% of sales for the period from 2010 to 2012. This means that more than half of revenues remain with customers for a good part of the year.

  This type of debt management causes an increased need for working capital and, therefore, a deterioration of the institution's capital situation.

  However, the new provisions (notably the State's commitment based on a protocol to no longer incur debts with the PPM) have significantly improved the receivables recovery procedures with the State and thus has increased liquid assets. However, these measures should not be temporary; they should be monitored and improved to ensure regular debt repayment to the PPM.

- Debt repayment from renters of buildings is also an annoyance for the PPM. It has been the cause of constant disputes that result in new costs for the institution.

To improve its repayment performance, the PPM must

- Consider with partners the implementation of a better mechanism to reduce the time for repayment of its receivables for medicine sales

- Implement a system to ensure greater protection and better use of the PPM's property holdings

The Treasury

The PPM's liquid assets comprise deposits in various banks and in the revenue and expense funds.

Table 16. Treasury Cash Balance (XOF)

Asset	2013	2012	2011	2010	Variation 2010–12
Banks and credit unions	3,226,581	1,369,592	1,542,330	2,044,232	–33%

For the period from 2010 to 2012, the PPM's treasury has deteriorated from year to year because of the stock management policy and PPM debts, with a 33% rate of decrease.

This situation is explained by the time gap between the payment deadline to the supplier, which is 2 months after receiving medicines, and the revenue collection period, which can extend to about 17 months after receiving these stocks.

This situation reveals the PPM's constant stress in terms of cash flow. However, encouraging results have been achieved following measures taken to improve debt recovery procedures. This initial step to take control of cash flow management led to a significant improvement for cash flow on December 31, 2013.

FIVE-YEAR STRATEGIC PLAN (2015–2019)

From a strategic perspective, the PPM is trying to follow a customer-driven business model, which targets a high level of service and a solid understanding and good coordination of customer needs in the interests of promptness, efficiency, and cost control, and based on a sound business model. This could be accomplished by setting several objectives:

- Focusing efforts on improving customer service to make essential health commodities more accessible (range of products and level of service)
- Developing a sustainable business model (sales, projection, and coverage) to make the expected increase in demand possible to meet
- Making supply chain operations more efficient and profitable
- Establishing a robust, data-driven, performance monitoring system, to ensure that the three objectives cited above are achieved
- Improving management of working capital by reducing amounts receivable and by better managing fixed assets (particularly buildings and vehicles)

Based on the current situation and what is needed to achieve the preceding objectives, the PPM should make the following structural and operational adjustments:

- Introduce a comprehensive program for supplier management to increase the level of services.
- Introduce prequalification procedures for suppliers and framework contracts with them to reduce costs and improve monitoring of the quality of product procurement.
- Build a new central warehouse not only offering a high-quality storage environment, but also serving as a logistics platform able to handle a large number of orders in various situations.
- Improve planning capacities by starting with the current activities but then moving on to the use of more suitable logistics tools, for example, for enterprise resource planning.
- Develop a larger vehicle fleet to provide more comprehensive service.
- Implement demand management: based on variations or changes in current regulations for public sector procurement, the PPM may need to consider the introduction of “vendor-managed inventory” to achieve optimal levels of inventory in its warehouses at a minimal cost.
- Improve data management (quality and availability) to facilitate the evidenced-based decision-making process.

- Develop a staff retention strategy, for example bonuses and increased salaries.

The PPM has defined the following strategic objectives to improve its performance and to make the institution a more strategic partner in the supply chain (Annex B).

First Strategic Objective: Increase Availability of Essential Health Commodities at the PPM by 2018

Conscious of the need to make essential medicines and other health products accessible in the PPM network and having examined the products currently being purchased, distributed, and packaged, the PPM has set the following top priorities: updating the product list based on current needs, conducting ongoing demand forecasts, and optimizing the procurement process.

Product Selection: Development of a Catalogue of Products Offered by the PPM

The PPM does not have a product catalogue, and documentation of laboratory and diagnostic products (list and inventory) is relatively poor. For the PPM to have complete information on what essential products to purchase, store, and distribute, it must take the following actions:

- Develop a master list of commodities (product catalogue) and include the following in the process:
    - A revision of the current inventory list, based on consultations with the relevant departments and using references such as clinical, diagnostic, and biomedical services and the list of essential medicines
    - A basic inventory analysis, for example, a VEN, ABC, and "super A" analysis to prioritize products based on needs

- Based on technical consultations, establish a catalogue of products that will be available to customers in a paper and electronic format. The catalogue will be prepared in the first year of implementation of this strategic plan.

- Revise the product catalogue and prices twice annually through a technical review and during workshops.

The PPM catalogue should take into account national and global treatment guidelines, regulations, and emerging trends in health care technology. Moreover, a catalogue will help manage the types of essential products that the PPM may acquire and distribute within its supply chain.

Quantification (Forecasts and Supply Planning)

Quantification, a component in the pharmaceutical management cycle, is the process used for estimating the quantity of a product needed to meet the supply needs. It allows for estimating the quantities required, the funding necessary for their purchase, and the shipment schedule (supply plan) to ensure continuous supply within a given health program.

