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BEST Project
Bellmon Estimation Studies
for Title II (USAID-BEST)

USAID OFFICE OF FOOD FOR PEACE

USAID-BEST ANALYSIS

MALI

JANUARY 2015

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Preface

During the months of October-December 2014, the Bellmon Estimation Studies for Title II (USAID-BEST) team undertook a study of the current state of agricultural markets in Mali to inform USAID food assistance programming decisions.

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Acronyms and Notes

ACF	Action Contre La Faim (Action Against Hunger)
ACTED	Agency for Technical Cooperation and Development
AfDB	African Development Bank
AMASSA	l'Association Malienne pour la Sécurité et la Souveraineté Alimentaire (The Malian Association for Food Security and Sovereignty)
BEST	Bellmon Estimation Studies for Title II
BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters
CFA	Communauté Financière d'Afrique (Financial Community of Africa)
CFW	cash-for-work
CGECI	Confédération Générale des Entreprises de Côte d'Ivoire (General Confederation of Ivory Coast Enterprises)
CIF	Cost, Insurance, Freight
CILSS	Comité Permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (Permanent Interstates Committee for Drought Control in the Sahel)
CMC	Conseil Malien des Chargeurs (Malian Shippers Council)
CMDT	Compagnie Malienne du Développement des Textile (Malian Textile Development Company)
CP	Country Programme
CPS/SSDSPF	Cellule de Planification et de Statistiques du Secteur Santé, Développement Social et la Promotion de la Famille (Unit Planning and Statistics, Health Sector, Social Development and Family Promotion)
CRS	Catholic Relief Services
CSA	Commissariat à la Sécurité Alimentaire (Food Security Commissariat)
CSB	Corn Soy Blend
CVC	Cereal Value Chain
DFID	Department for International Development
DHS	Demographic and Health Survey
DNPP	Departement Nationale des Projets PAM (Government of Mali National WFP Projects Office)
DNR	Direction Nationale des Routes (National Road Directorate)
DPW	Dubai Port World
DRR	Disaster Risk Reduction
DWT	deadweight tons
EAT	Enabling Agriculture and Trade
ECHO	European Commission, Humanitarian Aid and Civil Protection
ECOWAS	Economic Community of West African States
EDSM	Enquête Démographique et de Santé (Demographic and Health Survey)
EFSP	Emergency Food Security Program
EMACI	Entrepôts Malien en Côte d'Ivoire (Malian Warehouses in Côte d'Ivoire)
EMASE	Entrepôts Maliens au Senegal (Malian Warehouses in Senegal)
EMOP	Emergency Operation
ENSEMA	Entrepôts du Senegal au Mali (Senegalese Warehouses in Mali)
EU	European Union
FAO	Food and Agriculture Organization
FCGs	Food Consumption Groups
FCS	Food Consumption Score
FEWS NET	Famine Early Warning System Network
FFE	Food for Education
FFP	Food for Peace
FFW/FFA	food-for-work/food-for-asset
FPF	Forward Purchase Facility
FTF	Feed the Future
FY	Fiscal Year
GDCM	Grand Distributeur Cerealier du Mali (Large Cereal Distributors of Mali)
GDP	Gross Domestic Product
GFD	General Food Distribution
GIEWS	Global Information and Early Warning System
GoG	Government of Ghana
GoM	Government of Mali

GPHA	Ghana Ports and Harbour Authority
ha	hectares
HEA	household economy approach
HH	household
HKI	Helen Keller International
ICRC	International Committee of the Red Cross
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IDP	Internally Displaced Persons
IER	Institut d'Economie Rurale (Institute of Rural Economy)
IFDC	International Fertilizer Development Center
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
INGO	international non-governmental organization
INSTAT	Institut National de la Statistique (National Institute of Statistics)
IPC	Integrated Food Security and Phase Classification
ISPS	International Ship and Port Security
IYCF	Infant and Young Child Feeding Practices
JICA	Japan International Cooperation Agency
kcal	kilocalories
kg	kilograms
kl	kiloliters
km	kilometers
LCA	Logistics Capacity Assessment
LRP	Local and Regional Procurement/Purchase
MAM	Moderate Acute Malnutrition
MCHN	Maternal and Child Health Nutrition
MdDR	Ministère du Développement Rural (Ministry for Rural Development)
MICS	Multiple Indicator Cluster Survey
mm	millimeters
MMT	million metric tons
MOU	Memorandum of Understanding
MSU	Michigan State University
MT	metric tons
MYAP	Multi-Year Assistance Program
NEMA	Consortium for Food Security in Mali
NGO	non-governmental organization
NRM	natural resource management
NRT	Net Registered Metric Tons
ODI	Overseas Development Institute
OFDA	Office of US Foreign Disaster Assistance
OMA	Observatoire du Marchés Agricoles (Agricultural Market Watch)
OPAM	Office des Produits Agricoles du Mali (Office of Agricultural Products of Mali)
ORM	Office Riz de Mopti (Rice Office of Mopti)
PAA	Port Autonome d'Abidjan (Port Authority of Abidjan)
PAC	Port Authority of Cotonou
PAD	Port Authority for the Port of Dakar
PLW	pregnant and lactating women
PM2A	Preventing Malnutrition in Children Under 2 Approach
PRRO	Protracted Relief and Recovery Operation
PVO	Private Voluntary Organization
RoRo	Roll on Roll off
RPO	refined palm oil
RUTF	Ready-to-use Therapeutic Food
RVO	refined vegetable oil
SAP	Système d'Alerte Précoce de la République du Mali (Early Warning System of Mali)
SDWT	Summer Deadweight Tons
SMART	Standardized Monitoring and Assessment of Relief and Transitions
SNACK	Santé Nutritionnelle à Assise Communautaire à Kayes (Community Nutrition and Health Program in Kayes)
SNDR	Stratégie Nationale de Développement de la Riziculture (National Strategy for the Development of Rice Cultivation)
SNS	Stock National de Sécurité (National Food Security Stock)

SO	Strategic Objective
SPRING	Strengthening Partnerships, Research, and Innovations in Nutrition Globally
sq. m.	square meters
TC2	Terminale de Containers 2 (Second Container Terminal)
TEU	Twenty-Foot Equivalent Unit
TFSI	Timbuktu Food Security Initiative
TRIE	Carnet Interstate Road Transportation
U2s	Children under two years of age
U5s	Children under five years of age
UEMOA	Union Economique et Monétaire Ouest Africaine (West African Economic and Monetary Union)
UN	United Nations
UNICEF	United Nations Children's Fund
US\$	United States Dollar
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
VAM	Vulnerability Analysis and Mapping
VAT	Value Added Tax
VFW	vouchers-for-work
VSL	Village Savings and Loan
WASH	Water, Sanitation, and Hygiene
WFP	World Food Programme
WTO	World Trade Organization
XOF	West African CFA Franc

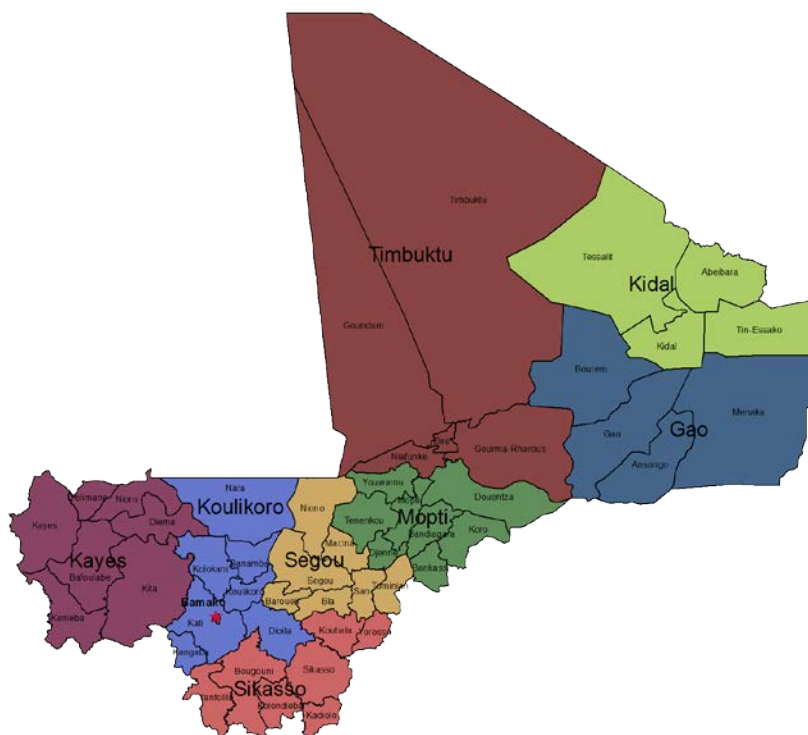
Exchange Rate: US\$1 = 522.7 West African CFA Franc (XOF) as of November 2014 per XE Currency.

Chapter 1. Executive Summary

1.1. Introduction

Given the frequency of geographic references throughout this report and the uniqueness of the terminology, it is important to highlight the administrative units in Mali. Mali comprises eight regions in addition to the capital area of Bamako: Gao, Kayes, Kidal, Koulikoro, Mopti, Ségou, Sikasso, and Timbuktu. Generally, when referring to the northern part of the country the regions that fall under this category include Timbuktu, Gao, Kidal, and northern Mopti; all other regions, along with southern Mopti, are considered the south. The sub-administrative units within each region are called *cercles* - a historical French term that has since been changed to department or prefecture in most of former French West Africa. Mali contains a total of 49 *cercles* across all regions. The third administrative unit under the *cercle* consists of communes formed from numerous communities.

Figure 1. Regions and Cercles of Mali



Source: USAID-BEST using data from FAO's GAUL dataset.

1.2. Overview of Local Markets

The following summary of Chapter 2 presents the most salient findings. Before outlining the key findings from desk and field research, USAID-BEST provides a synopsis of structural food deficits that examines in brief the root causes of food insecurity. Understanding the Malian diet and market dynamics for staple foods is important since USAID Title II development food assistance programming involving food transfers could potentially affect these markets.

1.2.1. Structural Food Deficits

Rice, millet, sorghum, and to a lesser extent maize, comprise the main Malian staples. Households (HHs) often accompany their basic starch with a sauce of vegetables, fat, and, as available, animal protein or beans. Meals are communal in nature, and the norm is for numerous family members to eat with their hands from one large bowl.

Cereal production in Mali has seen significant growth and the level of import dependency has been decreasing over the last 5-10 years. However, seasonality of production and limited agricultural productivity do continue to affect availability. The majority of the cereal harvest occurs September-November and the lean season in most of the country falls May-September when local cereal stocks diminish and prices increase. Malian HHs rely on markets for the majority of their food needs. For some HHs, low incomes, high budget shares devoted to staple foods, and low levels of education considerably affect their access to food. Further, poor food utilization resulting from a number of factors, such as large HH sizes; inadequate knowledge of nutrition; improper infant and young child feeding practices; and rudimentary water, sanitation, and hygiene infrastructure and practices, contributes to the prevalence of malnutrition in Mali.

1.2.2. Commodity Markets

USAID-BEST researched commodities based on relevance to the diet and to a Title II development food assistance program. The team assessed the markets for five major cereals (rice, millet, sorghum, maize, and wheat), pulses, and edible oil; additionally, livestock, dairy, and fish were examined because these supplementary foods add value to the Malian diet and their sale contributes to livelihoods.

Food security in Mali is closely tied to annual domestic cereal harvests and HH incomes. Since 2000 growth in aggregate cereal output in Mali has been higher than any country in the West Africa region as it increased by 148 percent. Concomitantly, the level of dependency on cereal imports has declined. In the case of **rice**, imports as a share of total consumption have declined from more than 25 percent in 2006 to less than 15 percent in 2013. Rice is one of the most important staples in Mali and has seen a growth in domestic production from just over 600,000 metric tons (MT) of milled rice in 2006 to over 1,300,000 MT in 2013.

Although production of **millet and sorghum** has also expanded, increases in productivity have been much lower compared to rice. Imports of millet and sorghum as a portion of total consumption are minimal, and imports are of more relevance during years of poor harvests. Markets for both millet and sorghum appear to function quite effectively, with both commodities showing a relatively high degree of market integration. Overwhelmingly, millet and sorghum remain smallholder staple crops produced primarily by rural HHs with minimal product transformation in the marketing.

The **maize** sector has expanded considerably over the past decade as Malians have increased consumption and the livestock sector has demanded more grain inputs for feed. Since 2000, maize has experienced the highest annual growth rate in production (17 percent) among all cereal crops. The Sikasso region in the south of the country accounts for close to 80 percent of domestic production. Field work did not reveal any large-scale maize trading operations. Instead, the maize market consists of a moderate number of maize retailers and wholesalers who often also trade in other products, including major cereals and pulses.

Wheat consumption is relatively less important than other cereals in the Malian diet compared but the wheat market is mature and stable with imports comprising roughly 75 percent of national consumption. Although the volume of wheat produced in-country, mostly in Timbuktu,

has expanded in recent years the level still only comprises roughly 1/4 of total domestic consumption.

Production of **pulses** has been generally flat while official imports account for less than 5 percent of total consumption. Informal imports, predominantly from Burkina Faso, may increase this number, though not significantly. Traders consider pulses a secondary product after major cereals and no wholesalers encountered during field work traded only in pulses; the volumes traded are considerably smaller than those of rice, millet, or sorghum. This sector appears to function relatively well, and there have been few major changes or trends in the overall structure over the past five years.

The **edible oil** most consistently available at markets visited was imported refined palm oil (RPO) followed by industrially manufactured cottonseed oil. The RPO import market is quite mature and stable, and the oil is widespread in rural and urban markets. Cottonseed oil is generally marketed in the same variety of containers as imported RPO. Since cottonseed oil is a byproduct of the cotton industry, the market ties directly to the cotton sector and fluctuates accordingly. Shea butter was only available on the market in small quantities as HHs infrequently use this type of fat. Traders and consumers mistakenly refer to cottonseed oil and RPO as groundnut (peanut) oil. USAID-BEST did not observe groundnut oil at markets visited. However, given the production of groundnuts around the country, it is possible that HHs may be using traditional technologies to process the oil at their homes and therefore marketed surplus does not make it beyond the village level to any significant degree.

In addition to the main cereals, Malians consume **livestock** and animal byproducts. Cattle, goats, and sheep contribute an important source of protein as meat products and as dairy, and provide income for many Malian HHs. Malians also incorporate fresh, dried, and smoked **fish** into their diets as another energy source.¹ There are two main sources of fish in Mali: river fish locally caught from the Niger river and sea fish imported from Senegal and Mauritania.²

1.2.3. Summary of Findings

Field work did not reveal any significant impediments to the ability of private markets to supply sufficient staple foods to nearly all regions.³ Markets appeared competitive and often involve a large number of traders. Product prices between vendors were similar, and USAID-BEST did not learn of any individual or group of individuals exerting undue influence over market functions. Traders seem to transmit price information among themselves effectively, and a number of price market information systems exist in the country, such as the Agricultural Market Watch, known locally as the OMA (Observatoire du Marchés Agricoles).

An evaluation of price data coupled with field visits to 15 markets in five regions around the country (excluding the north, due to conflict) found a high level of food availability. Further, the linkages between producers, traders, and other market actors were strong. Meanwhile, market efficiency, as measured by price correlation coefficients for commodities and markets evaluated, appears quite high, which further suggests that markets function relatively effectively.

Food aid imports to Mali are small relative to commercial imports and total consumption (see Chapter 2 for detailed tables). This study finds no evidence that either food aid imports or local procurement of cereals for food assistance programming have distorted agricultural markets. Based on current market dynamics in the geographic areas surveyed, a new Title II

¹ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

² Personal communication with market vendors, November 2014.

³ Northern Mali could be an exception given the conflict, but this was outside the USAID-BEST research area.

development food assistance program could utilize a myriad of options in the composition of their rations without harming markets. Exact food volumes locally available for programming will depend on the level of product availability and the effectiveness of food movement around the country at the time of programming; nonetheless, the structure and conditions of markets lend themselves favorably to market-based food assistance programming, such as local procurement by donor, cash transfers, and food vouchers. In short, Title II awardees could implement a food assistance program in Mali without importing any transoceanic food aid.

1.3. Overview of Food Assistance Programs

This summary condenses the contents of Chapter 3 to present a general perspective on the food security programming landscape; for greater details of the projects mentioned, please refer to the full chapter.

The conflict in the north and the 2012 coup shapes much of the development landscape as the security situation and humanitarian response affect the breadth of social services and broader development portfolios. Donors continue to play a significant role in providing emergency food assistance to food insecure HHs in Mali both in the conflict-ridden north and throughout the country.

Importantly, across all programs, donors and non-governmental organizations (NGOs) operating in Mali frequently utilize varied food assistance modalities (e.g., in-hand, mobile, and trader managed cash transfers; direct distribution of local cereals and transoceanic food aid; and work incentive schemes based on cash/vouchers).

1.3.1. US Government

USAID Food for Peace (FFP). FFP funded two Multi-Year Assistance Programs from 2008-14 in Mali: Consortium for Food Security in Mali (NEMA) and Timbuktu Food Security Initiative (TFSI).

Catholic Relief Services (CRS), in consortium with Save the Children and Helen Keller International, implemented NEMA using local partners in Douentza (Mopti) and Bourem (Gao). However, the geographic focus shifted to Bankass (Mopti), Tominian (Ségou), and Yorossa (Sikasso) in 2012 when the conflict erupted. This MYAP focused on agriculture enterprise groups, screening of acute malnutrition, and community managed early warning and response systems.⁴

TFSI fell under the guidance of Africare and operated in four areas of the Timbuktu region: Timbuktu, Goundam, Dire, and Niafunke.⁵ After the disruption of implementation during the 2012 conflict, Africare moved all Title II MYAP activities to Nara (Koulikoro). TFSI focused on agriculture and nutrition and provided soy fortified bulgur wheat to families of malnourished children so as to ensure that the RUTF from the health center reached those children being treated for moderate acute malnutrition.

With the closure of the MYAPs, FFP channeled its focus to numerous short-term emergency awards through the FFP Emergency Food Security Program (EFSP) mechanism. Under the EFSP, organizations can propose a local procurement, cash, and/or voucher response to an acute crisis.

⁴ Della E. McMillan and Sidibe Sidikiba, 2014, *Final Qualitative Evaluation of the Consortium for Food Security in Mali (CFSM) "Nema" Program, P.L. 480 Title II Multi-Year Assistance Program.*

⁵ CERCA, 2011, *Mid-term Evaluation of the Timbuktu Food Security Initiative.*

Feed the Future (FTF). The FTF zone of influence in Mali officially covers 143 targeted communes in three regions (Sikasso, Mopti, and Timbuktu) and two communities in Alatona (Ségou). Since the FTF portfolio encompasses a number of projects, for the purposes of this report, USAID-BEST has highlighted the Cereal Value Chain (CVC) project implemented by ACDI/VOCA which assists millet, sorghum, and rice farmer organizations. Support to these farmers in Mopti could potentially overlap with a Title II development food assistance program in the region; therefore, future Title II awardees should be aware of the CVC project when designing the next cycle to ensure complementarity.⁶

USDA. Currently, USDA funds two programs in Mali: Food for Progress and McGovern–Dole International Food for Education and Child Nutrition Program. In the past, USDA also funded a Local and Regional Procurement (LRP) pilot.

1.3.2. WFP

WFP operates a Country Programme which includes school feeding, resilience activities, capacity development, and nutrition interventions. At the end of 2014 WFP closed out an Emergency Operation that provided food assistance in the north, but in early 2015 started a Protracted Relief and Recovery Operation (PRRO) to continue general food distributions; resilience and nutrition interventions; and other activities. WFP is actively engaged in local procurement of millet and sorghum and, to a lesser extent, rice for their food aid programming.

1.3.3. GoM

The GoM provides aid during crises through the Food Security Commissariat (CSA, Commissariat à la Sécurité Alimentaire). From March-August 2014, the GoM (under the CSA), joined WFP and the International Committee of the Red Cross (ICRC) to feed about 1.56 million people requiring immediate assistance in the lean season. According to the Food Security Cluster, WFP reached 47 percent of the total 2014 lean season emergency collaboration (703,920 beneficiaries), the CSA 33 percent (489,821 beneficiaries), and then the ICRC 20 percent (303,900 beneficiaries).⁷ In 2013, the CSA requested and received 32,000 MT of millet and sorghum for the 2014 distribution.⁸

1.3.4. Local Nutritious Food Products

The growing food processing sector in Mali is capable of producing nutritious foods relevant for FFP. Four products of note include: Misola produced by Association Misola; Vitablé and Nutriblé from Groupe AMI; and a variety of cereal blends under Danaya Cereals. Of these products, Misola is the only food that utilizes locally procured ingredients such as millet and groundnuts, employs solely female processors, is fortified, and is widely produced in small production centers throughout the country.

1.3.5. Food Fortification

Several policy-based efforts also aim to improve nutrition in Mali, such as the GoM mandated fortification regulations. The guidelines state that local and imported wheat and cooking oil must adhere to fortification regulations. Wheat flour must have iron (ferrous fumarate), folic acid, and zinc, while edible oil requires Vitamin A fortification. USAID-BEST could not obtain updated information on actual compliance with these regulations.

⁶ Personal communication with ACDI/VOCA/Bamako office, November 2014.

⁷ Mali Food Security Cluster, 2014, *Réponse en Sécurité Alimentaire par Type d'Activités et par Régions depuis Mars 2014* (Response on Food Security by Type of Activities and by Regions since March 2014).

⁸ Personal communication with the CSA, November 2014.

1.4. Recommendations for Program Design

This synopsis of Chapter 4 summarizes recommendations for future Title II development programs in Mali that consider best practices to mitigate any negative impact on local markets from distributed transoceanic and locally procured food aid. For more details, please refer to the chapter.

1.4.1. Targeting

Activity type. In the previous Title II development programs, the strategic objectives focused on agriculture, nutrition, and early warning systems and preparedness. Going forward, awardees could continue to program along these lines, but could also program new and innovative activities with a strong focus on resilience, diversified livelihood strengthening, maternal and child health and nutrition (MCHN), and water, sanitation, and hygiene (WASH).