In Mali, estimating pharmaceutical needs presents a challenge because of these constraints:

- Problems uploading consumption data
- Failure to fully comply with treatment guidelines
- The need for staff training for those responsible for managing beneficiaries and for commodity management

By decision no. 2013-1592 MSHP-SG of December 27, 2013, the MSHP has set up a Technical Committee for the coordination and monitoring of the management of essential medicines (CTCSGME), bringing together all stakeholders in the pharmaceutical sector. This committee oversees a subcommittee responsible for quantification with working groups for the priority health programs, such as the malaria, reproductive health, HIV and AIDS, and tuberculosis programs.

The subcommittee in charge of quantification meets annually to define needs and twice a year to review needs and update the supply plans. The results of the quantification subcommittee's work are submitted to the national coordination committee for validation.

HIV and AIDS

For the other essential medicines, according to the Performance Contract, the DPM is responsible for providing the PPM with its annual medicine needs no later than September of each year.

However, in practice, the PPM is responsible for the quantification of essential medicines and other reagents; therefore, better channels of communication and data coordination must be established between the PPM and other key stakeholders to make the quantification results more reliable. Also, as the main party responsible for program-related projects, the PPM should monitor and integrate information on the routing and delivery of health products to avoid surprises in the supply chain.

Given the importance of product forecasting and the need to appropriately allocate budget resources to the annual supply plan, the PPM will take the following actions:

- The PPM will work in consultation with its relevant strategic partners to develop internal quantification manuals and terms of reference for its staff—notably the main steps to follow when quantifying the various products, for example, essential medicines, diagnostic supplies, medical equipment, hospital supplies, and other health products.

- In addition to quantification, the PPM will work with key stakeholders to define strategies related to budget and financing, with the goal of facilitating the allocation of funds for program-related products and to promote evidence-based planning decisions.

- The PPM will conduct an annual review of the quantification of priority products.

Procurement

Recent interventions from March to June 2014 have shown that storage and inventory costs can be reduced by 10% and product availability can be increased by changing the delivery schedule for orders without changing the annual procurement contracts with suppliers. These changes, and the measures described below, will help improve supply chain performance, which will lead to lowered storage and inventory costs up to 40%.

To achieve this objective, the PPM should take the following actions:

- Revise the procurement process to include changes made to contracts and to the management of supplier performance, for example, the framework contracts, shipment schedule, payments, and the supplier performance plan.

- Establish a prequalification program for suppliers to improve the quality of suppliers, products, and bids.

- Establish and update the annual procurement plans and disseminate this information to key stakeholders.

- Negotiate with the Ministry of Finance to determine whether procurement procedures for pharmaceuticals can be revised to amend them to include, for example, framework contracts with suppliers.

- Develop prequalification procedures (product/manufacturer/supplier).

Second Strategic Objective: Increase Health Facilities' Access to Pharmaceuticals by 2017

Strengthen the Inventory Control System to Ensure That Health Commodities Are Available at All PPM Levels

The PPM has major challenges regarding its level of service, mainly owing to poor management of the internal inventory control system (particularly at retail outlets). This problem should be resolved so the PPM can provide its customers with a high standard of service.

An analysis of the inventory control system indicated that (a) stock levels fluctuate widely throughout the year, (b) regional warehouses have not received all items for their orders, and (c) stock-outs are frequent when orders are received at the regional and central retail outlets. Moreover, the stock situation does not correspond to nationally recommended stock levels, through the SOP of the logistics management information system (LMIS). These problems require immediate improvement of the PPM's inventory control system. To improve inventories and ultimately access to essential health products through the supply chain, the PPM should:

- Establish and implement monitoring tools for stock levels and resupplying at all levels of the PPM network (policy to manage the inventory control system). This will be facilitated through an analysis using the ABC and VEN tools and other means, such

as an increase in the baseline inventory level, a decrease in the distribution time, and a review of the maximum inventory levels in the regional warehouses.

- Revise and design an inventory distribution/movement system based on forecasts for services delivery and available centers (transport and storage).

- Revise and design a new SOP for the inventory control system for the PPM.

- In the context of strengthening inventory management practices within the warehouses, introduce a stock tracking system in all warehouses with lot addressing (whatever their size or condition) to ensure the process for handling orders and distribution is efficient.

- Develop a simple guide to define product profiles (size, volume, and weight) to facilitate planning for storage and transport. This will also improve the distribution plan and forecasting for the space needed during the development of procurement plans for future orders.

Transport Management

As the PPM expands its services to customers and increases the frequency of shipments in the regions and districts, the vehicle fleet should be gradually developed to support this strategy. Vehicle needs will only be defined by conducting detailed transport modeling exercises. Whenever the organization wants to move to another level, a modeling exercise should be carried out by a logistics specialist in order to determine needs.

The option to get leased vehicles with a maintenance plan will be considered because it can lower capital expenditures and the need for in-house vehicle maintenance. To implement this strategy, the PPM will undertake the following measures:

- Identify the necessary resources for the transport system (vehicles, technology, capacities) by taking into account the expected increase in sales and the possibility of revised routes and delivery frequency.

- Update the current transport management system, introduce a modern vehicle management system with GPS trackers, and redefine the vehicle routes and schedules to meet expected demand, which is expected to increase within the PPM supply chain and for direct delivery to selected health centers.

Customer Service Charter

As described previously, the PPM aims to establish a customer-demand-driven supply chain. This means that customer service must be improved. The CSComs account for the largest percentage of clientele, and they are supplied by the DRCs, which receive health products through the regional warehouses (except for Bamako). Taking into account these two situations and the need to increase the service level and coordination between the PPM and the other supply chain partners, this strategic plan proposes the following actions:

- Develop a customer service plan aimed at capitalizing on potential clientele at the community level and in the large health centers through the regional warehouses:

  - Develop a concept note to increase the clientele and improve customer service.
  - Hire a technical expert to develop a customer service strategy for the PPM.
  - Review the strategy and finalize it.
  - Launch and apply the customer service plan.

- Develop a customer service guide for PPM staff members.

- Train PPM staff in customer service.

Strengthen the Capacities of Regional Managers Acting as Sales Managers

- Revise job descriptions for regional managers and include customer service and key performance indicators (KPIs) to ensure that regional managers have customer service programs.

- Establish a capacity building kit.

- Make regional managers in charge of customer satisfaction and identify KPIs to measure their performance each year.

Improve Coordination with Key Stakeholders and Partners in the Supply Chain

- Hold annual meetings with key stakeholders (suppliers, customers, partners, NGOs, donors, and other relevant government institutions).

- Develop a website to improve access to PPM news within and from outside the institution.

Establish a Department or Unit Responsible for Specific Programs, Such as the Malaria, HIV and AIDS, Tuberculosis, and Family Planning Programs

- Define the unit, the expected services, and the terms of reference, and set up the structure where the department will be located within the PPM (administrative structure).

- Develop the terms of reference for the department/unit.

Third Strategic Objective: Improve Storage Capacity and Conditions by 2016

Improving PPM infrastructure is a top priority that will support the strengthening of all procedures and practices. The current situation in terms of capacity and storage conditions, as well as storage space layout, cannot meet the minimum required conditions for proper storage. The location of the PPM's current central warehouse is also not optimal for heavy trucks because it is located in an area of high population density and heavy traffic.

Besides the central warehouse, all the PPM regional warehouses should undergo major renovations to improve temperature, lighting, and security conditions and address challenges related to the cold chain. In addition, equipment, fixtures, and fittings should be installed to support optimal layout for product storage, good stock tracking, effective use of space, and

stock movements within the warehouse. All these renovations will improve working conditions for the warehouse staff.

Construction of a New Central Warehouse in Bamako

Five scenarios have been reviewed to determine how the facility's capacities and volume could change over the course of the next five to seven years. A stock modeling tool was used to estimate the required levels of safety stock and the length of the inventory turnover cycle, based on the shipment frequency and changes in demand, flow, and the level of service.

An analysis of stock data shows that a storage space for about 5,000 pallets would be needed at the central level to handle the expected volumes of products. It is strongly advised to test the data used in the stock modeling with more sophisticated tools for growth projections to ensure that the organizational capacities required to meet growing demands are realistic. Storage capacities at the regional level should not increase, and in some cases they may decrease. Less stock is expected at the regional level because of strengthened stock monitoring controls at the central level over the next few years. At present, it is not possible to determine to what extent the management information system is able to carry out precise monitoring on the inventory control system in the regional warehouses.

To achieve this objective, the PPM will take the following actions:

- Build a new central warehouse (and main office) in Bamako with the capacity needed to stock 5,000 pallets, able to handle current volumes and expected future increases in volume. This warehouse should have a surface area of 4,000 square meters and at least 6,000 square meters of land to allow for a minimum of 40% of space for packing, truck docking, and holding areas for loaded trucks. The warehouse will need new equipment and features, protocols, and safety equipment, as well as material handling equipment (pallet trucks, trolleys, dollies, etc.).

- Implement a warehouse management system to facilitate managing inventory and receiving products for distribution.

- Develop a comprehensive plan to maintain other warehouses and to improve the entire network of PPM warehouses.

- Renovate and refurbish the regional warehouses of Kayes and Mopti in the first stage of the regional warehouse improvement plan.

Improve Storage Practices

While construction of the new warehouses (central and regional) is being evaluated, the PPM will continue to improve its management practices for warehouses and storage through the following measures:

- Minor adjustments, such as organization of storage space, installation of new shelves, cleaning of storage facilities, updating of monitoring tools, and reorganization of warehouses to accommodate products with high or low turnover within the warehouses

- Staff training on best practices in warehouse management
- Renovation of warehouses where necessary

Increase the Capacity of Regional Warehouses

- Conduct a needs assessment in the regional warehouses, and develop a capacity-building plan.
- Improve infrastructure and operations at the regional warehouses.

Fourth Strategic Objective: Strengthen the PPM LMIS by 2018

The PPM should upgrade its current information system for management in favor of a system with more features. However, in this strategic period, recommendations support choosing a relatively simple system, whose main goal is managing the warehouses. This system should meet inventory management needs, particularly orders, storage, creation of customer orders, shipping, stock tracking and updating, warnings in case of low stock, and lot management.

In addition, the PPM will establish a central unit for logistics data/information using upstream and downstream logistics information to alert PPM stakeholders of the logistics situation in real time so that strategic decisions can be made to avoid waste and stock-outs and to support better planning for future activities.