Geographic targeting. Based on discussions with USAID, this report provides recommendations for geographic targeting on the assumption a new round of Title II development programming will exclusively focus on Mopti. To determine the specific *cercles* and communes, awardees should consider existing initiatives and which geographic coverage would lead to the best implementation from a managerial, logistical, and programmatic perspective. Importantly, given that Mopti also falls into the FTF zone, awardees need to consider the most appropriate way to layer Title II and other USAID-funded activities, including FTF, Global Health, and Democracy and Governance programs.

Seasonal targeting. To better support a resilience focus, most of the activities in a new Title II development food assistance program should continue throughout the year. However, awardees need to recognize that HH needs and activities change along with the agricultural calendar. For example, in certain months agricultural labor may demand more time from mothers and/or other beneficiaries. Therefore, a monthly transfer of a fortified blended food complemented by a food voucher or cash would better support the entire HH during lean months. Labor-based employment projects also need to consider the variability of agricultural labor demands per the seasonal calendar.

HH and individual targeting. No official standard exists for targeting HHs in Mali. Most NGOs select beneficiaries according to their own organizational standards. Emergency responses often utilize results from the Harmonized Framework for the Analysis and Identification of Areas at Risk and Vulnerable Groups in the Sahel, commonly referred to as the *Cadre Harmonisé*. Although this framework provides essential information for a Title II development program in monitoring areas of intervention and crop outcomes for local food procurements, the results are most relevant to seasonal and acute responses than to longer-term development interventions.

A new development food assistance program should divert from the existing norm of targeting malnourished individuals and instead aim to include all pregnant and lactating women and children under the age of two in a select geographic area regardless of their socioeconomic or nutrition status.

Direct involvement of village authorities and relevant GoM partners will be essential to achieve all Title II objectives, but coordination with local leaders is especially important for targeting of communal labor-based projects. Moreover, methods for targeting should reflect the social, cultural, and economic diversity across communities.

1.4.2. Food Aid Rations

Food aid ration composition. Reviewing historical and present ration breakdowns can inform the appropriate ration composition and size in a new cycle of programming. For the purpose of

brevity in this summary, details of rations in previous MYAPs, as well as current rations used by WFP, ICRC, and school feeding programs, are only provided in the full chapter.

Recommendations for commodity selection. USAID/Mali and future Title II awardees should strongly consider incorporating numerous local food procurement options into any MCHN or FFW/FFA rations. Based on current local market dynamics relevant for the Mopti area, awardees could easily incorporate food vouchers and cash transfers because adequate food is available in local markets, especially during non-lean season months. If the awardees prefer to locally procure foods for distribution, rather than providing cash transfers or food vouchers to beneficiaries, then millet, sorghum, and pulses would be among the most feasible and appropriate choices. Regarding blended foods, future awardees should consider Misola for MCHN beneficiaries as this fortified product utilizes local ingredients and production. A complete list of potential options is presented in the chapter.

USAID-BEST recommends against the distribution of bulgur or soy-fortified bulgur wheat because Mali enjoys a vibrant cereals market and therefore, importing food, especially a foreign cereal, would only make sense in a time of crisis.

Given the expected geographic concentration in the Mopti region of Mali, awardees must take into account the scale of planned transfers. If a greater percentage of the population receives transfers and/or the total value is relatively high compared to traded volumes within the relevant marketshed(s), awardees will need to take even greater care when considering the ability and willingness of market vendors to respond to any potential additional demand, and must develop a monitoring system that captures price and vendor information to quickly enable any necessary adjustments.

1.5. Adequacy of Ports, Transport, and Storage

This section provides a summary of the logistics around moving food aid detailed in Chapter 5, and focuses on ports, transport, and storage options for the next Title II development program cycle.

1.5.1. Ports

Future awardees can choose from numerous ports to import transoceanic Title II in-kind food aid. USAID-BEST finds that the appropriate port depends on the final destination for shipments of food aid.

While Dakar presently serves as the primary port for commercial and food assistance cargo to Mali, current awardees have received goods via the ports of Abidjan, Lomé, and Cotonou. Based on conversations with key informants from a variety of sectors, it appears future awardees should treat shipments to northern Mali separately from those intended for the south. The ports of Dakar and Abidjan appear best suited for deliveries to the Bamako (southern) region, and the ports of Abidjan, Lomé, and Cotonou appear best suited for delivery to the Mopti (northern) region.

Besides the geographic area of the final destination, other factors influencing port of choice should include timeliness of delivery; cost of shipment; security both at port and along the transportation corridor leading from the port; and availability of vehicles. Furthermore, awardees need to consider shipping format (whether containerized or bulk and general cargo), bill of lading (B/L) type (i.e., through or simple B/L), and particularly, awardees' own experience at each port of unloading. No matter the port of choice, awardees should time shipments to avoid the rainy season as travel conditions during that period are particularly challenging.

1.5.2. Transport

Road transportation remains the best modality for shipping food assistance into Mali. Despite the frequently poor quality of the road network regionally and within Mali, key informants generally expressed confidence in the ability of transporters to deliver goods to the final destination regardless of road conditions by drawing from a sufficient supply of transport options. If shipping goods to insecure areas, awardees may need to hire transporters with personal connections to those areas because they are often the only ones who can ensure delivery while minimizing risk to their own personal safety, although they may charge above-market rates for transportation.

1.5.3. Storage

As reported and observed during the November 2014 field visit, Mali possesses adequate warehousing capacity for WFP, ICRC, and USDA food assistance. However, some informants expressed concerns about the availability of storage if imported transoceanic in-kind food aid volumes significantly increase; none clarified the exact tonnage that could constrain availability.

Storage space should continue to be available in or even outside of main cities or towns in the next cycle of Title II development programming. However, since brick and mortar facilities are sometimes unavailable, humanitarian and development organizations have occasionally rented land to set up rubble halls, and these spaces have proven adequate for warehousing needs. Even at more remote final distribution points, awardees do not report any major issues finding sufficient storage; often, local communities have been willing and able to construct and maintain facilities.

Chapter 2. Overview of Local Markets

2.1. Introduction

As the Bellmon Amendment requires that US food assistance avoid harming local markets in recipient countries, this chapter examines in detail the workings of the primary staple food markets in Mali. A careful study of local markets will better enable US government representatives to make an informed Bellmon determination prior to a potential Title II program.

Underpinning the analysis, USAID-BEST conducted desk research; interviewed key government, commercial, donor, and international/non-governmental organization (I/NGO) stakeholders; and visited local markets across the country during an October-November 2014 field visit.

The chapter begins by discussing the factors underlying the structural food deficit in Mali before focusing specifically on local market conditions. Understanding the norms and trends in the consumption, production, processing, and marketing of staple foods is particularly important for future Title II awardees because these patterns have implications for potential programming, including direct food aid distribution, local donor procurement, and certain market-based interventions involving cash and/or vouchers. Consequently, the discussion of local markets in this chapter informs the programmatic recommendations presented in Chapter 4.

2.2. Structural Food Deficits

2.2.1. Local Diets

Rice, millet, sorghum, and to a lesser extent maize comprise the main Malian staples. Households (HHs) generally boil these cereals for couscous or porridge to form the base of the meal; frequently, HHs complement their meal with a sauce of vegetables, fat, and, as available, animal protein or beans. Meals are communal in nature; the norm is for numerous family members to eat with their hands from one large bowl. In some HHs, men and women/children eat separately. The frequency of meals entirely depends on economic circumstances; those HHs that can afford to eat three meals a day will do so, but more commonly HHs eat two daily meals by preparing mid-day meals large enough for leftovers in the evening (often done to save on firewood or charcoal).

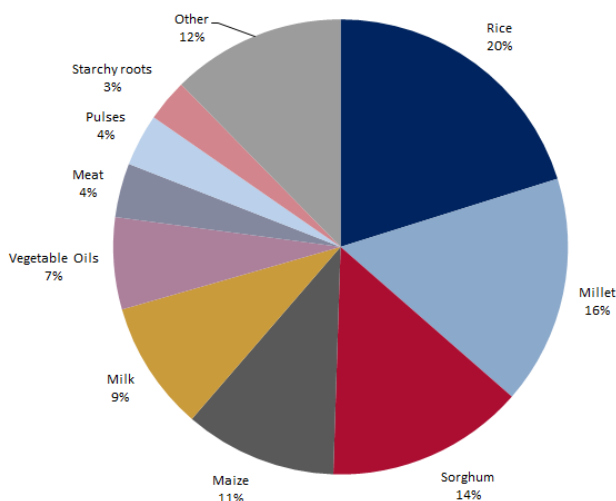
Increasing urbanization and rising incomes have contributed to a growing demand for rice over the last decade. Although rice is the most widely consumed cereal in Mali, it is also significantly more expensive than other cereals. Due to this significant price differential, coarse grains, such as millet and sorghum, are predominantly the staple foods of low income HHs. Field work indicates that millet and sorghum appear to be the food of choice especially in production areas. Maize, the least consumed of the cereals, does serve an important role in shortening the lean season. Rural HHs still consume most of their own production, but when HH stocks diminish these families rely greatly on the market.

The variety of food products in both rural and urban markets is noteworthy, and HHs generally turn to the markets for those items incorporated into the sauces that accompany their meal. Vegetables commonly consumed include onions/shallots, tomatoes, cabbage, eggplant, peppers, and okra. As for protein, nearly 80 percent of HHs keep livestock in Mali because of the availability of range lands; therefore, their diets contain a variety of protein sources such as beef, goat, and chicken. Alternate protein sources include fish, when available, and beans, largely cowpeas and *bambara*. Other foods that complement main meals include groundnut butter, yams, white potato, sweet potato, fonio (a small grain), baobab fruit, and plenty of

seasonings and spices. To prepare these dishes, HHs use edible oils such as refined palm oil (RPO) or cottonseed oil, but for special dishes HHs use shea butter because of its distinct flavor. During certain seasons when fruits such as watermelon, mangoes, lemons, and oranges become available, Malians eat these foods as snacks. A key variation from the standard diet is that certain populations, such as pastoralists in the north of the country, consider dairy, especially fresh milk, integral to their diet. However, dairy consumption is also growing in urban areas.

The pie chart below illustrates the diversity of the Malian diet as described and detailed above.

Figure 2. Contribution (%) to Daily Energy Consumption by Main Food Groups, 2011



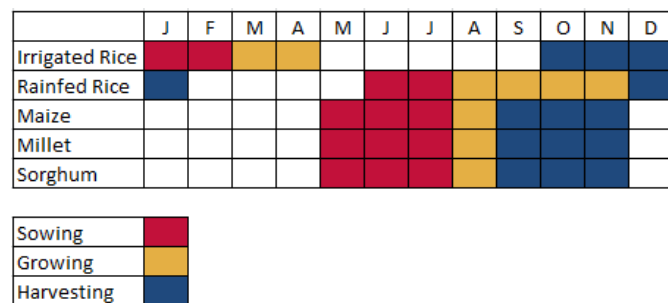
Source: USAID-BEST using data from FAOSTAT Food Balance Sheet, 2011, accessed October 2014.

2.2.2. Food Availability

Although cereal production in Mali has seen significant growth, seasonality of production and limited agricultural productivity continue to affect food availability. Food imports add to the overall availability, however the level of import dependency on basic cereals has been decreasing over the last 5-10 years.

Seasonality. Staple crops in Mali follow a short growing season. As the following figure shows, the majority of the cereal harvest occurs September-November, but the rice harvest extends into December and January.

Figure 3. Staple Crop Calendar

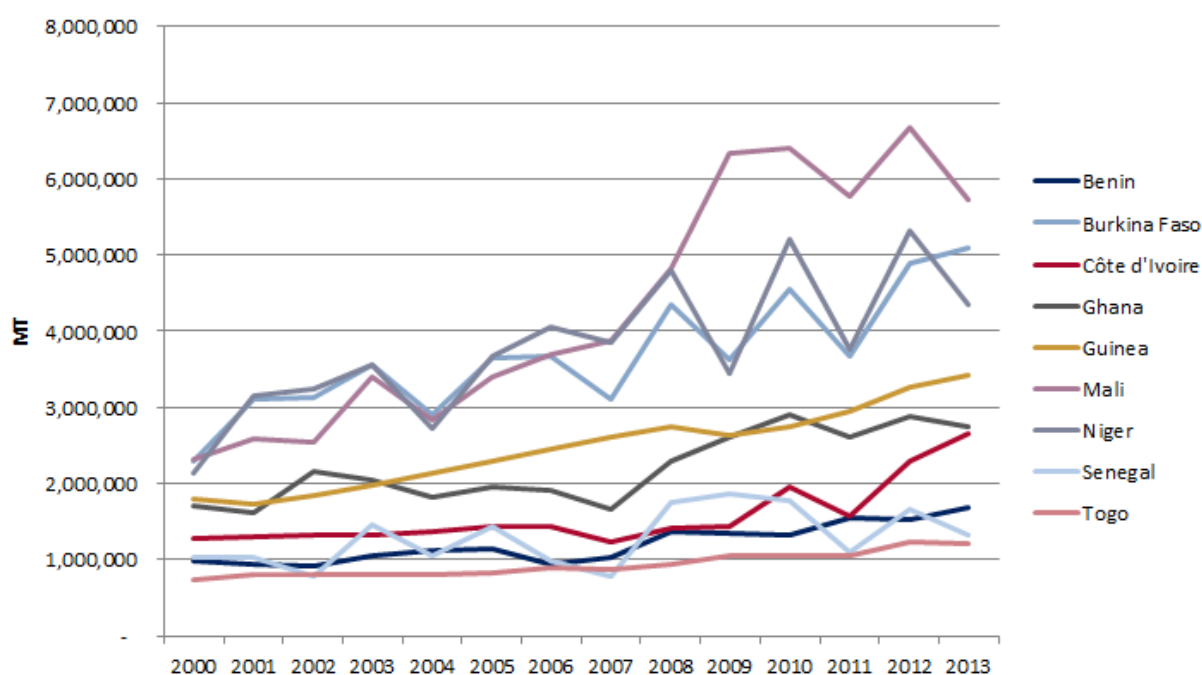


Source: USAID-BEST using data from FAO/GIEWS, accessed October 2014.

Lean season in most of the country falls May-September when local stocks of cereals grow scarce and prices increase. Storage does not constrain the availability of cereals because HHs use traditional structures for keeping cereals throughout the year. Accordingly, rural food insecurity increases from 37.6 percent in October-December to 55.3 percent in April-June.⁹ To cope with the stress of the lean season, rural HHs resort to practices that further exacerbate their situation, such as taking out loans (32.8 percent) and/or selling livestock (25.7 percent).¹⁰

Agricultural production. Overall, growth in aggregate cereal production in Mali has been the largest of any country in the West Africa region with an increase of 148 percent since 2000 (see figure below). Compared to its neighbors, Mali achieves some of the highest rice yields in West Africa. Although productivity of millet and sorghum is low relative to potential, current yields are comparable to surrounding countries.

Figure 4. Cereal Production (MT) in West Africa, 2000-13



Source: USAID-BEST using data from FAOSTAT, accessed December 2014.

The increase in production in Mali is due to expanding area planted and significant public sector support of irrigation infrastructure and farm inputs. Despite production growth, the country remains highly vulnerable to droughts given the reliance on rainfed agricultural systems that only allow for a single growing season per year. Continued government investment is necessary to ensure continued high growth in the cereal sector. At present, Feed the Future is working in select intervention areas to strengthen the millet, sorghum, and rice value chains.

⁹ INSTAT, May 2014, *Sante, Emploi, Securite Alimentaire et Depenses de Consommation des Menages. October - Décembre 2013* (Health, Employment, Food Security and Households Expenditure on Consumption. October to December 2013).

¹⁰ Ibid.

2.2.3. Food Access

Nationally, Malian HHs rely on markets for the majority of their food needs (81 percent). Urban HHs are almost entirely market dependent while rural HHs purchase 70 percent of their food at markets.¹¹ Low incomes, high budget shares devoted to staple foods, and low levels of education all affect income growth and agricultural productivity, and therefore considerably affect access to food.

Income. Nationally, 31 percent of the urban population and 51 percent of the rural population live below the poverty line.¹² This extensive poverty primarily results from the predominance of employment with low or no remuneration. Production and sale of agricultural crops provide the primary source of income for most Malians (47.6 percent), followed by livestock (18.4 percent).¹³ The vast majority of the rural population (89 percent) work in agriculture, mining, fisheries, or forestry.¹⁴ While 88 percent of the rural population work six-seven days a week, 56 percent of them do not receive remuneration for their work, most likely due to working on their own crops, helping family members, or tending to their livestock. Also, due to the short growing season for rainfed crops, much of the rural workforce is only fully occupied for a short period of time.¹⁵ Even in the relatively better-off capital, only 31 percent of employed people are salaried; instead, close to 60 percent remain self-employed (45 percent in single-person enterprises).¹⁶

Expenditure. Nationally, HHs spend 59.4 percent of their income on food; however, the disparity between average expenditures on food for rural HHs (69.5 percent) compared with urban HHs (45.4 percent) is significant.¹⁷ Cereals account for 30-50 percent of food expenditures, depending on season and region.¹⁸ Consumers in urban and rural areas are also spending significantly more on rice; from 1989-2006, the share of expenditure on rice in urban areas increased from 16 to 20.3 percent, and in rural areas from 9.2 to 17.3 percent.¹⁹

Education. Only about 21 percent of women and 38 percent of men between the ages of 15-49 are literate; 76 percent of women and 61 percent of men have no education.²⁰ Low education levels hamper the ability to increase incomes through better employment, affect the potential for scaling up agricultural productivity, and influence habits around food consumption, hygiene, and sanitation. For example, women with secondary level education birth on average four children while women with no education average 6.5 children.²¹ Moreover, adolescent pregnancy (girls

¹¹ INSTAT, May 2014, *Sante, Emploi, Securite Alimentaire et Depenses de Consommation des Menages. October - Décembre 2013 (Health, Employment, Food Security and Households Expenditure on Consumption. October to December 2013)*.

¹² IMF, May 2013, *Mali Poverty Reduction Strategy Paper*.

¹³ SAP, 2014, *Enquête Nationale sur la Sécurité Alimentaire et Nutritionnelle (National Food Security and Nutrition Survey)*.

¹⁴ INSTAT, May 2014, *Sante, Emploi, Securite Alimentaire et Depenses de Consommation des Menages. October - Décembre 2013 (Health, Employment, Food Security and Households Expenditure on Consumption. October to December 2013)*.

¹⁵ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

¹⁶ INSTAT, May 2014, *Sante, Emploi, Securite Alimentaire et Depenses de Consommation des Menages. October - Décembre 2013 (Health, Employment, Food Security and Households Expenditure on Consumption. October to December 2013)*.

¹⁷ Ibid.

¹⁸ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

¹⁹ Ibid.

²⁰ CPS/SSDSPF, INSTAT, et al, 2014, *Enquête Démographique et de Santé (EDSM V) 2012-2013 (2012-13 Demographic and Health Survey, DHS V)*.

²¹ CPS/SSDSPF and INSTAT, December 2007, *Enquête Démographique et de Santé de Mali (EDSM) 2006 (2006 Mali Demographic and Health Survey, DHS)*.

15-19 years of age) is twice as high (40 percent) among girls with no education compared to those who have completed secondary level education or higher (22 percent).²²

2.2.4. Food Utilization

Poor food utilization contributes significantly to the high prevalence of malnutrition in Mali. Large HH sizes; inadequate knowledge of nutrition; improper infant and young child feeding (IYCF) practices; and rudimentary water, sanitation, and hygiene (WASH) infrastructure and practices all play a role in poor food utilization.

HH size. While family size is relatively small -- urban families average five people while rural families average 6.5 people²³ -- the common practice of polygamy results in large HH sizes as numerous families generally comprise a single HH unit. These large HH sizes constrain food consumption, particularly in the lean season.

Inadequate knowledge of nutrition. Most Malians do not have a sound understanding of the principles of nutrition as this teaching is not widely promulgated. The nutrition community in Mali strongly focuses on treatment of acute malnutrition and tends to neglect preventative measures. Furthermore, the quality of nutrition interventions in Mali suffers from a lack of professionals with adequate training in the science of nutrition.

IYCF practices. Due to the norm of preparing one meal for the entire family the specific dietary needs of infants and young children are generally not addressed. Nationally, only 21.6 percent of children 6-23 months achieve minimum dietary diversity while only 27.9 percent achieve minimum meal frequency; additionally, 30 percent of children 12-23 months do not receive adequate food (e.g., breast milk plus complementary foods).²⁴ Almost all children (97.3 percent of children under two) are breastfed upon birth, but only 33 percent of children are exclusively breastfed until six months of age.

WASH. Overall, 32.4 percent of the population lacks access to improved drinking water sources.²⁵ For those with an improved water source, 53.7 percent can access these facilities on premise. In rural areas where generally some form of water treatment is needed, 71.2 percent of HHs continue to use untreated water.²⁶

More than half of the population (58.8 percent) do not have access to improved toilet facilities. Most people still rely on open latrines (47 percent) and 11 percent practice open defecation.²⁷ Although the DHS reported 25.8 percent of HHs had a place for handwashing, this statistic does not necessarily reflect proper handwashing. Recently, the practice of handwashing appears to be increasing because of concerns over the Ebola virus disease.

Nutrition outcomes. Due to factors outlined above, Mali suffers from high levels of malnutrition. The analysis of information from the four most recent health and nutrition surveys allows for comparison of data points over time and variance between reports (see following table). Due to the high variability of the data between surveys it is not possible to develop maps of regional

²² CPS/SSDSPF, INSTAT, et al, 2014, *Enquête Démographique et de Santé (EDSM V) 2012-2013 (2012-13 Demographic and Health Survey, DHS V)*.

²³ CPS/SSDSPF, INSTAT, et al, 2014, *Enquête Démographique et de Santé (EDSM V) 2012-2013 (2012-13 Demographic and Health Survey, DHS V)*.

²⁴ CPS/SSDSPF and INSTAT, December 2007, *Enquête Démographique et de Santé de Mali (EDSM) 2006 (2006 Mali Demographic and Health Survey, DHS)*.

²⁵ CPS/SSDSPF, INSTAT, et al, 2014, *Enquête Démographique et de Santé (EDSM V) 2012-2013 (2012-13 Demographic and Health Survey, DHS V)*.

²⁶ Ibid.

²⁷ Ibid.

disparities or other analyses. However, regardless of the data source, it is clear that rates of stunting, wasting, and underweight are worrisome.

Table 1. Prevalence of Child Undernutrition (% of Children 0-59 Months) by Survey, 2010-14

DHS 2012-13				SMART 2014**			
	Stunting	Wasting	Underweight		Stunting	Wasting	Underweight
Kayes	34.3	12.2	21.4	Kayes	16.1	11.3	14.3
Koulikoro	39.5	11.1	24.4	Koulikoro	29.0	13.8	25.8
Sikasso	39.9	13.4	27.3	Sikasso	33.0	9.4	22.9
Ségou	40.5	12.9	26.2	Ségou	28.9	14.0	25.1
Mopti*	46.5	14.7	32.1	Mopti	23.5	11.6	19.0
				Timbuktu	23.9	14.8	22.4
<i>All</i>	<i>38.3</i>	<i>12.7</i>	<i>25.5</i>	<i>All</i>	<i>28.1</i>	<i>13.3</i>	<i>24.2</i>

DHS 2006				MICS 2010			
	Stunting	Wasting	Underweight		Stunting	Wasting	Underweight
Kayes	30.7	15.2	22.0	Kayes	22.1	5.9	11.4
Koulikoro	39.1	16.2	29.1	Koulikoro	25.1	7.9	16.0
Sikasso	45.2	15.8	30.8	Sikasso	36.6	9.4	23.5
Ségou	40.0	14.6	25.7	Ségou	32.6	10.3	23.1
Mopti	40.9	12.7	28.1	Mopti	28.4	9.8	20.0
Timbuktu	43.9	16.5	32.3	Timbuktu	34.5	14.7	31.0
Gao	33.5	17.4	27.0	Gao	26.2	9.0	20.8
Kidal	32.6	27.2	28.7	Kidal	25.2	10.5	17.1
<i>All</i>	<i>37.7</i>	<i>15.2</i>	<i>26.7</i>	<i>All</i>	<i>27.8</i>	<i>8.9</i>	<i>18.9</i>

Sources: USAID-BEST using data from CPS/SSDSPF, INSTAT, et al, 2014, *Enquête Démographique et de Santé (EDSM V) 2012-2013 (2012-13 Demographic and Health Survey, DHS V)*.; and INSTAT, July 2014, *Enquête Nutritionnelle Anthropométrique et de Mortalité Rétrospective, Mali 2014 (National Anthropometric Nutrition and Retrospective Mortality Survey)*.; and CPS/SSDSPF and INSTAT, December 2007, *Enquête Démographique et de Santé de Mali (EDSM) 2006 (2006 Mali Demographic and Health Survey, DHS)*.; and CPS/SSDSPF and INSTAT, 2013, *Enquête par Grappes à Indicateurs Multiples 2009 - 2010, Rapport final (2009-2010 Multiple Indicators Survey, Final Report)*.

*In the 2012-13 DHS, no data available for Timbuktu, Kidal, and Gao; additionally, Mopti was not fully surveyed.

**In the 2014 SMART, Gao and Kidal were not surveyed.

2.3. Commodity Markets

The following review of select commodities first examines five major cereals (rice, millet, sorghum, maize, and wheat) in order of frequency of consumption and contribution to diet. Then, this section turns to pulses and edible oil because of their importance to local diets and food aid programs. Lastly, USAID-BEST provides a brief overview of livestock, dairy, and fish since these foods comprise a valuable share of the diet and offer a source of income for rural HHs.

2.3.1. Rice

HH use. Per capita rice consumption is estimated at 58 kilograms (kg) per person per annum while it comprises an estimated 20 percent of calories consumed nationally.²⁸ By contrast, millet, sorghum, and maize comprise only 16, 14, and 11 percent respectively of total calories consumed.²⁹ Urban HHs generally eat more rice than rural HHs because of the ease in preparation and the long-lasting storage capability. Across strata, families tend to primarily eat rice in their evening meal. However, those HHs unable to prepare three rice meals a day will reserve rice for the mid-day meal and only eat it in the evening if there are leftovers from lunch.

Generally, HHs serve boiled rice with an accompaniment of vegetables and, if possible, meat (beef, mutton, chicken, or fish). This sauce is often prepared by: 1) enriching a tomato sauce with oil, onion, bouillon cube, pepper, okra, and *goyo* (local eggplant); 2) cooking crushed groundnuts with tomatoes and meat (*tika dégué*); and 3) crushing wild grass collected in the bush before mixing it with shea butter and, possibly, beef (this dish is particularly predominant in northern Mali).

Consumers tolerate a moderate amount of broken grain and exhibit some preference for domestic rice. HHs with constrained purchasing power frequently opt for sorghum or millet since these cereals cost less than half the cost of rice.

The rice market in Mali can be broken down into five segments:

- The majority of the market (80-85 percent) eat 25-40 percent broken rice, which is commonly called *Gambiaka* rice.
- Approximately 10 percent of the total market consume 15 to 25 percent broken grains.
- The small, but important, market for 100 percent broken grains comprises likely less than 10 percent of the total market
- Long grain rice comprises less than 3 percent of the imported rice tonnages because it remains out of reach of most consumers. Even within the high-income population, only a small proportion eat this kind of rice.
- Aromatic imported rice represents a small portion of the total market because consumers primarily select to eat this rice during special occasions.

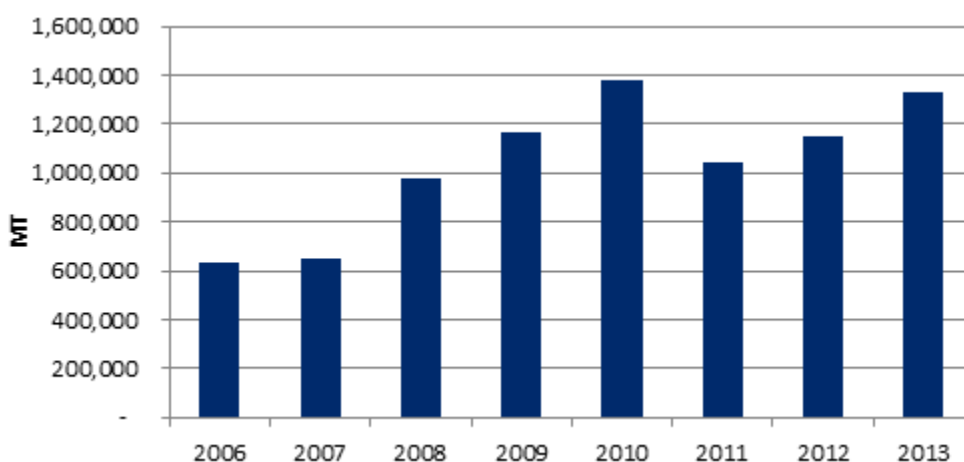
Production. Rice production effectively doubled over the 2006-13 period from a level of just over 600,000 metric tons (MT) of milled rice in 2006 to over 1,300,000 MT in 2013.³⁰ Production fell in 2011 due to poor production conditions but recovered thereafter (see figure below).

²⁸ FAOSTAT.

²⁹ Ibid.

³⁰ Unless otherwise indicated, all numbers used for rice in this study are in milled rice equivalent, not paddy.

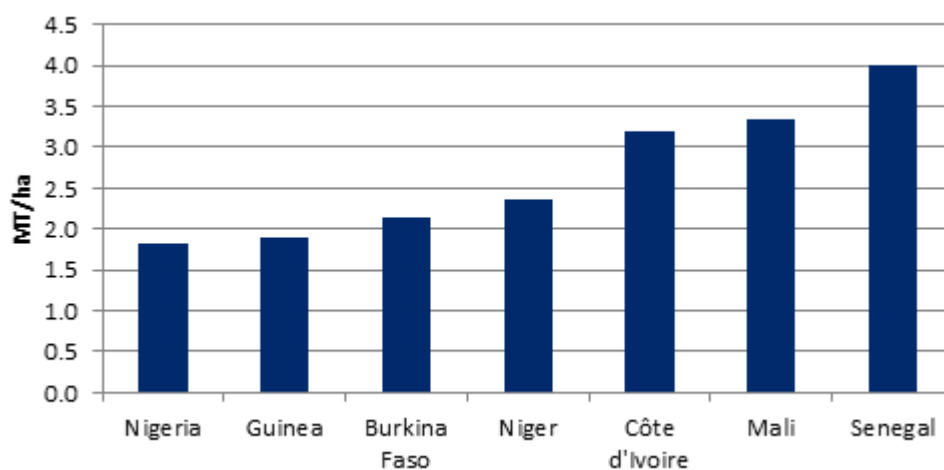
Figure 5. Milled Rice Production (MT), 2006-13



Source: USAID BEST using data from FAOSTAT and INSTAT, accessed November 2014.

However, even in 2013 production had yet to reach its level of 1.383 million metric tons (MMT) achieved in 2010. Production has been achieved both through expansion in planted area and through productivity gains. Area planted to rice increased 47 percent from 412,484 hectares (ha) in 2006 to 604,745 ha in 2013 while over the same period the average national yield increased from 2.6 MT per ha in 2006 to 3.7 MT per ha in 2013. At current rates of productivity, national average rice yields compare quite favorably to other countries in the West Africa region (see figure below).

Figure 6. Five-year Average Paddy Rice Yields (MT per ha) in Mali and Select Countries, 2009-13



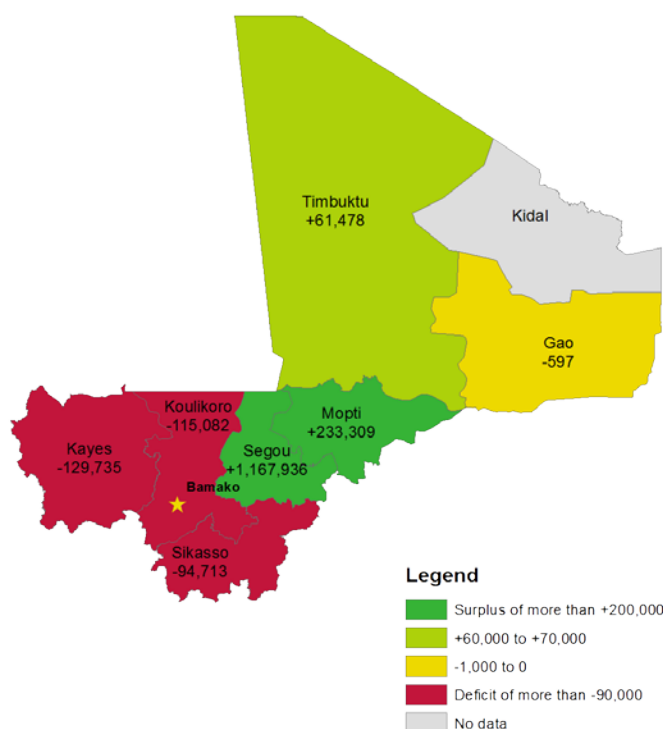
Source: USAID-BEST using data from FAOSTAT, downloaded November 2014.

Roughly half of all rice is grown under fully managed controlled irrigation systems primarily in the Office du Niger.³¹ Where topography permits, farmers also grow rice on riverside floodplains and in *bas-fonds* systems (primarily in the south) where constructed bunds capture rainwater.

³¹ The Office du Niger is a parastatal organization that operates a large gravity fed irrigation scheme in Ségou province using water from the Niger river.

As the figure below shows, Ségou and Mopti represent the major surplus areas of the country. Collectively these two regions account for over 3/4 of domestic rice production. Although Timbuktu had a modest surplus (61,478 MT) in 2013, all other regions are net deficit rice production regions and must obtain rice from surplus producing regions or via internationally imported rice.

Figure 7. Rice Surplus and Deficit (MT) by Region, 2013



Source: USAID-BEST using data from the Malian Ministry of Rural Development and INSTAT, accessed November 2014.

Imports and exports. Due to the large expansion in the production of domestic rice, imports comprise a relatively modest (less than 15 percent) and decreasing portion of the total rice market. The table below details the changing tonnage from 2006-13 of commercial rice imports.

Table 2. Milled Rice Imports (MT), 2006-13

Type	2006	2007	2008	2009	2010	2011	2012	2013
Commercial Imports	174,225	147,422	172,269	109,446	57,594	103,009	165,037	182,830

Source: USAID-BEST using data from FAOSTAT and the Ministry of Rural Development.

Roughly half a dozen importers, all of whom are based in Bamako, dominate the imported rice market and trade in 5 percent, 25 percent, and 100 percent broken rice of varying length and quality. Of the imported rice available for sale, USAID-BEST most commonly observed medium grain 25 percent broken grains at markets in Bamako. Indeed in some upcountry markets in Ségou and Mopti, the team found it challenging to find the presence of imported rice to any significant degree. Sources of imported rice vary and include Vietnam, India, Thailand, and Brazil.

Concerning exports, reportedly, modest quantities of rice leave the country for Mauritania, Senegal, and Niger, but discussions with industry actors suggest that these export volumes

likely do not exceed 50,000 MT (almost 5 percent of total supply) and only occur in years of favorable harvests.

Food aid. Over the 2006-13 period, rice entering Mali as food assistance averaged 15,946 MT; this quantity comprises less than two percent of average national consumption and 21 percent of total imports. Notably, imports of rice for food aid increased significantly from a range of roughly 10,000 MT annually (2006-11) to 40,000 MT in 2012 in response to the conflict in the north (see table below).

Table 3. Food Aid Imports of Milled Rice (MT), 2006-13

Rice	2006	2007	2008	2009	2010	2011	2012	2013	Avg. 2006-13
Milled Rice	11,182	10,240	6,974	12,588	2,532	13,262	41,953	28,838	15,946

Source: USAID-BEST using data from WFP Interfais, accessed November 2014.

Government policy. The Government of Mali (GoM) has provided considerable support to the development of the rice sector, particularly over the last five years. Support to the rice sector has been considerably higher than it has for other cereal crops such as millet or sorghum; this preference is due in part to the high level of rice consumption in urban areas. Primarily, the GoM rice policy aims to a) reduce import dependency; b) stabilize urban prices; c) increase and stabilize farmers' income; and d) promote agricultural exports.³²

One major program, the Rice Initiative (Initiative Riz), arose largely as a result of the 2008 international rice price spike and seeks to increase rice production by investing in the expansion of irrigated land and subsidizing chemical fertilizers for rice producers. With the new subsidy, rice farmers can buy fertilizer at roughly 50 percent of its purchase price.

While no explicit policy prohibits the export of rice, the state reserves the right to restrict exports under conditions of significant shortfalls in domestic production.

Marketing. Unlike consumers in other West African countries, Malians perceive domestic rice in a positive light and do not necessarily always opt for imported rice from Asia. As previously mentioned, local *Gambiaka* rice, processed using traditional or rudimentary technology, accounts for the largest segment of the rice market. This domestic rice generally trades at a product quality equivalent of imported 25 percent or 40 percent broken rice.

The milling of domestic rice is typically performed one of two ways: traditional processing by wooden mortar and pestle (almost exclusively done by women) or, more commonly, more modern but still rudimentary processing by a multitude of small motor driven rice mills operating around the country. Moderate sized rice mills with a daily capacity of 10-15 MT frequently serve larger markets. Field visits to mills in October-November 2014 indicated that most mills process rice for a fee rather than buying paddy directly and selling the milled rice. Large commercial rice mills do exist but industry actors indicate these facilities account for less than 10 percent of domestic output.

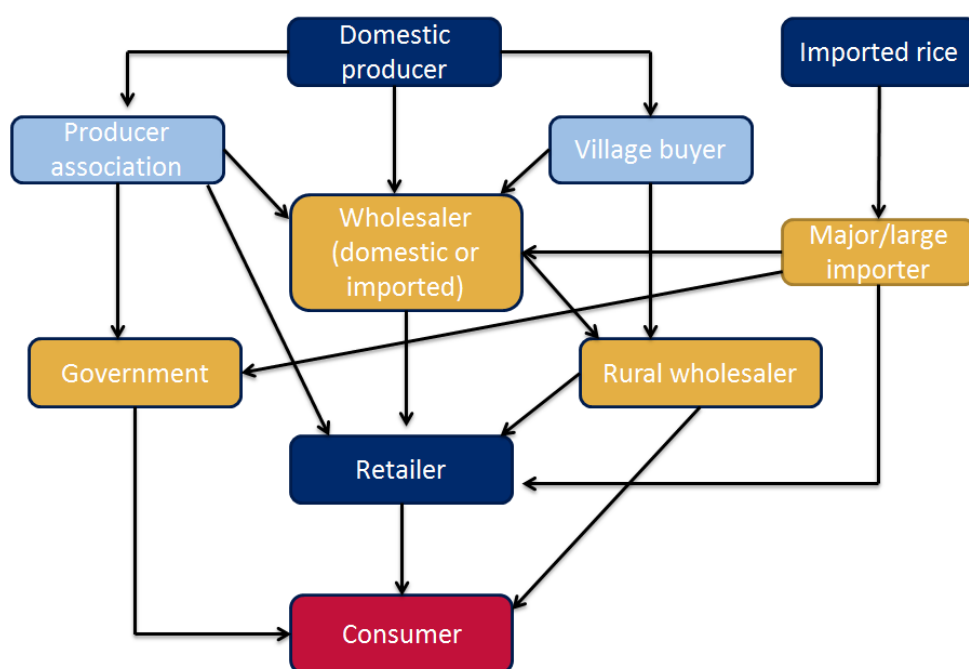
As previously stated, a small number of large importers based in Bamako dominate the market for imported rice. In some instances the importer employs agents to wholesale the rice in other regions of the country, while in others the importer simply sells to independent wholesalers in major markets. Some large importers also own land and produce their own rice to trade domestically.

³² GoM, 2011, *Plan National d'Investissement du Secteur Agricole*.

Wholesalers typically obtain rice either directly from producers who bring rice to the major markets, or through a network of purchasers who source from producers at the village level. Industry actors explained that wholesalers used to obtain rice by advancing producers production credit for the purchase of inputs and then receiving repayment in the form of paddy at harvest time, but this arrangement is now on the decline. Producers have developed a preference for directly marketing milled rice. However, wholesalers believe this new practice leads to lower quality rice since rice milled on farm does not equate to the same processing done at a larger mill.

The following figure diagrams the various paths from producer to consumer in the rice marketing chain.

Figure 8. Rice Marketing Chain



Source: USAID-BEST using field interviews from the October-November 2014 field visit.

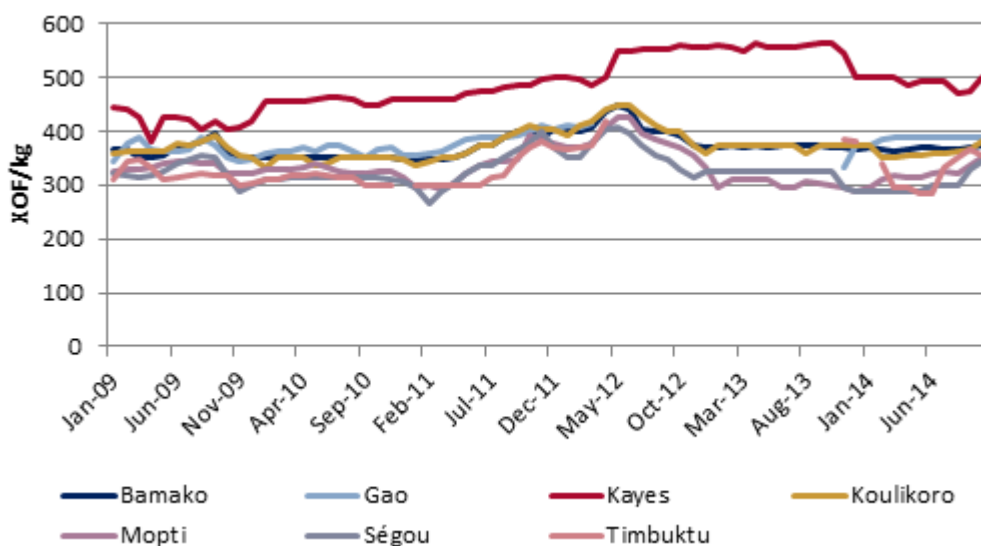
Nearly all rice observed being traded was 50 kg bagged milled rice. Paddy rice was observed for sale at some markets, but generally comprises less than 5 percent of the total volume of rice traded. At the retail level, vendors sell rice in 50 kg bags or in smaller units depending on the purchasing power of the consumer. From traders, USAID-BEST learned that traditionally HHs view the purchase of rice as a male responsibility while females bear the burden of providing the sauce that accompanies the rice (either by growing the ingredients or earning the money for market purchases).

Performance. Domestic production has increased by 110 percent over the past eight years from 631,942 MT to 1,327,152 MT. Consequently, import dependency fell from over 25 percent to less than 15 percent in this same time period. Nevertheless, continued strong demand growth will necessitate ongoing production growth in the sector if this reduced level of import dependency is to be maintained. Moreover, a 2012 review of the rice sector found that Mali rice

production was quite competitive vis a vis imports³³ not just domestically but also in a large number of regional markets in Burkina Faso, Côte d'Ivoire, and other countries.³⁴ As such, if Mali becomes a net surplus rice producer, traders would likely be able to access surrounding markets competitively.

A review of correlation coefficients suggests that the level of market integration for Mali rice markets is quite good and that the market behaves competitively. Correlation coefficient values for rice were generally lower than those for sorghum or millet, and particularly so in Gao, Kidal, and Kayes. For Gao and Kidal, the geographic location and the prevalence of conflict over the past several years would explain this low degree of integration. In the case of Kayes, key informants explained that due to its distance from other major markets, it is less responsive to changes in market conditions in other parts of the country. As the following figure shows, retail local rice prices do not exhibit significant seasonal variability and have remained stable since 2009, except for a spike in prices in 2012 due to the in-country conflict that year.