Because data quality affects the system, an initiative needs to be launched to standardize product codes between suppliers, partners, and for internal transactions; this should be finalized before attempting to implement the systems.

For these improvements, the PPM will

- Develop specifications for evaluation and recommendations (in particular, a roadmap) to attain the desired information system. As indicated in the situational analysis, the main modules for the proposed LMIS should be:[8]
    - Collaboration with suppliers
    - Warehouse management system
    - Planning system
    - Management system for the fleet of vehicles
    - Trend forecasting system
    - Data management system
    - Report preparation system

[8] Although it is necessary to conduct a brief exercise to refine requirements, it is highly recommended not to try to define the software's processes and capacities in detail. The PPM should follow standard practices and the desired strategy to move toward a best practice already supported by several software packages that can be purchased and maintained at a lower cost than if they were developed internally or custom made, with or without turning to free or open-source software. The software should be considered as part of a service to reduce the initial investment and eliminate the need to maintain complex servers.

- Obtain the services of a consultant or firm to implement the desired management information systems.

- Establish a central unit for PPM logistics management to liaise with external partners to monitor logistics data/information.

Fifth Strategic Objective: Strengthen the Capacity of PPM Human Resources to Perform Supply Chain Tasks by 2017

A comprehensive strategy focused on strengthening human resources capacities needs to be developed so that PPM staff members and management can respond to all the new systems, processes, and structural changes as well as the expected improvements.

Updating Policies and Manuals

- Revise and update job descriptions for staff.

- Revise and update the SOPs for PPM warehouse operations so they are aligned with the changes in the practices and manuals for management information systems, quantification, procurement, distribution, and inventory management.

- Revise and update the institution's structure to reflect the changes, for example, a specific unit or department in charge of special programs, such as malaria, HIV and AIDS, tuberculosis, and family planning, but also for specific products used in hospitals (anesthetics, medical consumables, etc.).

- Develop a new staff incentive and retention plan with emphasis on

    - A career plan within the PPM; and
    - Individual performance evaluation.

Strengthening the Capacities of PPM Staff

- Develop a capacity-building plan for the PPM staff; consider internal and external options such as the following:

    - Identify gaps in PPM staff expertise using a rapid assessment.
    - Seek out courses or training to help strengthen staff capacities.
    - Develop and apply a recruitment plan to fill in any potential gaps within the PPM.
    - Implement the capacity-building plan.
    - Finance the capacity building.
    - Include a line in the PPM budget for capacity building.
    - Advocate among technical and financial partners to finance capacity building.

Sixth Strategic Objective: Improve the PPM's Capacity to Provide High-Quality Products by 2017

With the PPM quality control department still in an evolving stage, the strategic plan proposes taking the following measures:

- Update the product quality control policies.
- Develop procedures for the implementation of the quality control system.
- Implement the quality control protocol for all PPM products placed on the market.
- Develop a midterm strategy to strengthen the quality control department by 2016.
- Support strengthening the quality assurance system at the PPM.

Seventh Strategic Objective: Strengthen the PPM's Financial and Business Performance by 2018

As defined in detail in the financial analysis, the PPM should develop a comprehensive financial strategy to help the institution move further toward a business model without losing its public service role. To support this transition, the following steps will be implemented:

Improving the PPM's Financial Efficiency and Compliance by 2018

To achieve this will require

- Conducting an in-depth study/analysis of costs to define the parameters and strategies for reducing overhead, improving the fee structure and cost centers, and maximizing earnings through a more effective and robust cost system

- Optimizing government and donor financing for operations to reach the highest level of profitability possible in the PPM's operations

- Maximizing revenue from bank deposits and funds in other financial institutions by negotiating special conditions in support of the PPM

- Reducing operating costs for external services by keeping them proportional to sales levels

- Increasing financial investment in human resources by developing a more cost-effective human resources financing policy, using an assessment of the current situation, a system upgrade, and deployment of a suitable orientation process, with monitoring of training and orientation implementation

- Increasing profit margins:

    - Analyze direct costs of goods and how they vary based on the institution's rate of change for sales.
    - Reduce overhead costs to optimize the contribution margin.
    - Optimize the PPM's activity by using the limited resources to attain maximum revenue and reduce the breakeven point.

- Increase the PPM's working capital by 2017.
- Use the study on sector costs and prices to position the PPM at the same level of market performance as the pharmaceutical sector overall.

Increase the PPM's Working Capital by 2017

To achieve this will require

- Organizing a forum for PPM management and stakeholders to promote the strategic plan for 2015–2019 and to solicit funding from the government and funding agencies (for example, USAID, Global Fund, and local organizations, such as pension funds)

- Exploring with potential investors such as pension funds and banks the possibility of joint ventures using PPM property (buildings and land)

IMPLEMENTATION PLAN

To implement the many changes recommended in the strategic plan, the PPM should set up a structure for project management (figure 7). Individuals in charge of the current business functions should be involved, but they will need technical assistance to implement the project, in part because they do not have sufficient experience in projects of this type, but also because their duties in PPM operations limit their availability.[9]