Figure 9. Retail Local Rice Prices (XOF/kg), 2009-14



Source: USAID-BEST using data from WFP/Mali, received November 2014.

2.3.2. Millet

HH use. At a per capita consumption rate of 59 kg per year, Malians eat nearly as much millet as rice. However, since millet has a lower caloric value by weight, it comprises only 16 percent of average consumed calories nationally, in contrast to 20 percent for rice.³⁵ At roughly half the price of rice, millet is a staple among HHs confronted with cash constraints. Families boil millet

³³ Adjao, Ramziath, 2011, *Analysis of the Competitiveness of the Rice Subsector in Mali: The Case of Gravitational Irrigation and Bas-fonds Production Systems*.

³⁴ Although Malian rice is generally not competitive in coastal markets such as Abidjan and Dakar, the increased price of Asian imported rice at other inland markets, notably Ouagadougou, Bobo Dioulasso, and Yamoussoukro, renders Malian rice exports competitive against other sources. Rice production in many parts of West Africa have struggled to establish a comparative advantage vis a vis international imports due to low productivity levels for domestic rice production. However, given the increasing rice consumption in West Africa and any growth in the rice sector in Mali, circumstances could prove lucrative for Malian rice exports.

³⁵ FAOSTAT.

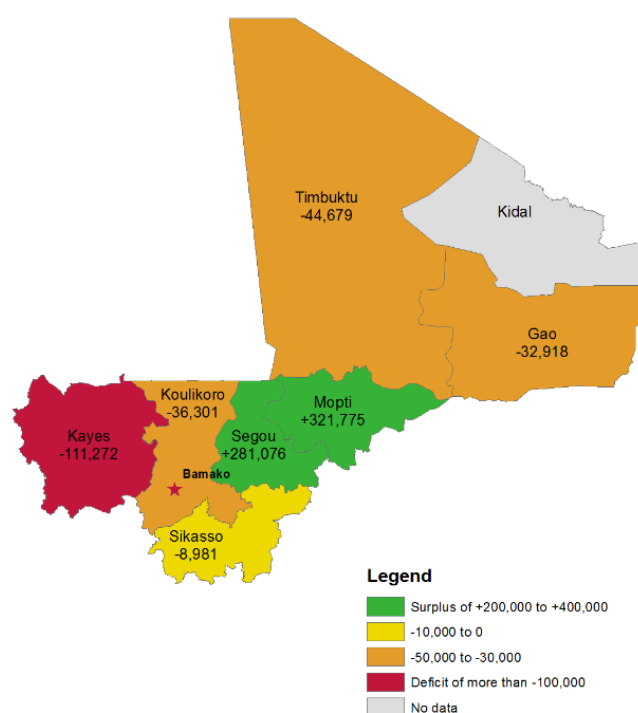
and sorghum (*moni, dégué*, etc.) and eat it as couscous (*baché*) or as a thick, dense porridge paste called *toé* that can be eaten by hand. No matter the form, millet generally serves as the basic starch that accompanies a side of vegetables and, when possible, beef, mutton, chicken, or, more rarely, boiled fish.

Traditional wooden mortar and pestle continue to be the primary tools for processing millet. Almost always, women take on the task of pounding the millet to remove the grain from the stalk. Afterward, they winnow and clean the grain to boil for porridge, or they pound it a second time to produce flour for *toé*. Given the laborious and time consuming nature of this effort, some women, especially those in large cities, prefer to purchase pre-pounded millet and sorghum, and this segment of the market is growing. Finally, processors use millet and sorghum as inputs for beer and other fermented beverages.

On a smaller scale, millet and sorghum are also prepared as pre-cooked food which is then exported (albeit in very small quantities) to other countries in West and Central Africa, and in small quantities to the Malian diaspora community in Europe. Since transformation of millet primarily occurs by hand, the development of an export sector has been limited.

Production. Grown predominantly in the central regions, millet relies overwhelmingly on rainfall in a semi-arid environment, which increases the risk of crop failure in drier years. Following a typical crop calendar, farmers seed millet in the early summer (June-July) and harvest in late October-November. Mopti and Ségou account for roughly 2/3 of national production (see figure below).

Figure 10. Millet Surplus and Deficit (MT) by Region, 2013

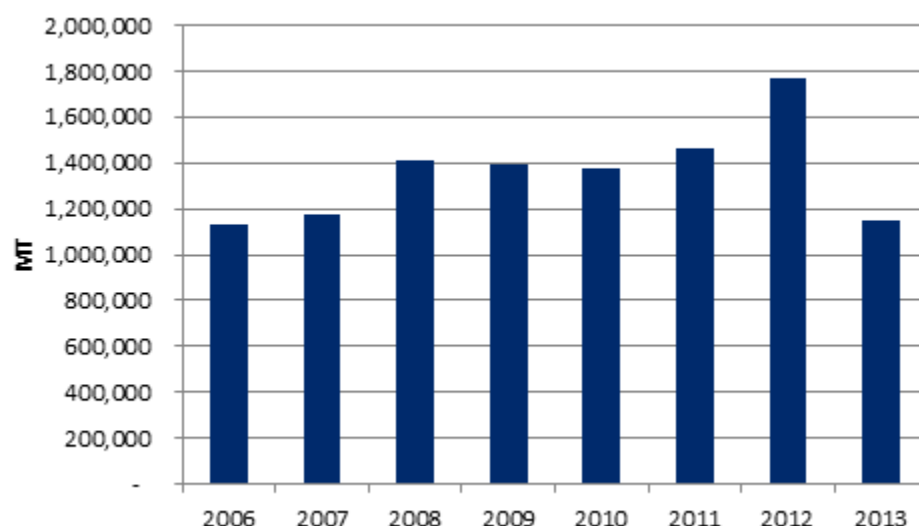


Source: USAID-BEST using data from the Ministry of Rural Development and INSTAT.

Millet yields increased from roughly 1.1 MMT in 2006 to over 1.7 MMT in 2012 before falling back to an approximate level of 1.1 MMT in 2013 (see following figure). Given these numbers and a reported consumption rate of 58.7 kg per annum, the national consumption level would

only be 880,000 MT. Despite the sizeable surplus, data from FAO indicate that a portion goes toward animal feed (175,000 MT), disappears into postharvest losses (161,000 MT), or falls into 'other' uses (185 MT).

Figure 11. Millet Production (MT), 2006-13



Source: USAID-BEST using data from FAOSTAT and the Ministry of Rural Development, accessed November 2014.

The increase in production from 2006-12 was largely due to area expansion rather than yield improvements. Although current yields of 0.8-0.9 MT per ha have only improved modestly over the past several decades, production in Mali has been favorable compared to other countries in the region, such as Burkina Faso and Niger.

Reviews of the millet industry have noted that farmers may be more concerned with production risk due to drought rather than productivity directly. As such, researchers conclude that breeding and crop improvement programs might do well to focus on drought tolerance as a risk mitigating instrument, rather than absolute productivity increases per se.³⁶ Discussions with those in the millet industry revealed that yields might increase as much as 1.5 MT per ha with greater use of improved seeds and fertilizer, and better crop management.

Imports and exports. Official data indicate that imports are zero, and USAID-BEST field work confirmed the lack of millet imports. However, with the level of uncertainty regarding production estimates, a sizeable volume of millet available for export could exist. Key informants affirmed this potential as they stated that roughly 100,000 MT (less than 10 percent of total consumption) may be leaving Mali informally.

Food aid. There are no transoceanic food aid shipments of millet to Mali. However, both the government, through the Office of Agricultural Products of Mali (OPAM, Office des Produits Agricoles du Mali), and WFP conduct local procurement programs that involve the purchase of millet. For the last several years, procurement levels have ranged between 4,666 MT (2012) to 17,848 MT (2013). For 2014-15, WFP plans to purchase around the same quantity of millet that it did in the 2013-14 season. On the part of the government, OPAM aims to procure 35,000 MT of millet and sorghum for 2014-15. As of the October-November 2014 field visit, producers and

³⁶ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

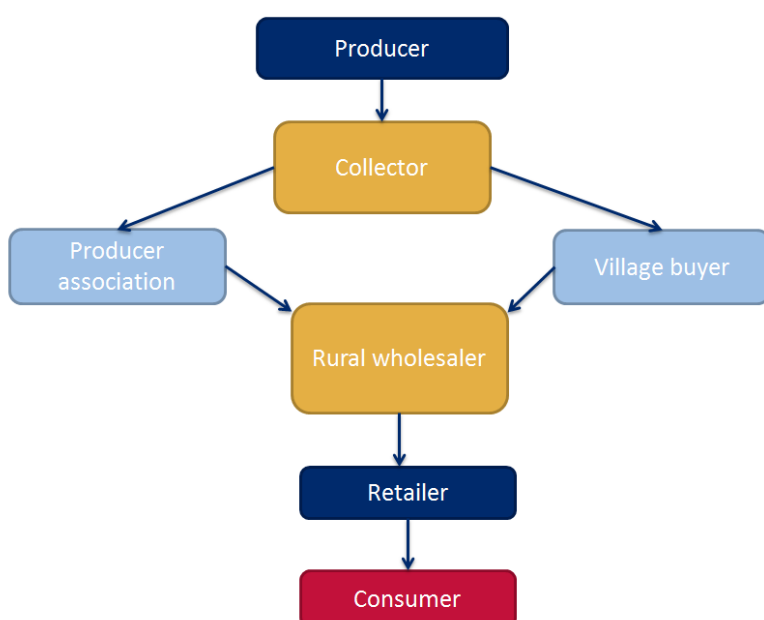
traders indicated a positive view of this local procurement initiative due to a favorable healthy harvest that year; moreover, such programs aid in supporting producer prices.

Government policy. Aside from the limited procurements discussed above, the GoM does not directly support the millet industry. Instead, a fertilizer subsidy program planned for 2015 would include millet. On the whole, compared to rice, maize, and cotton, the GoM has been slow to act on developing improved seeds for millet. This lack of attention has certainly been reflected in the meager productivity increases achieved.

In terms of trade policy, no official regulations restrict the movement of goods within the West African Monetary Union zone, although the GoM reserves the right to act as it wishes in the interest of maintaining sufficient levels of domestic cereal supply. Private sector actors provided mixed accounts on whether they encountered any significant problems in moving goods around. Ultimately field work indicated that in areas where there would be a strong commercial rationale for cross border trade, particularly high production areas near an international border with a major market on the other side, there did not appear to be significant impediments to cross-border trade. For example, in markets located along the Burkina Faso and Côte d'Ivoire borders within the Mopti and Sikasso regions, traders reported few official obstacles impeding the flow of millet across borders. With the sheer size of Mali and the length of the border, along with the lack of natural barriers such as a river or mountain range, enforcing any restrictions on cross-border trade would be a challenging task.

Marketing. Primarily, millet remains a smallholder staple crop that rural HHs produce for home consumption. The figure below diagrams the marketing chain of millet. The diagram also broadly corresponds to other coarse grains. Formal estimates of the quantity of marketable surplus are difficult to obtain; however, informal approximations place this level at around 20-25 percent. Little product transformation occurs in the marketing process as traditional mortar and pestle removes the millet grains from the stalk. After the grain is cleaned and winnowed it is bagged and considered ready for marketing.

Figure 12. Millet Marketing Chain



Source: USAID-BEST using field interviews from the October-November 2014 field visit.

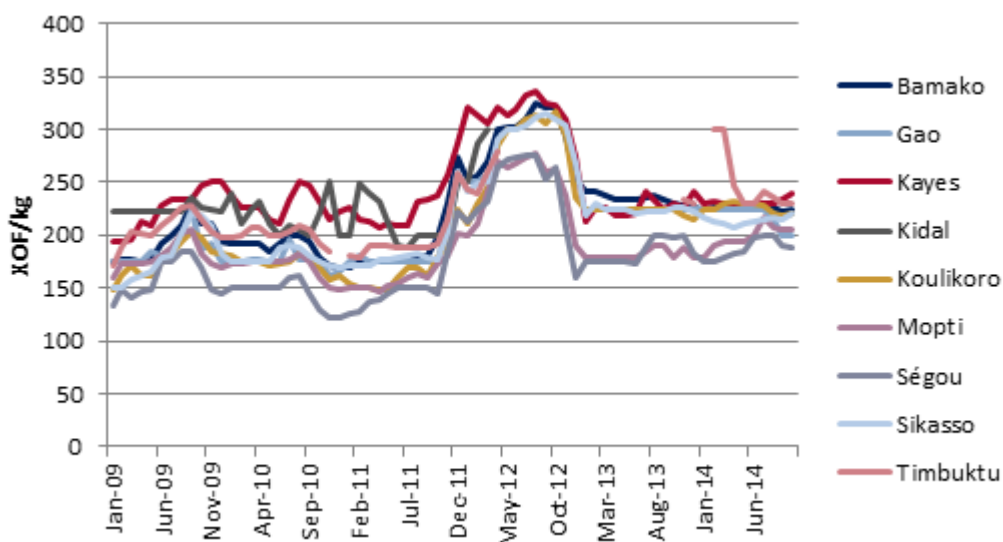
In contrast to imported rice where a relatively small number of large importers dominate the market, a moderately large number of wholesalers dispersed in major regional markets around the country conduct the marketing of millet. The wholesaler in a major market will frequently employ agents to procure millet at the village level and then transport the product to the wholesalers' storage facility. In turn, wholesalers will sell the product to other wholesalers and on occasion large retailers throughout the country. Millet is retailed either in 50 kg bags or by the kilo depending on the purchasing power of the consumer. At both the wholesale and retail level, the price does not deviate significantly with product quality, despite a number of efforts underway to capture greater value in improved quality.

The ACDI/VOCA review of the cereal value chain found marketing margins - the difference between the price paid to the producer and the price paid by the consumer - were around 50 percent of the final sales price.³⁷ The same study concluded that this margin is potentially excessive. An alternate review from Michigan State University (MSU) in 2012 also indicated high marketing margins and found that these margins had not decreased over time. It remains unclear why margins if deemed excessive would remain so high over such a lengthy period of time. Both the MSU and ACDI/VOCA paper suggested that institutions such as farmers organizations or cooperatives might offer producers more effective collective bargaining. Alternatively, certain costs in the marketing chain, either in terms of logistics, storage, or risk, are such that the margins may not indeed be so high as to produce excess profits.

Performance. Despite some yield increases, growth in production has resulted largely due to an uptick in planted area rather than improvements in productivity.

This study finds that the level of market integration as measured by correlation coefficients is quite good. A large number of markets show a correlation coefficient value of better than 0.8, therefore suggesting a high degree of market integration and market efficiency (see figure charting prices below).

Figure 13. Retail Millet Prices (XOF/kg), 2009-14



Source: USAID-BEST using data from WFP/Mali, received November 2014.

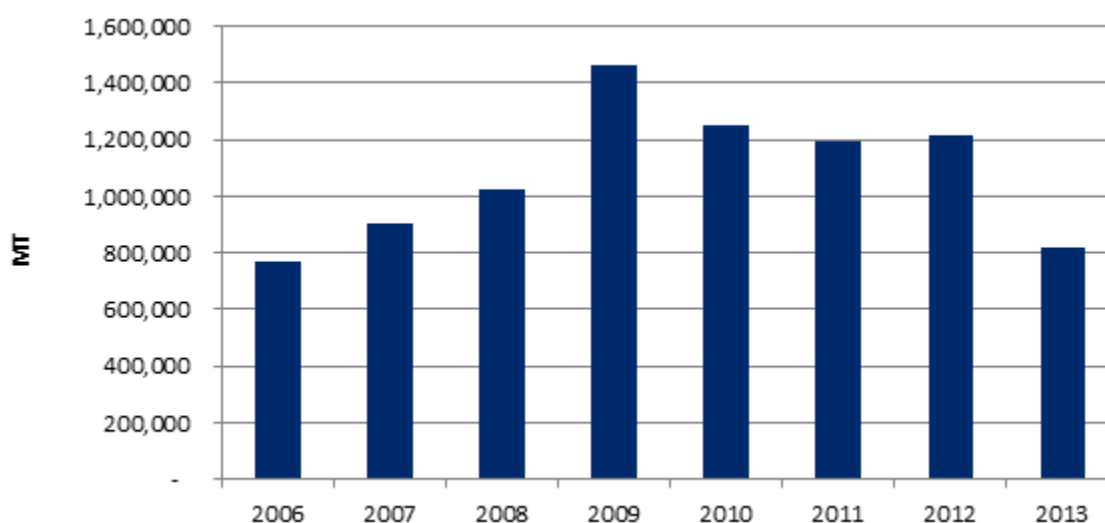
ACDI/VOCA, 2014, *Mali: USAID Cereal Value Chain (CVC) Award*.³⁸ FAOSTAT.

2.3.3. Sorghum

HH use. Sorghum is the third most widely consumed cereal in Mali after rice and millet. Consumption is estimated at 50 kg per person per annum,³⁸ and approximately 14 percent of total calories consumed nationally. Malians prepare sorghum boiled into a type of porridge that is frequently eaten for breakfast. Also, HHs pound sorghum into a paste similar to *fufu*, or add it as an ingredient to soup. Increasingly, women, especially those in large cities, prefer to purchase pre-pounded sorghum to save time.

Production. Starting from a level of just under 800,000 MT in 2006, production increased to over 1,400,000 MT in 2009 before falling back to roughly 800,000 MT in 2013 (see figure below).

Figure 14. Sorghum Production (MT), 2006-13



Source: USAID-BEST using data from FAOSTAT and the Ministry of Rural Development, accessed November 2014.

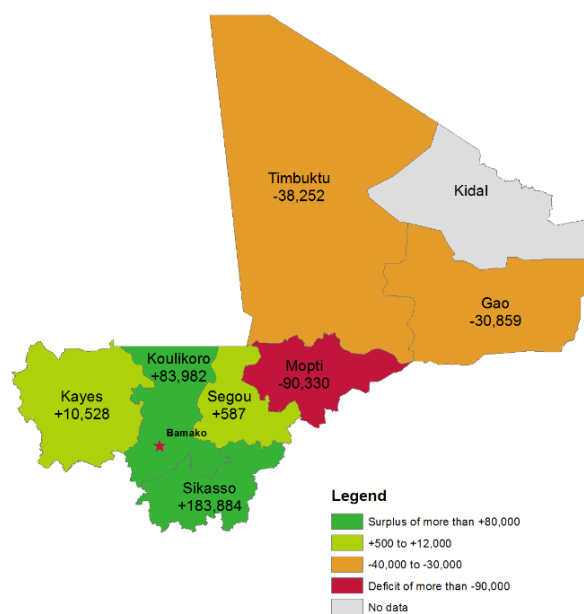
The large increase in production in the late 2000s was likely in response to the cotton crisis where producers, due to a disagreement with the cotton gins and the GoM, switched to other crops, notably sorghum and maize. Most of the increases in production can be attributed to the expansion in area planted rather than productivity gains.

In contrast to rice, millet, or maize, sorghum production is more evenly distributed across regions. Whereas maize grown in Sikasso accounts for 79 percent of total production, a major surplus area for sorghum (also Sikasso) only contributes 39 percent to overall production (see map below).³⁹ Any deficit in sorghum production is relatively modest compared to the aggregate.

³⁸ FAOSTAT.

³⁹ GoM, Ministère du Développement Rural, 2014, *Rapport Bilan Prévisionnel Campagne Agricole 2014/2015*.

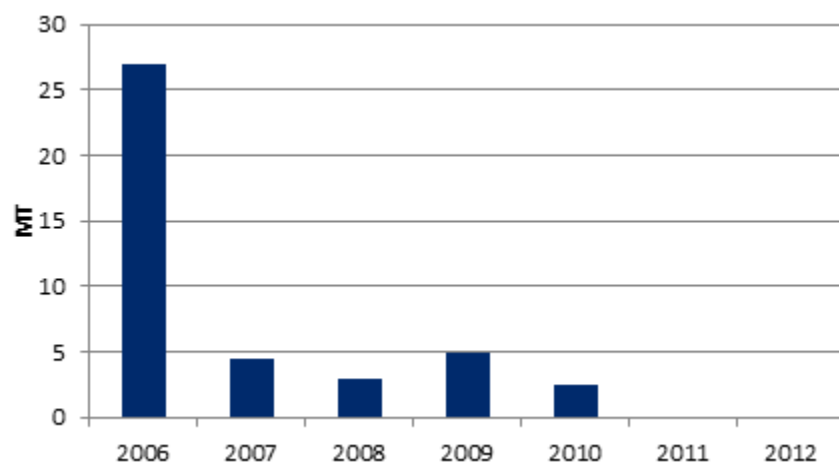
Figure 15. Sorghum Surplus and Deficit (MT) by Region, 2013



Source: USAID-BEST using data from the Ministry of Rural Development and INSTAT.

Imports and exports. Since 2006 when formal commercial imports of sorghum accounted for only 26 MT, the volume has dropped to effectively zero in 2011-12. Industry actors reported that some informal trade does occur between Mali, Burkina Faso, and Côte d'Ivoire, but the size of this trade is likely less than 10 percent of aggregate domestic production.

Figure 16. Commercial Imports of Sorghum (MT), 2006-13



Source: USAID-BEST with data from Comtrade, accessed December 2014.

Food aid. There is no transoceanic food aid of sorghum to Mali. Both the GoM and WFP have a local procurement program for sorghum. The table below shows the quantity of millet and sorghum procured by WFP over the past several years. It was not possible to disaggregate the quantities of millet and sorghum. Local procurement of millet and sorghum has increased considerably over the past eight years from 7,175 MT in 2006 to 20,262 MT in 2013.

Table 4. WFP Millet and Sorghum Procurement (MT), 2006-13

Commodity	2006	2007	2008	2009	2010	2011	2012	2013
Sorghum/millet	7,175	8,443	4,868	6,518	6,117	7,150	22,220	20,262

Source: USAID-BEST using data from WFP Interfais, downloaded November 2014.

In 2013 the GoM, through OPAM, reportedly procured 32,000 MT of millet and sorghum.⁴⁰ OPAM distributed these cereals to populations affected by the conflict in the north of the country. For the 2014-15 season, OPAM plans to procure an additional 35,000 MT of millet and sorghum. However, it remains unclear whether OPAM will distribute this food over the coming 12 months, or if it will store the cereals as an emergency reserve.

Government policy. Currently, no specific government policies directly seek to facilitate the development of the sorghum sector. Key informants did allege that for the coming planting season, the GoM plans to expand the fertilizer subsidy program to include sorghum (along with millet).⁴¹

Marketing. Traditional technologies with limited value addition characterize the processing of sorghum. Farmers harvest by hand, remove the grain from the seed head using a mortar and pestle, clean and winnow, and then bag the whole grain sorghum for sale in 50 kg sacks. During field work USAID-BEST did not find any refined sorghum product on the market outside of Bamako.

Most wholesalers trading in sorghum also trade in millet and procure these cereals by visiting village-level markets directly or through agents. A relatively large number of wholesalers trade in sorghum instead of one dominant player. Wholesalers either retail the sorghum directly to consumers or on-sell to other wholesalers throughout the country. Predominantly, the central regions of Mali grow and consume most of the locally produced sorghum, but traders indicated that moderate quantities also move all over Mali.

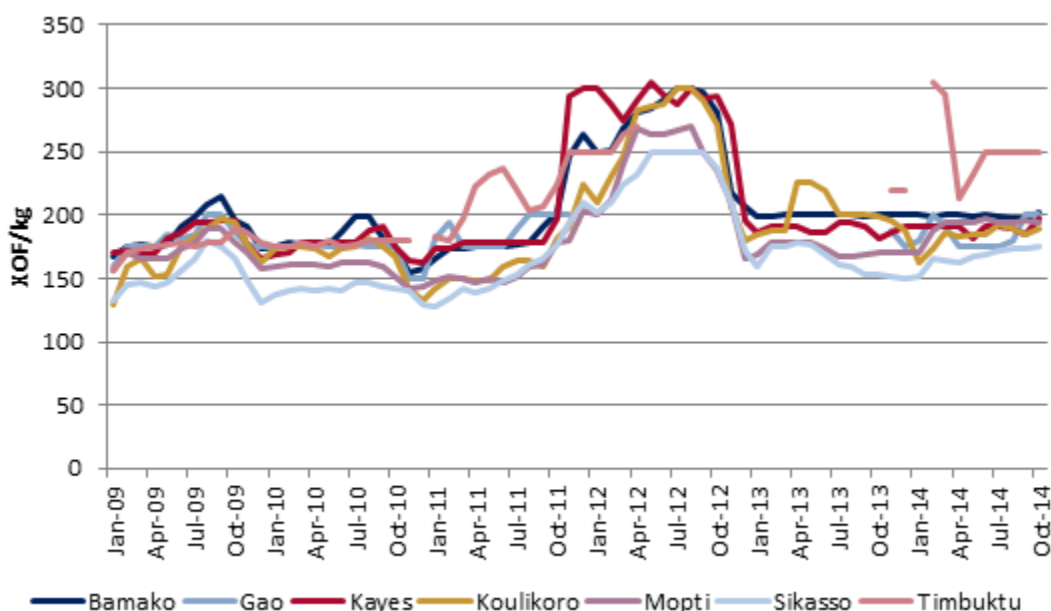
Performance. The Agricultural Market Watch, a public-private partnership with the GoM, monitors wholesale and retail sorghum prices, and disseminates this information weekly via radio, newspaper, and electronic media. Since sorghum is often sold alongside millet, the prices of these two cereals are comparable. Further, price differentials are minimal for sorghum of varying quality, cleanliness, and other characteristics.

Generally, sorghum appears responsive to changes in incentives as evidenced by the sharp increase in production during the cotton crisis. Additionally, a calculation of correlation coefficients showed a value of 0.8 or higher between markets selling sorghum, which suggests a relatively high level of market integration. Seasonally, however, USAID-BEST only found slight changes in price. On the whole, as the following figure illustrates, prices have trended closely together over the past five years despite some fluctuations in Timbuktu, which could be attributed to instability.

⁴⁰ OPAM does not distinguish between millet and sorghum when reporting data.

⁴¹ Personal communication with key informant in the cereal industry, November 2014.

Figure 17. Retail Sorghum Prices (XOF/kg), 2009-14



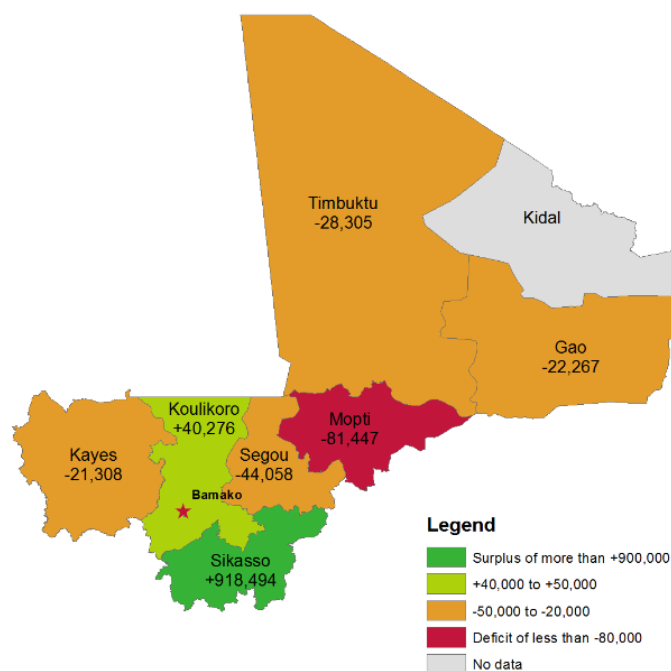
Source: USAID-BEST using data from WFP and OMA, accessed November 2014.

2.3.4. Maize

HH use. Per capita consumption of maize is estimated at 35 kg per person per annum and contributes an estimated 11 percent of calories consumed nationally. HHs tend to pound and then boil maize to make a soup or porridge that they typically consume in the morning. Additionally, Malians eat maize cooked in a similar fashion to *fufu* or *toe*. Both white and yellow maize are used for human consumption in Mali. Many rural HHs also turn to this cereal because they can harvest the crop earlier than millet, sorghum, or rice and therefore shorten the lean season.

Production. Maize is the fourth largest cereal produced in Mali after rice, millet, and sorghum. The Sikasso region in the south of the country accounts for close to 80 percent of domestic production. As the following map shows, outside of Sikasso, other major regions are largely deficit in maize production.

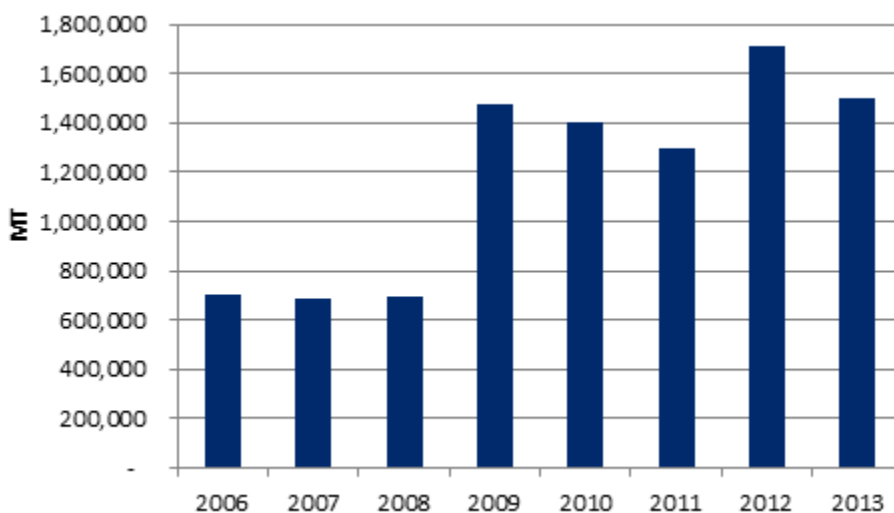
Figure 18. Maize Surplus and Deficit (MT) by Region, 2013



Source: USAID-BEST using data from Ministry of Rural Development and INSTAT.

Since 2000, maize has experienced the highest annual growth rate in production (17 percent) among all cereal crops. Although increasing consumer preferences for maize contributes to this high rate of growth, the livestock sector, predominantly the poultry industry, utilizes roughly 30 percent of maize produced in Mali; subsequently, the development of the poultry sector accounts significantly for the growing volumes produced of this cereal. As the figure below depicts, from 2006-13, production roughly doubled from 706,000 MT to just over 1.5 MMT.

Figure 19. Maize Production (MT), 2006-13

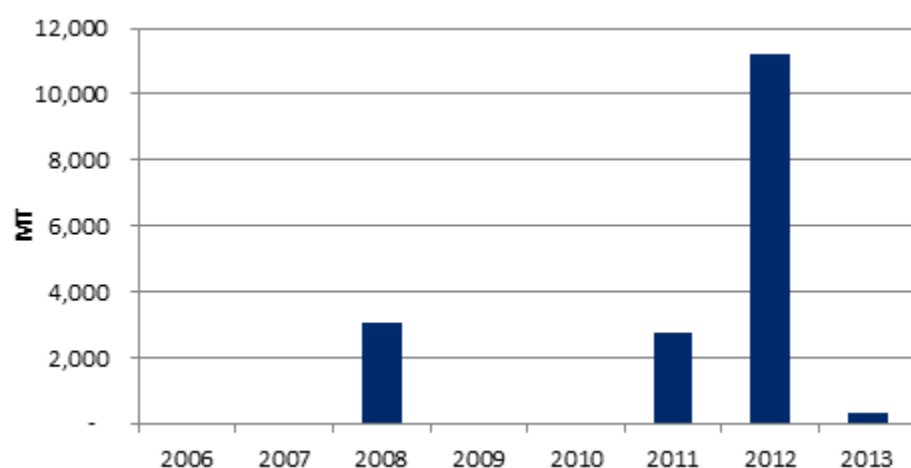


Source: USAID-BEST using data from FAOSTAT and the Ministry of Rural Development.

Historically, there have been strong incentives to plant maize as a follow on crop to cotton because it benefits from residual fertilizer placed on cotton more so than other cereals such as millet and sorghum. More recently however, there are indications that maize is also being planted independently of trends in cotton planted area due to the favorable demand outlook for maize specifically. Further, maize shows a comparative advantage vis a vis imports and other production. As such, the economic prospect of exporting maize is promising, though the burgeoning domestic demand for maize as livestock feed could diminish exportable surplus.

Imports and exports. Although commercial imports of maize to Mali have been modest, and in some years nil, 2012 saw a significant uptick to 11,000 MT; however, this volume still remains less than 1 percent of domestic production (see figure below). Reportedly, trade with Côte d'Ivoire accounts for the majority of maize imports and, in years of favorable production, small quantities of exports.

Figure 20. Commercial Imports of Maize (MT), 2006-13



Source: USAID-BEST using data from Comtrade and the Ministry of Rural Development.

Food aid. Most programs do not commonly distribute maize and maize meal to beneficiaries because of the wider preference for other available cereals. However, WFP has procured maize meal outside of Mali for its programming needs (see table below).

Table 5. Maize Meal Food Aid Imports (MT) 2006-13

Commodity	2006	2007	2008	2009	2010	2011	2012	2013
Maize meal	4,159	2,872	758	882	344	-	817	-

Source: USAID-BEST using data from WFP Interfais, downloaded November 2014.

Besides maize meal imports, WFP has sourced modest quantities of this product through local purchases in addition to minimal volumes of locally procured maize grain. Numerous donors also distribute Corn Soy Blend (SuperCereal), a fortified maize product, and source this food through international procurements exclusively (see Chapter 3 for details).

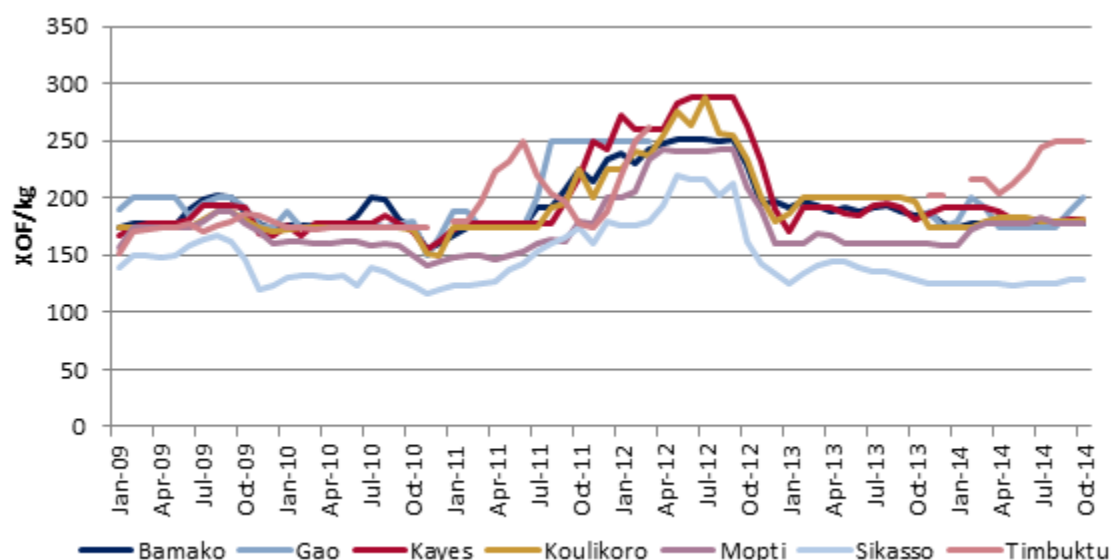
Government policy. More than other coarse grains, maize has received significant support because of higher responsiveness to chemical fertilizers and greater yield potential than millet or sorghum. The GoM promotes maize as a rotation crop in the cotton production cycle and includes this cereal in its fertilizer program.

Marketing. The processing of maize grain has minimal value addition since farmers simply remove maize grain from the cob, clean and winnow the grain, and then bag it for sale in wholesale 50 kg units, similar to the packaging of millet and sorghum.

Field work did not encounter any large-scale maize trading operations. Instead, the maize market consists of a moderate number of maize retailers and wholesalers who more often than not also traded in other major cereals, pulses, and other products. Generally speaking, maize was considerably less prevalent for sale than millet or sorghum; this limited availability may be due to the fact that production concentrates heavily in the Sikasso region of the country.

Performance. The figure below shows retail prices for maize over the period 2009-14. The data do not distinguish between yellow and white maize prices presumably because consumers do not have a strong preference between the two types as evidenced by the fact that prices for these products in the market are nearly identical. The majority of markets demonstrate a correlation coefficient value of 0.8 or better, and as such indicate a relatively high degree of integration. Retail maize prices do not exhibit much seasonal variability and have remained stable between 2009-14 save for the period of conflict in 2012.

Figure 21. Retail Maize Prices (XOF/kg), 2009-14



Source: USAID-BEST using data from WFP and OMA, accessed November 2014.

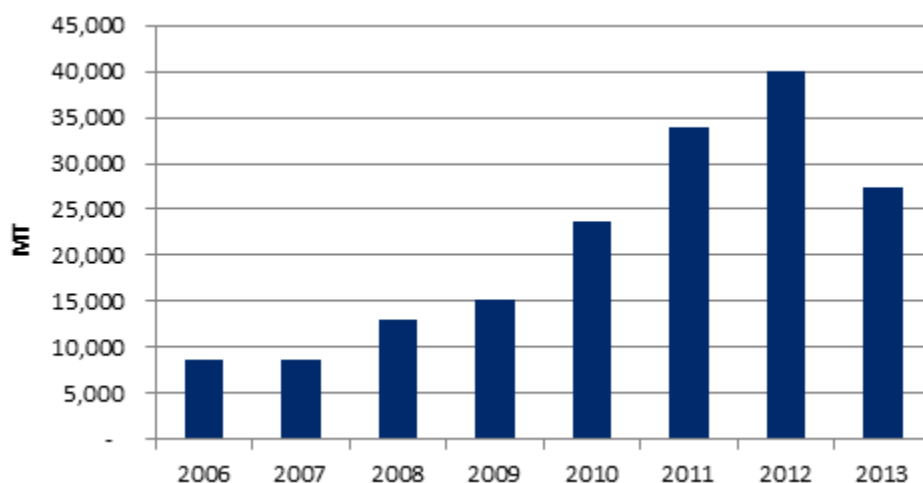
2.3.5. Wheat

HH use. Wheat consumption figures considerably less into the Malian diet compared to other cereals, as it stands at approximately 11.5 kg per person per annum and contributes an estimated 3 percent of calories consumed nationally. However, consumption of wheat products has risen 12 percent over the last eight years, from a level of 115,424 MT in 2006 to an estimated 128,134 MT in 2013. Primarily, urban families consume wheat as bread, although cookies, pastries, beignets, and fried dough products are popular as well.

Production. Although the volume of wheat produced in-country expanded significantly from 8,565 MT in 2006 to a high of 40,071 MT in 2012, this level still only comprises roughly 1/4 of total domestic consumption. Over 90 percent of domestic production is grown in Timbuktu region. Field interviews indicate that much of the expanded production has come about through

large commercial investments on the part of mill owners or large traders rather than an increase in smallholder production.

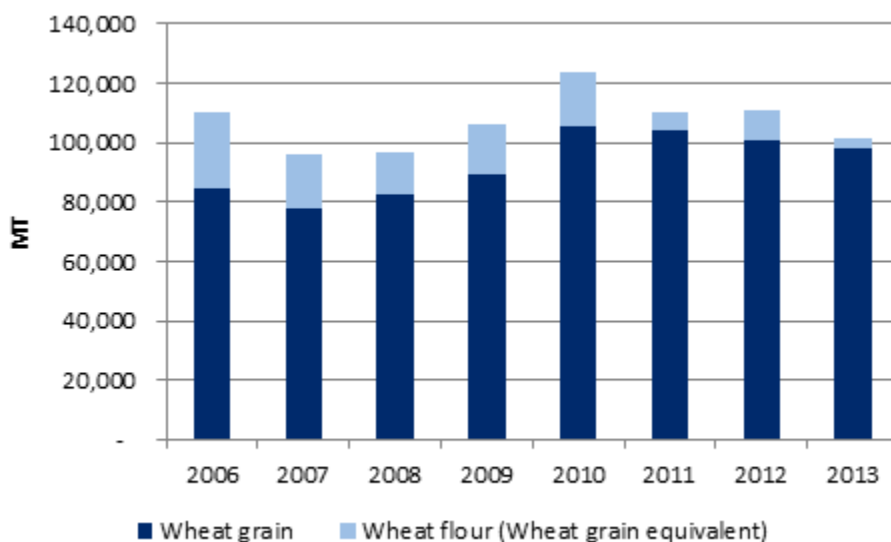
Figure 22. Wheat Production (MT), 2006-13



Source: USAID-BEST using data from FAOSTAT and the Ministry of Rural Development.

Imports and exports. Given the low-level of domestic production to meet consumer demand, wheat imports generally comprise 80-90 percent of overall wheat consumption in Mali. Of that quantity, wheat grain accounts for 87 percent of total wheat imports and wheat flour 13 percent (see figure below).

Figure 23. Wheat Imports (MT), 2006-13



Source: USAID-BEST using data from Comtrade.

Three companies (Grand Moulins du Mali, Moulins Modernes du Mali, and Grandes Distributeurs Cerealiers au Mail) effectively account for 100 percent of wheat imported into the country. Since the volume of imports does not appear to follow a distinct pattern, it can be inferred that most increases in consumption have arisen because of growth in domestic production.

Food aid. Wheat is not a common commodity in food aid programming in Mali. The International Committee of the Red Cross (ICRC) is distributing a semolina wheat to beneficiaries in the north. USDA Food for Progress did monetize wheat on the commercial market to fund their activities (see table below). As the following table shows, the highest level of 20,000 MT occurred in 2009-10; this volume represented roughly 20 percent of commercial imports and 8 percent of total supply those years.

Table 6. Wheat Monetization (MT), 2010-12

Commodity	2009-10	2010-11	2011-12	2012-13
Monetized Wheat	20,000	-	-	10,000

Source: USAID-BEST using data from USDA, received November 2014.

Government policy. Since relatively large commercial firms with significant investment potential manage wheat imports, this sector does not necessarily require the support of the GoM. However, the GoM does impose a five percent import tariff on wheat grain and a 20 percent import tariff on wheat flour.

As concerns fortification policy, the GoM requires imported and domestically milled wheat flour to be fortified with iron (ferrous fumarate), folic acid, zinc, and B12. Of the three largest domestic wheat mills (Grands Moulins du Mali in Koulikoro, Moulin Moderne du Mali in Ségou, and Moulins du Sahel in Bamako), the first two already fortify and the last wheat mill is expected to do so in 2015.⁴²

Marketing. A large number of bakeries and other small firms sell flour-based products. These companies tend to source their wheat flour from less than half a dozen large firms who dominate the wheat import trade and operate their own mills. In some instances, these importers also bake bread and/or fabricate cookies for retail sale, but the bulk of the mill output is sold as flour to commercial bakers. USAID-BEST observed far less wheat flour at the markets compared to rice, millet, or other grains since commercial bakeries predominantly purchase wheat flour and would not do so in retail markets.