Setting Up Project Teams

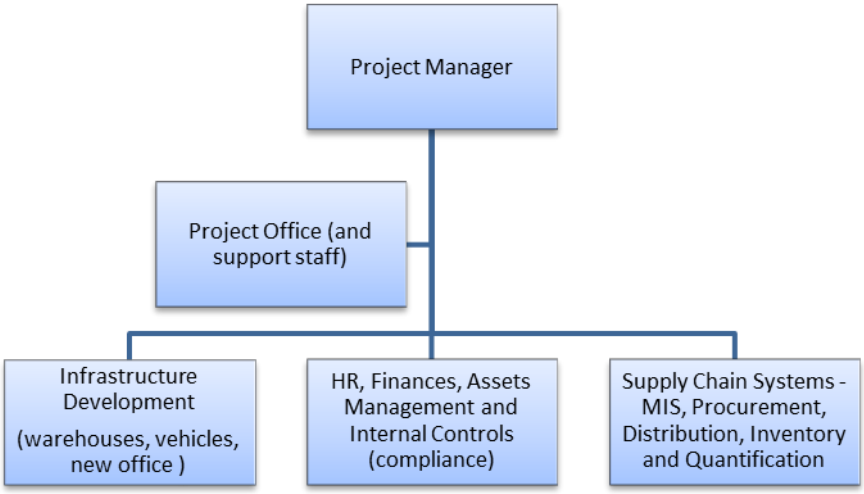


Figure 7. Applying the strategic plan: project organization

A high level detailed implementation plan has been provided in Annex B. This plan has been divided into four main themes to facilitate project implementation (in five years):

- New central warehouse, renovations to the regional warehouses, and vehicle repairs
- Information systems and report preparation
- Finances: fundraising, earnings, property management, cost analysis, capital management
- Supply chain functions

Stages of the Implementation Plan

Table 17 presents the process for the implementation of this strategic plan:

[9] Note: the project outline proposes no changes to the PPM's current organizational chart, but it does indicate how to manage and coordinate implementation of the strategic plan.

- Organization of management forums to present the strategic plan—building consensus
- Development of an overall PPM monitoring plan with KPIs for priority functions/tasks
- Annual review of strategic plan implementation
- Revision and updating of the plan as needed

Table 17. Key Strategic Objectives, Outcomes, and Estimated Budget

Strategic objective	Expected outcomes	2015	2016	2017	2018	2019	Estimated total budget (USD)
Manage, coordinate, and monitor the implementation of the PPM strategic plan	An approved and monitored strategic plan with annual reviews and updating (if needed)	25,000	20,000	20,000	20,000	20,000	105,000
Increase availability of essential health commodities in the PPM supply chain by improving product selection, quantification, and procurement	PPM product catalogue, regularly updated	55,000	12,000	12,000	12,000	—	91,000
	Overall quantification plan and KPIs	43,000	30,000	15,000	15,000	30,000	133,000
	PPM procurement system with defined KPIs	42,000	150,000	42,000	10,000	—	244,000
Improve health centers' access to health commodities through the PPM supply chain by strengthening the inventory control system and transport management and developing a PPM customer service plan	Strategy for PPM inventory control system, policy, and KPIs clearly defined, implemented, and monitored	98,000	30,000	45,000	30,000	20,000	223,000
	PPM transport management system fully implemented and monitored using the approved KPIs	430,000	400,000	400,000	40,000	220,000	1,490,000
	Customer service charter and KPIs approved	50,000	10,000	30,000	15,000	10,000	115,000

Strategic objective	Expected outcomes	2015	2016	2017	2018	2019	Estimated total budget (USD)
Strengthen PPM infrastructure and transport by building a new warehouse in Bamako, renovating the regional warehouses, and purchasing new vehicles	New PPM central warehouse, storage improvement plan, and improved vehicle management system	3,700,000	2,600,000	400,000	100,000	100,000	6,900,000
Strengthen the management information system to facilitate decision making	New management information system for the PPM implemented using a series of KPIs	87,000	400,000	150,000	150,000	50,000	837,000
Strengthen capacities of PPM human resources (because most of this activity is implemented at the same time as for other domains, a separate budget is not needed)	PPM human resources capacity plan developed and implemented	88,000	30,000	60,000	15,000	15,000	208,000
Improve quality control and quality assurance of PPM commodities	Implementation of quality control protocol for the PPM	30,000	30,000	20,000	130,000	100,000	310,000
Strengthen the PPM's financial and business performance	Improved PPM financial capacity	77,000	30,000	25,000	50,000	15,000	197,000
TOTAL		4,725,000	3,742 000	1,219,000	587,000	580,000	10,853,000

Expected Results

- High level of availability of essential medicines at each patient service delivery point
- Better storage and better management, leading to quality medicines
- Greater PPM capacity to handle an increased volume of operations to meet growing demand
- Greater return on investment so that the PPM is an autonomous institution, not dependent on donations

IMPLICATIONS OF THE STRATEGIC PLAN

For the success of this strategic plan, certain political, financial, operational, and administrative issues need to be resolved (table 18).

- *Political issues:* The PPM should revise the service contract with the Government of Mali; review the policies on storage, sales to customers, and financial practices as well as technical requirements for staff working in the institution. Continued development of manuals, guides, and SOPs on supply chain functions will be necessary.