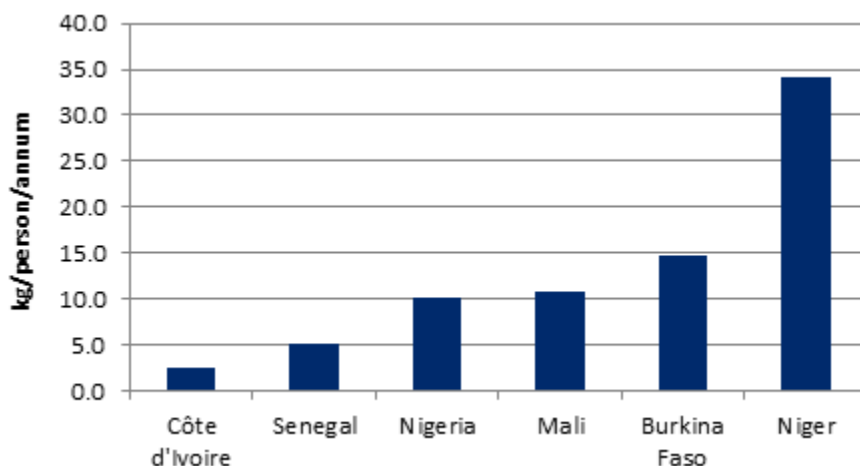
Performance. Although USAID-BEST could not obtain a price data set for wheat grain or flour in Mali, interviews with traders during field work revealed general satisfaction with availability at reasonable prices to meet domestic consumption requirements. Commercial bakeries did not report purchasing wheat flour at different prices depending on the relationship with the mills or that those purchasing wheat flour for sale on the market do so at significantly different prices.

2.3.6. Pulses

HH use. Throughout Mali, HHs primarily eat cowpea (*niebe*) and *bambara* beans. Although families do not typically consume beans as a main dish, they use modest quantities to complement the other ingredients in the sauces that accompany rice, millet, or sorghum. Per capita pulse consumption is estimated at 11 kg per person per annum, which corresponds to a national consumption level of 163,900 MT. At these levels, pulses account for less than 4 percent of total calories consumed on average, and contribute less to total protein consumption than either rice, millet, or sorghum. In addition, HHs tend to consume beans during periods of food scarcity or when income does not allow for the acquisition of animal protein. As the following figure shows, estimated pulse consumption in Mali is moderate compared to regional neighbors.

⁴² Personal correspondence with HKI/Bamako office, November 2014.

Figure 24. Pulse Consumption in Mali and Select Countries (kg/person/annum), Average of 2009-11



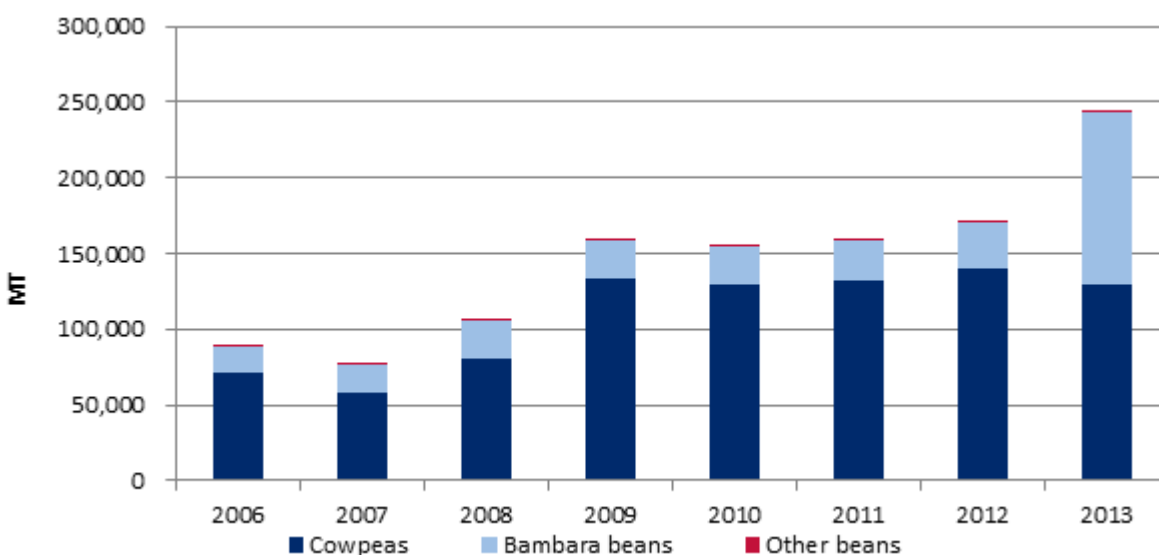
Source: USAID-BEST using data from FAOSTAT, accessed December 2014.

Maliens also utilize pulses as powder for children and reserve the stalk and pod of the bean plant for animal feed.

Production. Cowpeas and *bambara* beans grow predominantly in the southern regions of Mali (Ségou and Sikasso) as an off season crop either in rotation with cereals or, in certain instances, intercropped. In systems with low use of chemical fertilizers, such as millet and sorghum, beans help to maintain soil productivity; such intercropped systems complicate estimating planted area to beans.

During field work in November 2014, USAID-BEST frequently encountered cowpeas at markets rather than *bambara* beans, despite a significant increase in *bambara* bean production from 2006-13 that drove up overall bean production from less than 100,000 MT in 2006 to well over 200,000 MT in 2013 (see figure below).

Figure 25. Bean Production (MT), 2006-13



Source: USAID-BEST using data from FAOSTAT, accessed November 2014.

Given the data presented in the figure above, and considering the estimated national consumption rate of 163,900 MT, Mali was broadly self-sufficient in pulse production from 2009-12 and likely had a surplus in 2013.

Overwhelmingly, processing of beans occurs predominantly by women at the HH level using traditional technologies. Field work did not encounter any commercial scale operation.

Imports and exports. Comtrade data suggest minimal bean imports, which falls in line with production data indicating sufficient yield to broadly meet national consumption levels (see table below).

Table 7. Pulse Imports (MT), 2006-13

	2006	2007	2008	2009	2010	2011	2012	2013
Imports	1,367	815	1,647	812	1,045	2760	3,090	2,495

Source: USAID-BEST using data from Comtrade, accessed November 2014.

Based on interviews in the field, it does appear that traders move certain quantities of beans between Mali and Burkina Faso informally. As a major producer of beans, Burkina Faso can usually supply pulses in years when domestic production in Mali does not meet national consumption needs. Conversely, in years of favorable production in Mali, other countries (Burkina Faso, Côte d'Ivoire, Senegal, and Mauritania) serve as export markets.

Food aid. Pulses distributed under food aid programming in Mali have included: green peas, yellow split peas, black beans, and cowpeas. However, volumes of such commodities have been small relative to national consumption. Over the period 2006-12, food aid volumes represented 0.5-2.5 percent of total apparent consumption. As the table below shows, WFP purchases modest quantities of pulses for its local procurement program in addition to in-kind food assistance.

Table 8. Pulses Food Aid Volumes (MT), 2006-12

Type	2006	2007	2008	2009	2010	2011	2012
Transoceanic in-kind	357	550	717	844	455	1,949	9,791
Local procurement	0	0	0	129	141	56	115

Source: USAID-BEST using data from AMEX received October 2014 and WFP Interfais, downloaded November 2014.

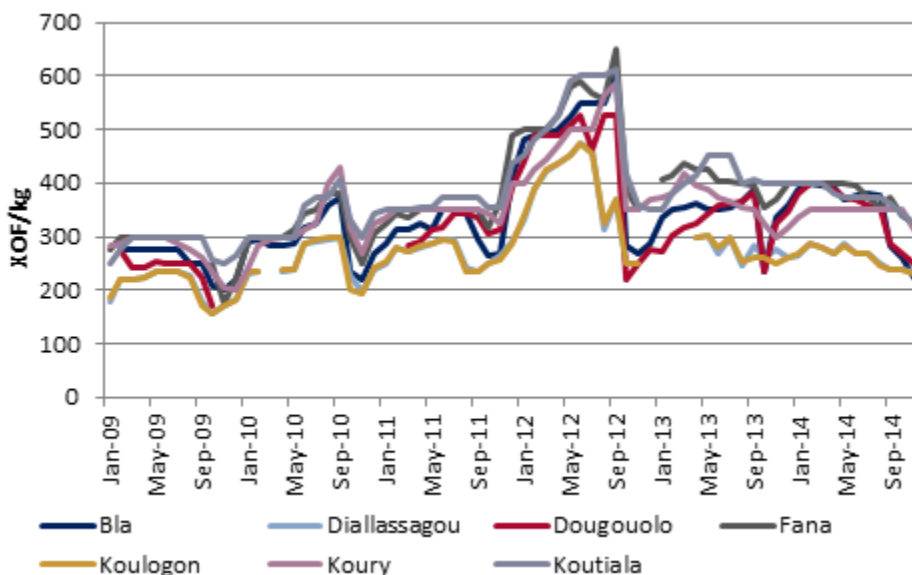
In addition to WFP, USDA-funded school feeding programs provide green peas, and ICRC distributes beans in the north.

Government policy. The GoM has no specific policy towards beans, but does target the development of the bean crop as part of its general agricultural development policies. Subsequently, the expansion in bean output appears to have come about as a result of an increase in cereals production.

Marketing. Traders consider beans a secondary product after major cereals. No wholesalers encountered during field work traded only in beans or pulses. Additionally, the volume of beans traded was considerably smaller than those of rice, millet, or sorghum. Wholesalers generally purchase beans either by visiting village-level markets or through agents operating at these markets. After procurement, wholesalers utilize a central warehouse for their stock, and from this location distribute their goods around the country. Typically, the standard unit of wholesale trade is a 50 kg sack of beans. Occasionally retailers will also sell beans packaged in 50 kg sacks, but they primarily do trade by the kilogram. For the study, it was only possible to obtain a price series for cowpeas, but in general, prices observed between different types of beans exhibited minimal differentials.

Performance. Performance of the pulse sector appears to be relatively good. Pulse prices increased in 2012 along with other major agricultural products in response to the conflict experienced in Mali at the time. As the following figure shows, correlation coefficients for prices in the markets were all generally higher than 0.8, thereby indicating a good degree of integration. Indeed, correlation coefficient values for bean prices were generally higher than all other markets evaluated (rice, millet, sorghum, and maize).

Figure 26. Cowpea Prices (XOF/kg), 2009-14



Source: USAID-BEST with data from WFP/Mali, received November 2014.

2.3.7. Edible Oil

HH use. Malian families use edible oil as the dominant fat in cooking. With an approximate total edible oil consumption estimated at 8 kg per person per annum, the resulting national consumption would be around 119,200 MT annually.⁴³ According to FAOSTAT, vegetable oil fats comprise roughly 184 kilocalories, which equates to about 9 percent of the total 2,833 calories.⁴⁴ The table below breaks down the types of edible oil consumed per capita in 2011.

Table 9. Edible Oil Consumption (kg/year), 2011

Type of Oil	kg/yr
Palm	1.1
Cottonseed	2.4
Groundnut	1.9
Other*	2.6
Total Vegetable Oils	8.1

Source: USAID-BEST using data from FAOSTAT, accessed November 2014.

*This aggregated class is likely comprised of a number of domestic oil seeds, presumably shea butter used by rural HHs.

⁴³ FAOSTAT.

⁴⁴ Ibid.

Although these official data do not suggest any particularly strong preference for a certain kind of edible oil, as of November 2014, field work revealed that palm oil seems to prevail at consumer markets in urban centers whereas cottonseed, and other fats are more predominant in rural areas. This study also found that groundnut oil consumption, estimated to comprise roughly 25 percent of all edible oil consumed based on data from FAOSTAT, was not actually available for sale at the retail level; however, groundnut oil manufacturing may be occurring at the artisanal level among rural HHs.

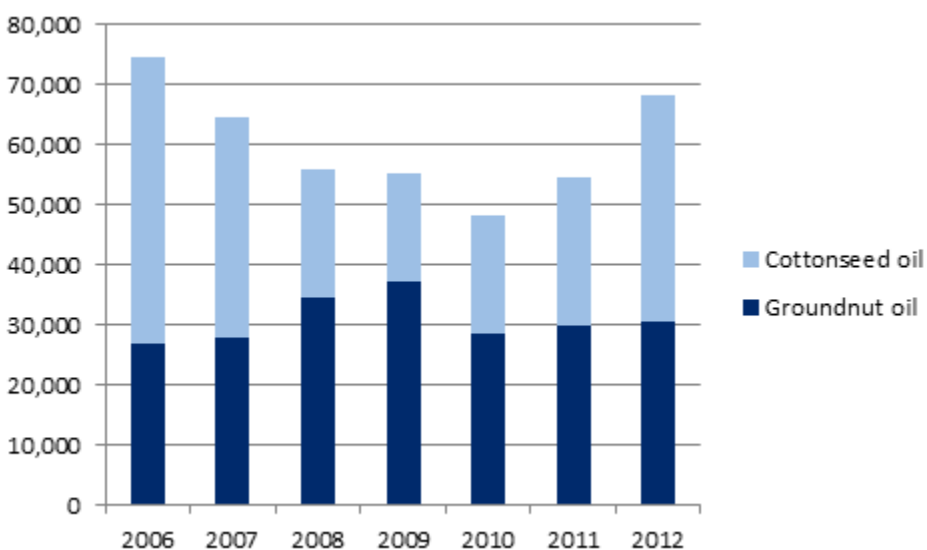
Further confirming the lack of strong consumer preferences between different types of oil, the price differences among various oil types (and shea butter) were minimal, thereby suggesting a high degree of substitution among varieties.

Production. Mali produces three major types of edible oils: cottonseed, groundnut, and shea butter. Cottonseed oil is a byproduct of the well-developed cotton industry. Formerly, the parastatal HUICOMA processed the bulk of cottonseed oil, but this firm is no longer in operation due to lack of competitiveness. Now, three-four commercial-scale operations press cottonseed in addition to the multitude of small-medium sized oil processing facilities extracting this oil and obtaining cottonseed cake for the livestock industry.

Groundnut is grown predominantly in the northwest of the country along the Guinea border. The crop is generally grown as an off season crop in rotation with cereals, and falls under the purview of women farmers. Groundnut oil processing is overwhelmingly done on a small scale at the HH level and therefore it remains unclear whether a significant quantity of marketable surplus exists outside the HH or village. During the October-November 2014 field visit, traders reported certain oils as groundnut when in fact they were cottonseed or palm. This confusion, and the consequent belief by consumers that they do indeed purchase groundnut oil, could account for the discrepancy in the lack of groundnut oil available for sale on the market and the reported consumption pattern.

The figure below presents the annual volumes of cottonseed and groundnut oil production over a seven-year time period. According to these data, oil from cottonseed and groundnuts are split roughly evenly. The production of cottonseed oil declined in the late 2000s in line with the reduction in area planted to cotton that occurred during this period when producers reduced cotton plantings due to a disagreement over prices for seed cotton. In addition, these cottonseed oil output numbers broadly align with USAID-BEST calculations of oil availability using cotton production numbers alone.

Figure 27. Cottonseed Oil and Groundnut Oil Production (MT), 2006-12



Source: USAID-BEST using data from FAOSTAT, accessed November 2014.

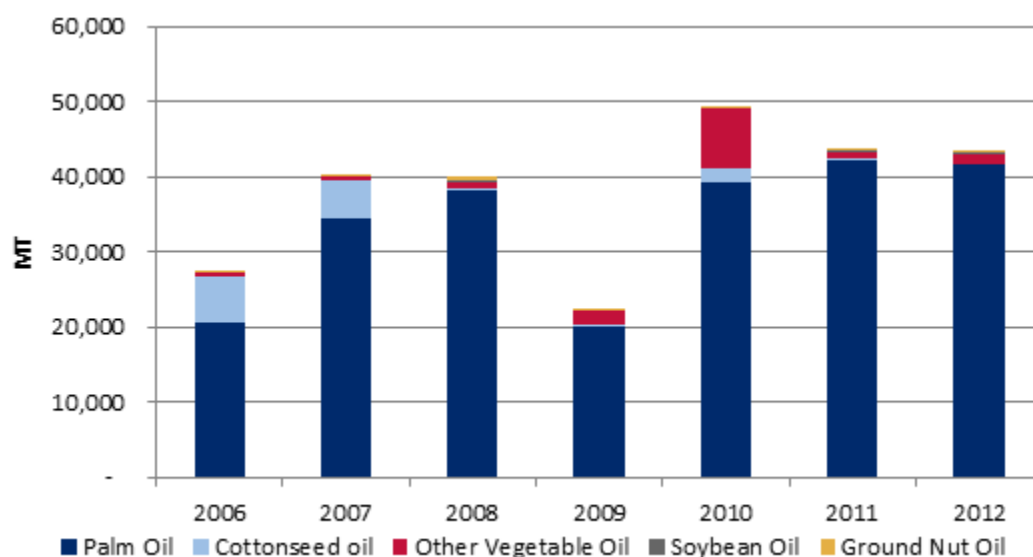
Finally, for shea nuts, production varies quite substantially due to rainfall and the export of whole unprocessed shea nuts to Burkina Faso and Côte d'Ivoire. Although there are no official figures, production appears to range from an estimated 150,000-250,000 MT.⁴⁵ Despite some uncertainty around the numbers, assuming production hovers around 150,000 MT and traders export half of that tonnage, processors could potentially extract oil from 75,000 MT of domestic shea nut production. In this scenario, at a traditional extraction rate of 33 percent, domestic availability of shea butter would be approximately 25,000 MT. This number falls broadly in line with FAO estimates of national production, and, based on USAID-BEST research, would be plausible as a domestic shea butter consumption level.

As for other oils, market visits did not reveal any soybean oil for sale; this type of oil is typically used solely for food assistance programs.

Imports and exports. RPO comprised 90-95 percent of all imported edible oil from 2006-12 (see figure below). Although Comtrade data show imports of modest quantities (20-500 MT) of soybean oil entering Mali, as stated above, USAID-BEST did not observe the sale of this oil at markets. The category of "Other Vegetable Oil," which comprised 7,680 MT in 2010, and therefore a relatively modest percentage of total domestic consumption, could be unprocessed red palm oil from Côte d'Ivoire or Guinea but this cannot be confirmed.

⁴⁵ Eric Derks and Frank Lusby, 2006, *Mali Shea Kernel Value Chain Case Study*.

Figure 28. Edible Oil Imports (MT), 2006-13



Source: USAID-BEST using data from Comtrade accessed October 2014.

Based on USAID-BEST observations from field work during October-November 2014, exports of domestically processed oil do not appear to occur.

Food aid. Chapter 3 provides in greater detail the programming and food assistance responses that included the distribution and monetization of refined vegetable oil (RVO). The most recent Title II program (NEMA), USDA-funded school feeding, a ICRC emergency response, and WFP programming have all included RVO in their rations.

The table below shows that volumes of edible oil food aid shipments, despite considerable variability over time, have rarely exceeded 10,000 MT in a single year. This maximum tonnage is comparable to roughly 25 percent of total imports, or less than 10 percent of total consumption.

Table 10. RVO Food Aid Volumes (MT), 2006-12

Type	2006	2007	2008	2009	2010	2011	2012
Transoceanic in-kind RVO	1,476	1,083	1,557	5,231	6,834	719	4,646
Monetized RVO	0	0	0	8,360	3,980		5,000
Total	1,476	1,083	1,557	13,591	10,814	719	9,646

Source: USAID-BEST using data from WFP Interfais, downloaded November 2014, USDA, received November 2014, and AMEX data received October 2014.

Government policy. USAID-BEST did not find in its review of the oil seed sector any significant support from the GoM to advance the industry. However, future development of the cotton sector could generate greater amounts of cottonseed oil as the byproduct of this growth. Public sector support could be warranted for the revival of the groundnut sector; however, discussions during field work gave no indication such investments are likely to occur.

Mali does not appear to have a significant comparative advantage in oilseed production over its neighbors. Moreover, should additional palm oil production come online in the West Africa region over the longer term, then sourcing edible oil from those countries would present a low cost option rather than any financial investment in the Malian oil industry.

Regarding fortification regulations, imported refined cooking oil and domestically processed cottonseed oil must adhere to GoM Vitamin A fortification requirements. Given that the majority of imported refined palm oil (RPO) entering Mali originates from Côte d'Ivoire, a country with strong fortification compliance, it is reasonable to assume that most imported refined cooking oil is fortified; however, RPO on the market from Southeast Asian countries with lax or no fortification requirements may not necessarily be fortified.⁴⁶ USAID-BEST could not obtain updated information on actual compliance by the oil processors with fortification regulations.

Marketing. The oil most consistently available at markets visited was imported refined palm oil followed by industrially manufactured cottonseed oil. Three large oil importers (SOCIMA, GDCM, and GGB) dominate the RPO market, and these businesses work through agents and/or a network of wholesalers to market their imported products around the country. Imported RPO is sold frequently in small sachets but are also in a variety of containers ranging from a 20 liter *bidon* (tin) to a 500 ml bottle.

Cottonseed oil is generally marketed in the same variety of containers as imported RPO. As noted, during field work, traders and consumers on numerous occasions referred to cottonseed oil as groundnut oil.

As for shea butter, HHs infrequently use this type of fat; therefore, markets only had modest amounts of this oil available for sale. Shea butter observed in the market was sold by weight and generally at a price comparable to cottonseed and imported refined palm oil

USAID-BEST did not observe groundnut oil at markets visited. However, given the production of groundnuts around the country, it is possible that HHs may be using traditional technologies to process the oil at their homes and therefore marketed surplus does not make it beyond the village level to any significant degree.

Performance. In terms of availability, major importers seem to effectively supply markets via different channels to adequately reach consumers of all strata throughout the year.

2.3.8. Other Commodities

In addition to the main cereals, Malians consume animals and animal byproducts. This section provides an overview of livestock, dairy, and fish.

Livestock. Meat consumption contributes an important source of protein and income for Malian HHs.

Although Malian HHs eat beef, mutton, and goat, meat consumption only accounts for about 4 percent of daily calories per capita.⁴⁷ Beef consumption at 10.4 kg per year is slightly higher than mutton or goat (8.7 kg) but not so much as to indicate a strong preference. Meat is eaten in sauces to accompany cereals; poorer HHs reserve meat-based meals for special occasions.

Due to the high value of livestock and the availability of rangeland, nearly 80 percent of Malian HHs keep livestock.⁴⁸ The sale of live animals, meat, milk, and leather products adds to HH income and oftentimes serves as a savings account. Rural HHs earn on average 18.4 percent of their income from livestock.⁴⁹ However, nearly half of all the goats and sheep in country are located in the less populated northern regions of, Gao, Kidal, and Timbuktu.⁵⁰ Over the last

⁴⁶ Personal correspondence with HKI/Bamako office, November 2014.