- *Administrative structure:* The PPM should possibly change the role of regional managers, revise the organizational chart, and consolidate some departments, such as those for management information systems, diagnostics, medical equipment, and commodities for special programs (e.g., malaria, HIV and AIDS, tuberculosis, and MNCH).

- *Financing:* At present, it is difficult to estimate the costs for a program of this scale and complexity. However, an estimated USD 10.7 million will be needed, as broken down in table 18 (the figures in table 18 are only estimates and will likely be revised as needed, see Annex B).

Table 18. Estimated Budget Necessary to Implement the Strategic Plan

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Estimates (USD)	4,725,000	3,742 000	1,219,000	587,000	580,000	10,853,000

MONITORING OF STRATEGIC PLAN IMPLEMENTATION

With the goal of monitoring PPM performance and strengthening its capacities, the PPM will set up a comprehensive monitoring and evaluation system to ensure that this strategic plan is implemented. In addition, the monitoring and evaluation system will serve as monitoring for PPM strategic and daily operations and will also guide operations.

- Indicators will be developed:
    - High-level performance indicators for the PPM, for example, level of service, sales revenue, profit margins, compliance, property management, and other related performance indicators
    - Management indicators, based on stock performance and management, distribution performance, forecasting accuracy, and sales projections
    - Operational indicators, measuring selection accuracy, orders, customer complaints, temperature monitoring charts, cleanliness, product shipment time periods, and inventory accuracy
- The indicators will be institutionalized.
- The KPIs will be regularly monitored and revised as needed.

ANNEX A. REFERENCES

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ANNEX B. DETAILED IMPLEMENTATION PLAN 2015–2019

Strategy	Activity	Responsi-bility	Necessary resources	Expected outcomes	Implementation phase of the strategic plan														
					2014					2015				2016				2017	2018	2019
					Aug-14	Sept-14	Oct-14	Nov-14	Dec-14	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
Strengthen the management and coordination of the PPM strategic plan	**Management and coordination of the strategic plan**	PPM-PDG	PPM manage-ment, planning and budget expertise, and support for the dissemina-tion plan	A strategic plan approved, monitored, reviewed and updated (if needed)																
	Agree on the final draft of the strategic plan				■															
	Finalize the budget for strategic plan implementation				■															
	Review and approve the action plan details				■															
	Detailed planning of implementation				■	■														
	Select partners for implementation				■	■	■													
	Management forum to present the strategic plan—building consensus				■	■	■	■	■											
	Develop the KPIs for the PPM related to priority functions/tasks						■	■	■											
	Conduct an annual review of the strategic plan						■	■					■				■	■	■	■
	Implement, manage, and monitor the strategic plan									■	■	■	■	■	■	■	■	■	■	■
Increase availability of essential health commodities at the PPM by 2018	**Selection and classification of products**	PPM, DPM, SIAPS, stakeholders	Consultant/ expert on product selection and the catalogue	PPM product catalogue, regularly updated																
	Develop a PPM product catalogue and a master list								■	■	■	■	■							
	Revise the product catalogue and prices of essential commodities twice annually								■				■				■		■	

Strategy	Activity	Responsi-bility	Necessary resources	Expected outcomes	Implementation phase of the strategic plan														
					2014					2015				2016				2017	2018	2019
					Aug-14	Sept-14	Oct-14	Nov-14	Dec-14	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
	Quantification (forecasting and procurement plan)	PPM, DPM, SIAPS, Global Fund	Consultant	Overall quantifica-tion plan and KPIs																
	Develop a guide and SOPs for quantification																			
	Analyze the scope and scale of funds for program-specific products to help produce informed forecasts																			
	Conduct the annual review of the quantification of priority products																			
	Procurement	PPM	Consultant or expert on procurement management	Defined PPM procure-ment system and KPIs																
	Revise the procurement management process to include the changes made in the supplier contracts and to supplier performance management, for example, framework contracts, shipment schedules, payments, and the supplier performance plan																			
	Contribute to the development of standards and procedures for managing donations and acquisition of tax-exempt products																			
	Prequalify products /manufacturers/suppliers																			
	Establish and update the annual procurement plan																			

Strategy	Activity	Responsi-bility	Necessary resources	Expected outcomes	Implementation phase of the strategic plan														
					2014					2015				2016				2017	2018	2019
					Aug-14	Sept-14	Oct-14	Nov-14	Dec-14	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
	Develop prequalification procedures (product/manufacturer/ supplier)																			
Improve health centers' access to health commodities through the PPM supply chain by 2017	**Stock management system** Review and redesign distribution mechanism to address logistics challenges facing for all health facilities (Hospital, CSRef, and CSCom)	**PPM**	Consultant	PPM inventory control strategy, policy, and KPIs clearly defined, imple-mented, and monitored																
	Review and produce new inventory control SOP for PPM																			
	Introduce the best stock location system in warehouses to facilitate processing of orders																			
	Establish a "product profile system" to facilitate the description of the size, volume, weight, etc. and inventory management in the warehouse																			
	Transport management	**PPM**	Consultant	PPM transport manageme nt system fully imple-mented and monitored using the																
	Define the scope of the transport system, from the central level to the CSCom level																			