⁴⁷ FAOSTAT, accessed December 2014 (source data from 2011).

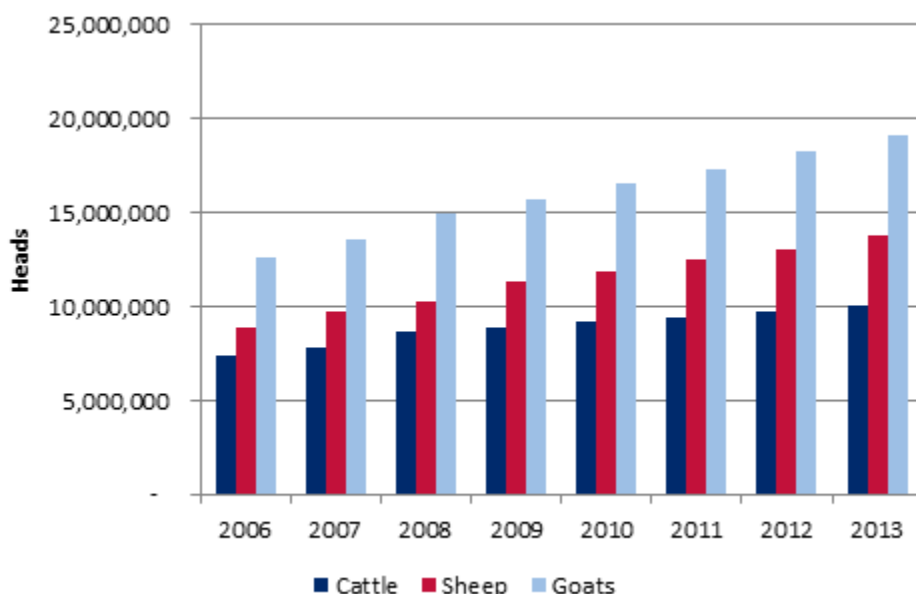
⁴⁸ SAP, 2014, *Enquête Nationale sur la Sécurité Alimentaire et Nutritionnelle (National Food Security and Nutrition Survey)*.

⁴⁹ Ibid.

⁵⁰ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

several years, the number of livestock has consistently increased (see figure below). Mali is also a major exporter of live animals to its neighbors; exports of livestock to Côte d'Ivoire alone were in the range of 200,000 head of cattle and 430,000 goats prior to the Ivorian civil war.⁵¹ The GoM reports that live animal exports were valued at over XOF 61 billion (US\$120 million) in 2012.⁵²

Figure 29. Number of Cattle, Sheep, Goats in Mali (heads), 2006-12



Source: USAID-BEST using data from FAOSTAT, accessed December 2014.

According to a government survey, 49 percent of HHs have also reported a decrease in the number of livestock owned since 2009.⁵³ HHs cited excess mortality and sale as the two main reasons for the decrease in ownership.⁵⁴ Thus, wealthier HHs could account for the scaling up of livestock.

The livestock industry faces a number of constraints such as dependence on natural pastures, potential for encroachment of irrigation schemes onto traditional grazing areas, reduction in sources of feed from the collapse of the cotton industry, limited availability of feed overall, weather variability, and diseases and parasites.⁵⁵ Some donors and NGOs support the development of the livestock industry through vaccination campaigns or destocking. For example during the 2014 lean season, ICRC recognized the necessity of destocking due to the poor grazing land in the north and insufficient availability of animal feed; as a result, ICRC managed a campaign to buy weak animals from rural HHs and then slaughter and distribute the meat to schools, prisons, and vulnerable HHs.⁵⁶

Dairy. Dairy is consumed primarily in the form of milk from cows, goats, sheep, and camels. Markets in Bamako and other urban areas also sell yogurts and cheese; whether these products are locally produced or imported is unclear.

⁵¹ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

⁵² INSTAT, 2013, *Annuaire Statistique du Mali 2012 (Annual Statistics of Mali 2012)*.

⁵³ SAP, 2014, *Enquête Nationale sur la Sécurité Alimentaire et Nutritionnelle (National Food Security and Nutrition Survey)*.

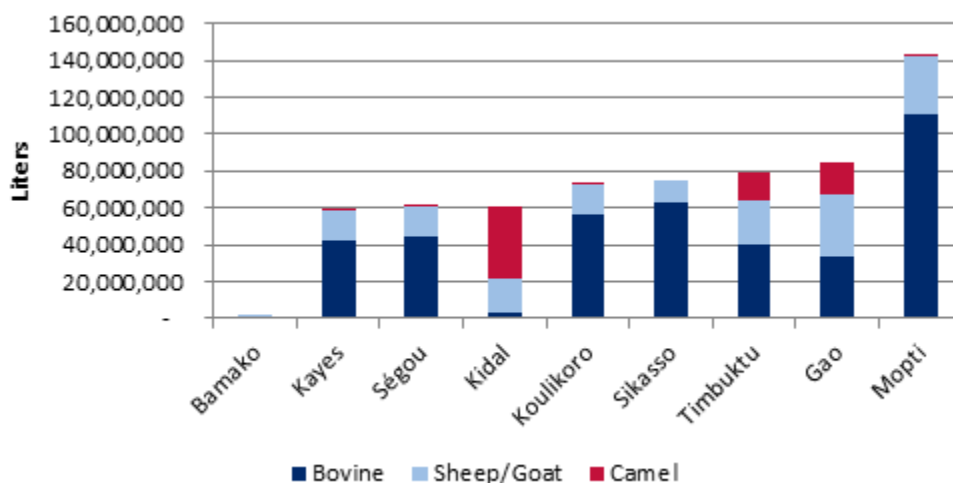
⁵⁴ Ibid.

⁵⁵ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

⁵⁶ Personal communication with ICRC/Bamako office, November 2014.

Dairy consumption comprises an estimated 9 percent of total daily calories.⁵⁷ According to GoM data, in 2012 national production of milk was 636 million liters, which equates to about 42 liters per person per year. Pastoralists in the north of the country consider dairy, especially fresh milk, integral to their diet.⁵⁸ Field work observed fresh whole cow milk for sale at select markets and small dairy cooperatives along the main roads.

Figure 30. Dairy Production (Liters) by Region, 2012



Source: USAID-BEST using data from INSTAT.

As the figure shows, Mopti is the highest producing region in the country. Dairy production offers an important source of income in rural areas, especially for women since they often manage dairy cows and sell fresh and fermented milk. However, lack of refrigeration in rural areas, seasonality of production, and limited feed sources hinder growth in the dairy sector. Further, milk producers in urban areas compete with imported milk powder from the EU; approximately 80 percent of milk processed in Bamako uses imports rather than local sources. Although milk powder imports fell to 6,772 MT in 2010 from a 2009 high of 8,388 MT, they climbed back up to 7,878 MT in 2011.⁵⁹

Fish. Malians incorporate fresh, dried, and smoked fish to a sauce that accompanies the main meal. Consumption of fish serves as a major source of protein for poor HHs.⁶⁰ Malians eat about 8 kg of fish per person per year.⁶¹ USAID-BEST observed during field work that vendors were selling fish at markets and alongside the main road.

There are two main sources of fish in Mali: river fish locally caught from the Niger river and sea fish imported from Senegal and Mauritania.⁶² Poorer HHs in rural areas where fishing opportunities exist (such as along the Niger river) often sell the majority of their catches in order to purchase staple grains; fish may only account for 8-10 percent of their total food needs.⁶³ The vast majority of fish production occurs on a small-scale level, but given the high demand for fish

⁵⁷ FAOSTAT, accessed December 2014 (source data from 2011).

⁵⁸ INSTAT, 2013, *Annuaire Statistique du Mali 2012 (Annual Statistics of Mali 2012)*.

⁵⁹ FAOSTAT, accessed December 2014 (source data from 2011).

⁶⁰ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

⁶¹ FAOSTAT, accessed December 2014 (source data from 2011).

⁶² Personal communication with market vendors, November 2014.

⁶³ FEWS NET, January 2010, *Livelihood Zoning and Profiling Report: Mali*.

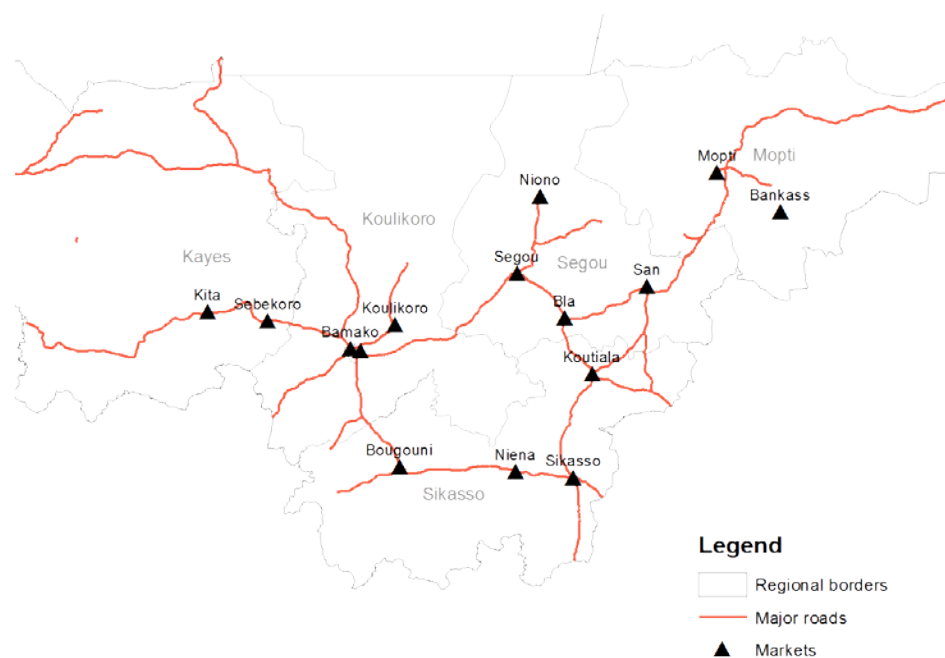
protein, both capture and aquaculture requires significant investment for continued expansion. Fish farming contributes only about 3.5 percent of Gross Domestic Product compared to livestock which contributes approximately 30 percent.⁶⁴

2.4. Characteristics of Market Sites

During site visits to 15 urban and rural markets across southern and central Mali, the team evaluated the market dynamics of imported and domestic rice, millet, sorghum, maize, wheat, pulses, edible oils, and other foods relevant for HH food security. USAID-BEST selected markets based on their size and the volume of major commodities traded, as well as their importance for an anticipated new cycle of Title II development programming. Variables assessed included the level of product availability, the number of traders in each market, prevailing prices relative to other markets visited, trader reports regarding the ease of obtaining product from farmers or other traders, ease of moving products on to other markets, and any food aid products for sale.

The team surveyed most of the markets along the Bamako-Mopti corridor and select markets in the southern region of Sikasso and Kayes to the west of Bamako. Due to security concerns and the scope of the research, the team did not visit markets north of Mopti. The regions of markets visited collectively comprise well over three quarters of the population. The map below provides a geographic illustration of the market sites covered during USAID-BEST field work and the main road network, and the resulting table highlights key details of those markets.

Figure 31. Map of Market Sites Visited, October-November 2014



Source: USAID-BEST.

⁶⁴ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

Table 11. Markets Visited, October-November 2014

Region	Market Name	Commodities	Setting (Urban / Rural)	Market Status (Surplus / Deficit)	Daily / Weekly market
Koulikoro	Bamako (Medine)	rice, millet, sorghum, maize, pulses, edible oil	Urban	Deficit	Daily
Koulikoro	Bamako (Dibida)	rice, millet, sorghum, maize, pulses, edible oil	Urban	Deficit	Daily
Koulikoro	Koulikoro	rice, millet, sorghum, maize, pulses, edible oil		Deficit	Weekly
Ségou	Niono	rice, pulses, edible oil	Rural	Surplus	Weekly
Ségou	Ségou	rice, millet, sorghum, pulses, edible oil	Urban	Surplus	Daily
Ségou	Bla	rice, sorghum, millet, pulses, edible oil	Rural	Surplus	Weekly
Ségou	San	rice, sorghum, millet, pulses, edible oil	Rural	Surplus	Weekly
Mopti	Mopti	rice, sorghum, millet, maize, pulses, edible oil	Urban	Surplus	Daily
Mopti	Bankass	millet, pulses, edible oil	Rural	Surplus	Weekly
Sikasso	Koutiala	rice, millet, sorghum, maize, pulses, edible oil	Urban	Surplus	Weekly
Sikasso	Sikasso	maize, millet, sorghum, pulses, edible oil	Urban	Surplus	Daily
Sikasso	Niena	maize, millet, sorghum, pulses, edible oil	Rural	Surplus	Weekly
Sikasso	Bougouni	maize, millet, sorghum, pulses, edible oil	Rural	Surplus	Weekly
Kayes	Sebako	maize, millet, sorghum, groundnuts, rice, pulses, edible oil	Urban	Deficit	Weekly
Kayes	Kita	maize, millet, sorghum, groundnuts, rice, pulses, edible oil	Urban	Deficit	Daily

Source: USAID-BEST.

The markets visited during field work in October-November 2014, and outlined above, shared the following characteristics:

- Overall, staples and non-staples (e.g., vegetables, fruits, non-food items) were generally available at markets visited. In some instances, availability of certain foods was considerably higher in production regions.
- Vendors commonly sold prepared dishes and snacks.
- Traders reported sufficient access to adequate storage and did not state any constraints to finding space for stocking cereals.
- A central physical location defined nearly all markets visited with a mix of established stalls and informal traders selling their goods from a blanket on the ground.
- Many markets were open air without cover, though significant product loss does not appear to be an issue due to the arid climate.
- The large majority of market vendors did not have a price list or noticeable signage with prices by commodity.
- In some markets, traders had to pay a small fee to sell their goods and had their paid receipt visible for any market managers that circulate.
- Road infrastructure between markets was generally good.

- With the large number of traders, similar product prices between vendors, and no evidence of one individual or group exerting undue influence, markets visited appear competitive.
- Men tended to dominate the cereals and pulse trade while women were primarily involved in horticulture. For all other commodities, both men and women were involved in trading.
- The team found no evidence of systematic social exclusion from markets based on differences in ethnicity, gender, age, or other variables.

Food assistance programming. Based on current market dynamics in the geographic areas surveyed for the staple foods relevant for Title II, a new Title II development food assistance program could utilize a myriad of options in the composition of their rations. Exact food volumes locally available for programming will depend on the level of product availability and the effectiveness of food movement around the country at the time of programming; nonetheless, the structure and conditions of markets lend themselves favorably to market-based food assistance programming, such as local procurement by donor, cash transfers, and food vouchers. Chapter 4 reviews in detail the feasibility of locally procuring those commodities outlined in this chapter.

Chapter 3. Overview of Food Assistance Programs

3.1. Introduction

This chapter provides an overview of existing programs and projects, as of November 2014, designed to address food insecurity in Mali. The following summary does not intend to exhaustively cover all food security activities, but instead focuses on those programs that involve a food assistance component and therefore would be the most relevant for the USAID Office of Food for Peace (FFP). Knowledge of who is doing what and where is crucial to avoid duplication, ensure complementarity where appropriate, and share lessons learned.

The chapter begins by outlining notable programmatic trends before describing relevant food security programs and initiatives.

3.2. Programmatic Trends

The 2012 coup and the ongoing conflict in the north have shaped much of the development landscape as the security situation and humanitarian response affect the breadth of social services and broader development portfolios. Within this environment, a few prevailing trends, noted below, have emerged that future awardees should monitor.

- Program objectives, activities, and strategies for both development and emergency interventions revolve around the concept of resilience.
- Donors/non-governmental organizations (NGOs) consistently utilize varied food assistance modalities. For example, local procurement occurs via food, livestock, and seed vouchers; in-hand, mobile, and trader-managed cash transfers; direct distribution of local cereals and transoceanic food aid; and work incentive schemes based on cash/vouchers.
- Security concerns greatly affect humanitarian staff and beneficiaries as all actors look to outsource risk to another party (e.g., donor to international non-governmental organization (INGO), INGO to local NGO, local NGO to trader). Traders increasingly bear much of the risk in the north as they both distribute transfers to beneficiaries (cash transfers, food vouchers, and cash vouchers) and redeem the cash and/or voucher from the beneficiaries at their established stores and NGO-organized market fairs. In addition, traders expose themselves to potential danger moving between rural and urban areas as they must travel to the NGO central offices for payment and ensure adequate supply at market fairs.
- Across the board the focus remains treatment of acute malnutrition and much less so prevention, which also relegates prevention of chronic malnutrition as a secondary priority.
- Imported nutrient supplements (Nutributter, Plumpy'Nut, Plumpy'Doz, Plumpy'Sup, etc.) tend to dominate nutrition interventions rather than staple foods or fortified grains.
- As a result of the prolonged conflict, significant funding from donors and the government of Mali (GoM) is channeled towards the humanitarian crisis in the north rather than nationwide basic social services. Additionally, some donors continue under humanitarian relief and emergency portfolios and remain bound to funding short-term projects.
- Despite the desire to support and collaborate with the GoM, some NGOs believe limited GoM capacity will slow down and hinder implementation and therefore set up their own parallel systems. For example, while some organizations rely on government officials at the local level to assist with beneficiary targeting, other NGOs work outside formal government structures and only through traditional communal authorities.

3.3. USAID

USAID manages a large and diverse portfolio in Mali, including global health, youth development, governance, climate change, agricultural development, and emergency assistance. The programs highlighted below are of most relevance to a new Title II development food assistance program.

3.3.1. FFP Development Food Assistance Program

The Office of FFP began funding two multi-year assistance programs (MYAPs) in 2008. With the onset of the conflict in 2012 the geographic area of these development programs shifted.

Consortium for Food Security in Mali (NEMA). Catholic Relief Services (CRS), in consortium with Save the Children and Helen Keller International (HKI), and using local partners Caritas/Mali and Tassaght, began implementation in August 2008 in Douentza (Mopti) and in Bourem (Gao). However, the geographic focus shifted to Bankass (Mopti), Tominian (Ségou), and Yorossa (Sikasso) in 2012 when the conflict erupted in Gao and northern Mopti. In the new program areas, NEMA focused on the same interventions but also provided one year of emergency response to select areas of Mopti. The program was expected to close in 2013 but NEMA continued development activities under a no-cost extension until September 2014.

The MYAP had three Strategic Objectives (SOs):⁶⁵

- SO1: Livelihood Strategies More Profitable and Resilient
- SO2: Children Under 5 Years Less Vulnerable to Illness and Malnutrition
- SO3: Targeted Communities Manage Shocks More Effectively

Activities under SO1 included agriculture enterprise groups, village savings and loan groups, farmer field schools, food-for-work (FFW), and safety net support. As a part of SO2, the interventions focused on screening of acute malnutrition, training community health workers, and educating mothers on nutrition and sanitation. Lastly, SO3 centered on establishing community managed early warning and response systems.⁶⁶

NEMA selected Corn Soy Blend (CSB) and refined vegetable oil (RVO) for the treatment of moderate acute malnutrition (MAM) in SO2. Additionally, NEMA provided bulgur wheat and peas as an incentive for FFW and for the safety net activities.⁶⁷ Besides direct distribution, NEMA implementing partners monetized RVO to generate funding (see table below).

Table 12. USAID Title II Food Aid Volumes (MT) and Type, NEMA, FY09-FY14

Commodity	Type	FY09	FY10	FY11	FY12	FY13	FY14
Bulgur	Direct distribution	620	640	850	880	0	0
CSB	Direct distribution	520	680	290	320	0	0
Peas	Direct distribution	410	420	490	500	0	0
4 L RVO	Direct distribution	60	80	60	70	0	0
20 L RVO	Monetization	3,150	2,980	0	0	0	0

Source: USAID-BEST using data from AMEX, October 2014.

⁶⁵ Language for the SOs taken directly from the mid-term evaluation. CERCA, 2011, *Mid-term Evaluation of the Timbuktu Food Security Initiative*.

⁶⁶ Della E. McMillan and Sidibe Sidikiba, 2014, *Final Qualitative Evaluation of the Consortium for Food Security in Mali (CFSM) "Nema" Program, P.L. 480 Title II Multi-Year Assistance Program*.

⁶⁷ Personal communication with CRS/Bamako office, October 2014.

Note: These data reflect food aid volumes donated from USAID to NEMA by fiscal year. The distributions to beneficiaries may not have occurred in the same FY as the shipment.

Timbuktu Food Security Initiative (TFSI). Under the guidance of Africare, this MYAP operated in four areas of the Timbuktu region: Timbuktu, Goundam, Dire, and Niafunke.⁶⁸ The MYAP started in 2008, but in April 2012, implementation was disrupted because of the conflict and activities had to stop. Africare moved all Title II development activities to Nara (Koulikoro) in October 2012. The activities in Nara resembled the MYAP activities in Timbuktu even though the intervention area had changed. TFSI was supposed to close in July 2013 but received a no-cost extension until January 2014.

The MYAP had three SOs:⁶⁹

- SO1: The vulnerability of communities as regards shocks, and the ability of these communities to manage risk will be strengthened
- SO2: Household access to food is improved
- SO3: Nutrition and health of households will be improved

TFSI provided soy fortified bulgur wheat to families of malnourished children who were being treated for MAM to protect the RUTF they received from the health center. TFSI also distributed soy-fortified bulgur wheat in FFW and safety net rations to the most vulnerable.⁷⁰ Similar to NEMA, funding for TFSI also relied on monetization of RVO (see table below).

Table 13. USAID Title II Food Aid Volumes (MT) and Type, TFSI, FY09-FY14

Commodity	Type	FY09	FY10	FY11	FY12	FY13	FY14
Bulgur*	Direct distribution	650	650	650	650	0	0
20 L RVO	Monetization	950	1,000	0	0	0	0

Source: USAID-BEST using data from AMEX, October 2014.

*AMEX data reports bulgur but Africare reports the exact commodity was soy-fortified bulgur.