Strategy	Activity	Responsi-bility	Necessary resources	Expected outcomes	Implementation phase of the strategic plan														
					2014					2015				2016				2017	2018	2019
					Aug-14	Sept-14	Oct-14	Nov-14	Dec-14	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
	Develop the PPM transport management system			approved KPIs																
	Define the resources needed for the transport system and plan its implementation																			
	Plan the implementation																			
	Revise and apply the vehicle fleet management system																			
	Develop a customer service plan for the institution																			
	Develop the customer service concepts for the PPM																			
	Develop the customer service guide for PPM staff																			
	Implement the customer-driven customer service program (mainly focused on the regional warehouses)																			
	Strengthen the capacities of regional managers regarding sales and customer service	**PPM**	DPM, PPM, SIAPS, and consultants	Customer service charter and KPIs approved																
	Improve the coordination of key stakeholders and partners in the supply chain																			
	Create a department or specific unit in charge of commodities related to specific programs																			
Strengthen PPM	**Storage**	**PPM, MSHP, Finance**	Consultants, SIAPS	New PPM central																

Strategy	Activity	Responsi-bility	Necessary resources	Expected outcomes	Implementation phase of the strategic plan														
					2014					2015				2016				2017	2018	2019
					Aug-14	Sept-14	Oct-14	Nov-14	Dec-14	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
infrastructure to meet storage and distribution demands	Build a new central warehouse in Bamako of approximately 5,000 to 6,000 square meters	**Ministry**		warehouse and plan to improve warehouses and storage																
	Improve storage practices in all PPM warehouses																			
	Strengthen the infrastructure of PPM regional warehouses and their capacity to deal with health products by renovating, repairing, or replacing equipment and furniture, cold rooms, air conditioning, etc.																			
Strengthen the management information system to facilitate decision making	**Information system**	**PPM**	Consultant	New management information system for the PPM imple-mented and monitored using the approved KPIs																
	Identify the desired information system adapted to the PPM																			
	Develop specifications for the management information system improvement plan																			
	Hire the services of a consultant or firm to implement the desired management information systems																			
	Establish a central logistics management unit for the PPM to provide a liaison with external partners so that data/logistics information can be monitored																			
Strengthen human resources capacities	Update policies, manuals, and SOPs (e.g., organizational chart, warehouse operations guide)																			
	Develop a new staff incentive and retention plan																			

Strategy	Activity	Responsi-bility	Necessary resources	Expected outcomes	Implementation phase of the strategic plan														
					2014					2015				2016				2017	2018	2019
					Aug-14	Sept-14	Oct-14	Nov-14	Dec-14	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	2017	2018	2019
	Develop and implement a recruitment plan to fill in any potential gaps within the PPM																			
	Develop a capacity-building plan for PPM staff (considering internal and external options)																			
	Implement the capacity-building plan																			
	Manage changes																			
Product quality control	Review and update the product quality control policies and develop SOPs to implement the quality control system	PPM	PPM and regulatory bodies	Implemen-tation of quality control protocol for the PPM																
	In partnership with regulatory officials, implement the quality control protocol after placing all PPM products on the market																			
Strengthen the PPM's financial and business performance by 2018	Improve the PPM's financial efficacy and compliance by 2018	PPM	PPM, SIAPS, and consultants	Improved PPM financial capacity																
	Increase the PPM's working capital by 2017 by advocating to finance the strategic plan																			

ANNEX C. ESTIMATION OF BUDGET FOR STRATEGIC PLAN IMPLEMENTATION

Strategic objective	Activities and comments	Responsibility	Necessary resources	Expected outcomes	2015	2016	2017	2018	2019	Estimated total budget (USD)
Strengthen the management, monitoring, and coordination of the PPM strategic plan	**Management and coordination of the strategic plan**	PPM-PDG	PPM management, planning and budget expertise, and support for the dissemination plan	A strategic plan approved and monitored, subject to an annual review and updated (if needed)	25,000	20,000	20,000	20,000	20,000	105,000
	Agree on the final draft of the strategic plan project									
	Finalize implementation of the budget									
	Review and approve the action plan details									
	Select partners for implementation									
	Facilitate a management forum to present the strategic plan—building consensus									
	Develop the KPIs for the PPM related to priority functions/tasks									
	Conduct an annual review of the implementation of the strategic plan									
	Implement, manage, and monitor the strategic plan									
Increase availability of essential health commodities in the PPM supply chain	**Selection and classification of products**	PPM, DPM, SIAPS, stakeholders	Consultant/ expert on product selection and catalogue	PPM product catalogue, regularly updated	55,000	12,000	12,000	12,000	—	91,000
	Develop a PPM product catalogue and a master list									
	Revise the product catalogue and prices of essential commodities twice annually									
	Quantification (forecasting and procurement plan)	PPM, DPM, SIAPS, Global Fund	Consultant	Comprehensive quantification plan and KPIs	43,000	30,000	15,000	15,000	30,000	133,000
	Develop the PPM quantification SOPs (SIAPS technical assistance)									
	Explain why it is important to consolidate both the scope and scale of funds for program-specific products to help produce informed forecasts									
	Review the quantification of priority products annually.									
	Procurement	PPM	Consultant or expert on procurement management	PPM procurement system and KPIs defined	42,000	150,000	42,000	10,000	—	244,000
	Review the procurement management process to include changes made to contracts and to managing supplier performance, for example, the framework contracts, shipment schedule, payments, and the supplier performance plan. Note: This includes three years of activity									

Strategic objective	Activities and comments	Responsibility	Necessary resources	Expected outcomes	2015	2016	2017	2018	2019	Estimated total budget (USD)
	for the intervention plan, notably an in-depth analysis, testing, restructuring of procurement management, publication of new procedures within the PPM and for key stakeholders. Introduction of e-purchasing will also be analyzed.									
	Establish policies on donations and obtain right to tax-exempt acquisition of duty paid products such as equipment (this is part of the procurement restructuring)									
	Establish prequalification programs for vendors									
	Establish and update the annual procurement plan									
Improve health centers' access to health commodities through the PPM supply chain	**Inventory control**									
	Establish and implement the plan for stock levels and resupply at all levels of the PPM network (inventory control policy—this will be the most demanding task for the first year, from a technical and logistics perspective: a thorough understanding of the PPM stock situation, supply, and demand is essential to the PPM's success)	**PPM**	Consultant	Inventory control strategy, policy, and KPIs clearly defined, applied, and monitored	98,000	30,000	45,000	30,000	20,000	223,000
	Revise/develop a forecast-driven inventory distribution/movement system for service delivery and available facilities (transport and storage)									
	Review and prepare a new SOP for inventory control for the PPM									
	Transport management									
	Define the scope of the transport system, from the central level to the CSCom level									
	Develop the PPM transport management system			PPM transport management system fully implemented and monitored using the approved KPIs						
	Define the resources needed for the transport system (vehicle fleet, technology, capacities)	**PPM**	Consultant		430,000	400,000	400,000	40,000	220,000	1,490,000
	Plan implementation									
	Purchase new vehicles									
	Revise and implement the vehicle fleet management system									
	Develop a customer service plan for the	**PPM**	DPM, PPM,	Customer service	50,000	10,000	30,000	15,000	10,000	115,000

Strategic objective	Activities and comments	Responsibility	Necessary resources	Expected outcomes	2015	2016	2017	2018	2019	Estimated total budget (USD)
	institution		SIAPS, and consultants	charter and KPIs approved						
	Develop the customer service concepts for the PPM									
	Develop the customer service guide for PPM staff									
	Strengthen the capacities of regional managers regarding sales and customer service									
	Improve the coordination of key stakeholders and partners in the supply chain									
	Establish a department or specific unit responsible for products related to special programs									
	Implement the customer-driven customer service program (mainly focused on the regional warehouses)									
Strengthen PPM infrastructure to meet storage and distribution demands	**Storage** (the majority of the budget will be allocated to building warehouses, with the goal of two warehouses at the central level and two warehouses at the regional level, acquisition of land and equipment, and maintenance)	**PPM, MSHP, Finance Ministry**	Consultants, SIAPS	New PPM central warehouse and plan to improve warehouses and storage	3,700,000	2,600,000	400,000	100,000	100,000	6,900,000
	Construct a building									
	Fit out the new warehouse									
	Define a warehouse management procedure									
	Implement the warehouse management system									
	Start up operations at the new central warehouse									
	Prepare a transition plan for moving to the new central warehouse									
	Develop an overall plan to improve the infrastructure of the PPM regional warehouses									
Strengthen the management information system to facilitate	**Information system**	**PPM**	Consultant	New management information system for the PPM implemented and monitored	87,000	400,000	150,000	150,000	50,000	837,000
	Identify the desired information system adapted to the PPM									
	Develop specifications for the management information system improvement plan									

Strategic objective	Activities and comments	Responsibility	Necessary resources	Expected outcomes	2015	2016	2017	2018	2019	Estimated total budget (USD)
decision making	Hire the services of a consultant or firm to implement the desired management information systems			using the approved KPIs						
	Establish a central logistics management unit for the PPM to provide a liaison with external partners so that data/logistics information can be monitored									
Strengthen human resources capacities	Review and update the institution's structure so that it can deal with proposed changes	**PPM, SIAPS, and MSHP**	**Technical assistance and consultant**	Application of the comprehensive capacity-building strategy for human resources at the PPM	88,000	30,000	60,000	15,000	15,000	208,000
	Develop a new staff incentive and retention plan									
	Develop and implement a recruitment plan to fill any potential human resources gaps within the PPM									
	Develop a capacity-building plan for PPM staff (considering internal and external options)									
	Implement the capacity-building plan									
	Manage changes									
Strengthen quality control and quality assurance of PPM commodities	Review and update the product quality control policies and develop SOPs to implement the quality control system	PPM	PPM and regulatory bodies	Implementation of QC protocol for the PPM	30,000	30,000	20,000	130,000	100,000	310,000
	In partnership with regulatory officials, implement the after-market quality control protocol for all PPM products									
Strengthen the PPM's financial and business performance	Improve the PPM's financial efficacy and compliance by 2018	PPM	PPM, SIAPS, and consultants	Improved PPM financial capacity	77,000	30,000	25,000	50,000	15,000	197,000
	Increase the PPM's working capital by 2017 by advocating to finance the strategic plan									
TOTAL					**4,725,000**	**3,742,000**	**1,219,000**	**587,000**	**580,000**	**10,853,000**