3.3.2. FFP Emergency Food Security Program (EFSP)

With the closure of the MYAPs in 2014, FFP channeled its focus to short-term emergency awards in. Those awards have been through the EFSP mechanism in which organizations can propose a local procurement, cash, and/or voucher response to an acute crisis.

Agency for Technical Cooperation and Development (ACTED). Under a US\$1.6 million EFSP in Ménaka (Gao) that began July 2014 and will run until April 2015, ACTED provides a mix of unconditional cash, asset, and food vouchers to the most vulnerable HHs in Ménaka (3,790 beneficiary HHs) to reduce food insecurity and strengthen livelihoods.⁷¹ The voucher program is intended to complement emergency WFP food distributions.

Given the lack of available banking institutions and mobile money options in Ménaka, ACTED is providing paper vouchers and cannot utilize electronic voucher systems.⁷² All vouchers are redeemable at pre-selected local suppliers. The breakdown of the voucher program is displayed in the table below and shows the division of the vouchers across the beneficiaries and communes.

⁶⁸ CERCA, 2011, *Mid-term Evaluation of the Timbuktu Food Security Initiative*.

⁶⁹ Language for the SOs taken directly from the mid-term evaluation. CERCA, 2011, *Mid-term Evaluation of the Timbuktu Food Security Initiative*.

⁷⁰ CERCA, 2011, *Mid-term Evaluation of the Timbuktu Food Security Initiative*.

⁷¹ Personal communication with ACTED/Bamako office, November 2014.

⁷² Personal communication with ACTED/Bamako office, November 2014.

Table 14. ACTED EFSP Voucher Transfer Program

Voucher Type and Quantity	Value per Voucher (XOF)	Beneficiary HHs and Commune
1 cash voucher	10,000	2,000 Ménaka
3 cash vouchers	5,000	2,000 Ménaka
5 cash vouchers	1,000	2,000 Ménaka
1 vegetable voucher	7,000	3,790 Ménaka and Inekar
1 meat voucher	4,500	3,790 Ménaka and Inekar
1 sundries voucher	3,500	3,790 Ménaka and Inekar
1 asset voucher	1 head of cattle	1,790 Inékar

Source: USAID-BEST using data from ACTED/Bamako, November 2014 and ACTED report, *Reduction of Food Insecurity and Support Vulnerable Households in the Circle of Menaka, 2014*.

Note: The livestock voucher states it is valid only for cattle but the voucher contains a photo of goats. The sundries voucher can be used on milk, sugar, tea, etc. Also, note that all vouchers are one-time distributions.

CRS. The US\$1.4 million 6-month EFSP awarded to CRS ended December 2014. This program transferred cash unconditionally to 5,105 female beneficiaries in Nara (Koulikoro) to alleviate food insecurity and support livelihoods.⁷³ The amount of the transfer varied from a one-time infusion of West African CFA Franc (XOF) 25,000 (equivalent to about US\$50) during harvest season to three monthly transfers during the lean season, depending on the size of the HH (see table below).

Table 15. CRS EFSP Lean Season Monthly Cash Transfer (US\$) by HH size

HH Size	Transfer (US\$)	Observations
7	35.87	70 percent of HHs report 7 members
8- 22	56.52	
23 and up	61.96	

Source: USAID-BEST using data from CRS, December 2014.

WFP. In 2014, FFP granted three EFSP awards to WFP/Mali entirely for use in the emergency operation (EMOP) response in Timbuktu, Gao, Kidal, and conflict/drought affected parts of Mopti. The table below provides summary details of these awards. For further details on WFP programming see Section 3.5.

Table 16. FFP EFSP Awards (US\$) to WFP/Mali, 2014

Date	Award Value (US\$)	Purpose
May 2014	3,379,727	Local procurement of cereals
May 2014	1,120,273	Cash/voucher programming
July 2014	5,000,000	Local procurement of cereals

Source: USAID-BEST using data from WFP/Mali, November 2014.

3.3.3. Office of Foreign Disaster Assistance (OFDA) and FFP EFSP

In addition to the FFP EFSP directly funded awards, FFP EFSP joined efforts with OFDA to fund several emergency response activities. In general, FFP EFSP provides the food assistance component while OFDA funds support livelihood and asset creation components.

⁷³ USAID Office of Food for Peace, 2014, *Mali: Fiscal Year 2014*.

CRS. With a US\$2.3 million (OFDA US\$1,103,406 and FFP EFSP US\$891,961) award,⁷⁴ CRS implements a program in Gourma Rharous (Timbuktu) targeting 26,969 beneficiaries (3,853 HHs). The program began in May 2014 and is scheduled to run until August 2015. Interventions include: provision of one livelihood voucher (XOF 25,000), cash-for-work (CFW) for productive infrastructure, and the formation of village-level Early Warning Groups. FFP funding underwrites CFW activities while OFDA supports all other interventions.⁷⁵

Mercy Corps. The US\$2.8 million (OFDA US\$1,729,875 and FFP EFSP US\$1.1 million) award granted to Mercy Corps from February 2014-February 2016 funds a project that reaches 3,580 vulnerable HHs in Asonga (Gao). The project provides food vouchers-for-work (VFW) for rehabilitation of land, irrigation schemes, and agricultural infrastructure; the most vulnerable also receive an unconditional transfer of animal fodder and seed vouchers. Each beneficiary HH receives four monthly food vouchers (valued individually at XOF 8,750) over the course of VFW activities that they can redeem at any preselected vendor. OFDA funds cover the animal fodder and seed vouchers while FFP EFSP finances VFW. Mercy Corps also integrates village savings and loans groups into the other project components.⁷⁶

Near East Foundation. The Near East Foundation is utilizing its US\$2.1 million funding (OFDA US\$1,690,933 and FFP EFSP US\$0.5 million) from April 2014-March 2015 to assist 2,178 beneficiaries with agricultural and economic development recovery in Douentza, Tenenkou, Youwarou, and Mopti *cercles* (Mopti). OFDA supports the distribution of agricultural vouchers (fishing equipment, rice seed - irrigated land, rice seed - rainfed, cattle feed, urea fertilizer, DAP fertilizer,⁷⁷ and agricultural equipment). FFP funds go directly to the food vouchers. The food vouchers are valued at XOF 80,000 and beneficiaries can redeem them at local suppliers for cereals (primarily millet, but in a few areas, rice).⁷⁸

Save the Children. The award to Save the Children of US\$1.5 million (OFDA US\$950,772 and FFP EFSP US\$528,283) from June 2014-June 2015 funds projects in Bourem and Gao *cercles* (Gao), which aim to reach 14,700 individual beneficiaries.⁷⁹ OFDA funding supports the distribution of vouchers used for agricultural inputs, gardening kits and seeds, and animal fodder, while FFP contributes to the distribution of three cash transfers valued at XOF 35,000 each. A large trader in Gao acts as the cash-out agent, distributing the cash transfers directly to the beneficiaries, rather than having a financial institution or the NGO bear the risk of traveling with cash.⁸⁰

3.3.4. Feed the Future (FTF)

The FTF zone of influence in Mali officially covers 143 targeted communes in three regions (Sikasso, Mopti, and Timbuktu) and two communities in Alatona (Ségou). Notably, Alatona currently receives assistance from the US because it also falls under the Millennium Challenge Corporation intervention area. Due to the 2012 coup and ongoing conflict, USAID is

⁷⁴ USAID Office of Food for Peace, 2014, *Mali: Fiscal Year 2014*. USAID-BEST acknowledges that OFDA and FFP EFSP contributions do not equate to US\$2.3 million.

⁷⁵ Personal communication with CRS/Bamako office, November 2014.

⁷⁶ Mercy Corps, 2014, *IRTOUN "Rise Again" Quarterly Report FY14 Q3*.

⁷⁷ Diammonium phosphate (DAP) fertilizer.

⁷⁸ Personal communication with Near East Foundation/Mopti office, November 2014.

⁷⁹ USAID Office of Food for Peace, 2014, *Mali: Fiscal Year 2014*.

⁸⁰ Personal communication with Save the Children/Bamako office, November 2014.

reevaluating their non-humanitarian assistance portfolio, which includes the geographic FTF zone of influence.⁸¹

This section highlights FTF awards of greatest relevance to a potential Title II development food assistance program.

Cereal Value Chain (CVC) Project. From 2013-18, ACDI/VOCA and sub partners (G-Force, Nyeta Conseil, and the organization d intl) intend to implement the US\$21.5 million project in 137 villages across Mopti, Sikasso, and two areas of Ségou to reach 65,000 millet, sorghum, and rice farmers across 4,000 farmer organizations.⁸² WFP/Mali signed a memorandum of understanding with CVC to buy millet, sorghum, and rice from CVC farmer organizations for use in WFP programming.

Livestock for Growth. AECOM manages a five-year US\$9.5 million award, which started in September 2014. This project works with the livestock sector to increase inclusive livestock value chain competitiveness in the Feed the Future zone by focusing on four main components: 1) increasing livestock productivity; 2) encouraging further livestock trade (both domestically and for export); 3) strengthening local capacities and systems; and 4) improving the enabling environment for the livestock sector.⁸³

Strengthening Partnerships, Research, and Innovations in Nutrition Globally (SPRING). A partnership team of John Snow Inc., HKI, Save the Children, the Manoff Group, and the International Food Policy Research Institute (IFPRI) manages this global award funded jointly through Feed the Future and the US Global Health Initiative. In Mali, SPRING was expected to start implementation in November/December 2014 and plans to focus on hygiene as a way to improve nutrition in the Mopti region.⁸⁴ In 2015, SPRING plans to work in 20 communes of the Mopti region, expanding to a total of 46 communes by 2016.⁸⁵

3.4. USDA

USDA currently funds two programs in Mali: Food for Progress and McGovern–Dole International Food for Education and Child Nutrition Program. In the past, USDA also funded a Local and Regional Procurement (LRP) pilot. As the table below shows, Aga Khan Foundation received Food for Progress awards in Fiscal Year (FY)10 and FY12 while International Relief and Development received an award in FY10. Both Aga Khan Foundation and International Relief and Development monetized wheat and RVO. Funding from the Food for Progress monetizations was utilized for agricultural development programming.

Table 17. USDA Food for Progress Awards and Monetized Commodities

Implementing Partner	Start Date	End Date	Wheat (MT)	RVO (MT)
Aga Khan Foundation	September 2012	September 2016	10,000	5,000
Aga Khan Foundation	October 2009	May 2013	15,000	2,200
International Relief and Development	October 2009	December 2012	5,000	2,060

Source: USAID-BEST using data from USDA, received November 2014.

⁸¹ USAID, 2014, Feed the Future Mali. <http://www.feedthefuture.gov/country/mali>, accessed December 2014.

⁸² Personal communication with ACDI/VOCA/Bamako office, November 2014.

⁸³ AECOM, 2014, Mali Livestock for Growth. <http://www.mali4g.com/about.html>, accessed December 2014.

⁸⁴ Personal communication with HKI, November 2014.

⁸⁵ SPRING, 2014, SPRING/Mali. <http://www.spring-nutrition.org/countries/mali>, accessed December 2014.

Concerning Food for Education, USDA granted an award to CRS, which runs until June 2015⁸⁶ and provides 80,000 primary school children in Mopti and Koulikoro with a daily ration of 150 grams (g) of rice, 10 g of RVO, and 30 g of green peas. Additionally, girls receive a take-home ration of 4 L RVO each quarter of the academic calendar.⁸⁷

Table 18. USDA Food for Education Award and Distributed Commodities

Implementing Partner	Start Date	End Date	Rice (MT)	Green peas (MT)	RVO (MT)
CRS	September 2011	June 2015	6,170	1,220	1,360

Source: USAID-BEST using data from USDA, received November 2014.

Lastly, WFP and CRS managed procurements in Mopti for the USDA LRP pilot program. WFP sourced sorghum, millet, and cowpeas from suppliers through direct non-competitive procurements⁸⁸ and engaged in direct distribution of food to beneficiaries.⁸⁹ CRS, on the other hand, issued a hard (i.e., fully competitive) tender for cowpeas and rice and not only directly distributed to beneficiaries but also issued vouchers for cowpeas, rice, and millet that beneficiaries could use at pre-selected vendors.

Table 19. USDA LRP Pilot Awards and Commodity Procurements

Implementing Partner	Start Date	End Date	Rice (MT)	Millet (MT)	Beans (MT)
WFP	October 2010	September 2011		920	161
CRS	September 2010	September 2011	7.04	31.45	7.66

Source: USAID-BEST using data from USDA, received November 2014.

3.5. WFP

3.5.1. Country Programme (CP)

In response to the changing operational environment in Mali, the area of coverage and the scope of projects under the CP have evolved to better reflect current needs and requirements. In 2014, the CP ran activities in Kayes, Sikasso, Koulikoro, Ségou, and areas of Mopti excluded from the EMOP. The portfolio of CP projects in these southern regions include:

- School feeding for primary school children and take-home rations for girls;
- Resilience activities (e.g., food-for-assets (FFA) and market gardens);
- Urban CFW;
- Capacity development; and
- Nutrition interventions (details below).⁹⁰

Nutrition. WFP/Mali provides Corn Soy Blend (CSB) (also known as SuperCereal) to health centers around the country for the treatment of MAM. Although treatment interventions remain the primary nutrition activity, two pilot projects focus on prevention of malnutrition.

WFP implements one of these two pilots, the Community Nutrition and Health Program in Kayes (SNACK, Santé Nutritionnelle à Assise Communautaire à Kayes), with the United Nations

⁸⁶ This date may extend to September 2015 under a no-cost extension.

⁸⁷ Personal communication with CRS/Bamako Office, November 2014.

⁸⁸ WFP does not typically utilize non-competitive tenders and it remains unclear the rationale behind this practice since the USDA LRP project evaluation did not provide any additional details.

⁸⁹ MSI, 2012, *USDA Local and Regional Food Aid Procurement Pilot Project*.

⁹⁰ Personal communication with WFP/Bamako office, November 2014.

Children's Fund (UNICEF), local NGOs, IFPRI, and the French Research Institute for Development (Institut de Recherche pour le Développement). The pilot, which began in March 2011 and will end March 2016, targets 5,000 children and pregnant and lactating women (PLW)⁹¹ to research the impact of Plumpy'Doz and cash transfers on growth outcomes (height-for-age) and birth weight.⁹² The research involves four intervention arms:

- Group A (control): Women and children receive SNACK activities only (SNACK activities include nutrition education through women's groups, cooking demonstrations, radio messaging, growth monitoring, and promotion of vegetable gardening)
- Group B (intervention): In addition to SNACK activities, women receive a cash transfer worth XOF 1,500 (about \$US3) per month over a maximum of 33 months (about 1,000 days)
- Group C (intervention): In addition to SNACK activities, infants aged 6-24 months receive supplements (Plumpy'Doz)
- Group D (intervention): In addition to SNACK activities, women receive a cash transfer worth XOF 1,500 (about \$US3) per month over a maximum of 33 months and infants aged 6-24 months receive supplements (Plumpy'Doz)⁹³

The second pilot, which started in January 2014, focuses on prevention of malnutrition and provides blanket feeding of Nutributter to infants 6-23 months in Sikasso. WFP and Doctors Without Borders selected this product over Plumpy brand supplements because of cost. The project is assessing nutritional outcomes.

With the conclusion of the EMOP (details below) and the start of a three-year Protracted Relief and Recovery Operation (PRRO), the CP will evolve in its programming and geographic targeting in its second phase. The next phase of the CP will run through December 2015 with a smaller portfolio of activities and fewer beneficiaries; as with all WFP programming, the specifics will vary depending on to funding levels.

3.5.2. EMOP

Throughout 2014, the EMOP covered Timbuktu, Gao, and Kidal in northern Mali and conflict/drought affected parts of Mopti. The EMOP officially ended in December 2014. Activities under the EMOP included:

- Emergency general food distribution (GFD) for Internally Displaced Persons (IDPs), host families, and vulnerable communities;
- Targeted supplementary feeding for the treatment of MAM among children aged 6–59 months, and PLW;
- Blanket supplementary feeding for the prevention of acute malnutrition in children aged 6–23 months, and PLW in targeted areas of Gao, Kidal and Timbuktu regions (provision of SuperCereal Plus to children under two years of age, and SuperCereal and oil to PLW);
- Emergency school feeding for children aged 7–12 years; and

⁹¹ Institut de Recherche pour le Développement (IRD), 2013, Impact evaluation of the Cash for Nutrition Awareness (CNA) component of the SNACK project (Santé Nutritionnelle à Assise Communautaire à Kayes [Community Nutrition and Health Program in Kayes]). <http://apps.who.int/trialsearch/Trial2.aspx?TrialID=ISRCTN08435964>, accessed December 2014.

⁹² Personal communication with WFP/Bamako office, November 2014.

⁹³ Institut de Recherche pour le Développement (IRD), 2013, Impact evaluation of the Cash for Nutrition Awareness (CNA) component of the SNACK project (Santé Nutritionnelle à Assise Communautaire à Kayes [Community Nutrition and Health Program in Kayes]). <http://apps.who.int/trialsearch/Trial2.aspx?TrialID=ISRCTN08435964>, accessed December 2014.

- FFA.⁹⁴

A portion of the EMOP funding was channeled to the nationwide 2014 lean season emergency feeding response. Due to the large number of beneficiaries in need of emergency food assistance in 2014, the GoM, WFP, and the International Committee of the Red Cross (ICRC) joined efforts to distribute emergency relief to food insecure HHs.

3.5.3. PRRO

The new PRRO beginning January 2015 will cover all regions in Mali and intends to provide the following assistance:

- GFD to natural disaster affected populations, returnees (food and cash/vouchers), IDPs (food and cash/vouchers), and stressed populations (food and cash/vouchers);
- Nutrition activities with blanket supplementary feeding for infants aged 6-23 months and PLWs, and targeted supplementary feeding for infants 6-23 months and PLWs;
- School feeding, including on-site hot meals and girls' take-home rations;
- Recovery and resilience activities (e.g., FFA and CFA);⁹⁵ and
- Incorporation of Purchase for Progress (P4P) activities (the five-year pilot ended 2013).

3.5.4. Procurement

WFP/Mali sources food aid locally, regionally, and internationally from direct procurement and via in-kind donations. The sizable cereal market in Mali and its inland location means a local procurement can reach a WFP/Mali warehouse in 45 days as opposed to lengthier delivery times for international purchases or in-kind transoceanic donations which generally take upwards of four months. Subsequently, WFP locally purchased 80 percent of its total food aid for the EMOP in 2014, which equates to about 30,000 MT of cereals (2/3 millet/sorghum and 1/3 rice). The GoM has supported this endeavor and increased the annual limit of 30,000 MT for local procurement to 50,000 MT in 2015. At the moment, WFP does not locally procure any blended foods.⁹⁶

To further bolster its local procurement efforts, WFP/Mali utilizes Forward Purchase Facility (FPF) stock that it purchases at the beginning of the year in harvest season with funding from WFP headquarters. This mechanism allows WFP/Mali to purchase the necessary grains on a timetable whereby it can procure the greatest quantity of a local commodity at the most competitive prices. After WFP/Mali receives funding from donors, WFP/Mali essentially reimburses or 'purchases' the commodity from the FPF 'owned' stocks. In 2014, the FPF stock in Mali consisted entirely of millet and sorghum. Since there is no central bulk storage in Mali for FPF grains, WFP relies on available warehouses within Mali to store the locally procured millet and sorghum for later use in WFP/Mali's programs.⁹⁷

P4P serves as another local supply source for WFP/Mali. Farmer organizations and traders negotiate directly with WFP the specific details of the procurement. Under P4P, WFP has purchased millet, sorghum, rice, and cowpeas.⁹⁸ As mentioned previously in the list of PRRO

⁹⁴ WFP, 2014, *WFP Protracted Relief and Recovery Operation -- Mali 200719*.

⁹⁵ Ibid.

⁹⁶ Personal correspondence with WFP/Bamako office, October 2014.

⁹⁷ Ibid.

⁹⁸ Ibid.

activities, the P4P pilot has ended and management of P4P-type activities now falls under the PRRO.

The table below provides the tonnage of those commodities that WFP procured from 2009-13 under its various operations based on the type of procurement (direct, local, or triangular purchase). According to WFP Interfais, direct purchases are transactions by which food aid is directly delivered from the donor to the recipient countries and do not involve local or triangular purchases. Local purchases are transactions by which food aid is purchased and distributed in the same recipient country. Triangular purchases are transactions by which a donor provides commodities purchased in a third country as food aid to a final recipient country.

Table 20. WFP Food Aid Volumes (MT) by Type of Procurement, 2009-13

Type of Procurement	2009	2010	2011	2012	2013
Direct Purchases of In-kind Total	675	2,500		25,090	8,346
Rice		2,500		19,247	2,535
Fortified goods*				3,193	1,059
Peas	675			1,419	649
Edible oils				622	770
Grains - other					2,869
Lentils				609	419
Wheat					45
Local Purchase Total	6,518	6,214	8,346	18,669	32,582
Sorghum	6,518	6,117	7,150	13,087	20,262
Rice				2,737	11,618
Maize meal			1,062	1,181	
Maize				1,541	
Beans		50	116	42	621
Peas		47	18	81	81
Triangular Purchase Total	2,116	3,528	4,422	19,522	7,208
Fortified goods*	1,367	1,638	2,435	4,253	3,399
Sorghum				9,133	
Peas	375	396	1,328	1,311	3,059
Rice				2,719	725
Edible oils	347	851	659	1,165	
Maize meal		344		817	
Other	27	299		123	22
Micronutrients					3

Source: USAID-BEST using data from WFP Interfais, downloaded November 2014. WFP Interfais data from 2014 were not available.

Note: It is assumed that 'sorghum' also includes millet.

*Fortified goods in this table are CSB and RUTFs.

3.6. GoM

The GoM provides aid during crises through the Food Security Commissariat (CSA, Commissariat à la Sécurité Alimentaire). The CSA falls directly under the President's Office and works with numerous ministries to organize and implement food assistance. The number of beneficiaries varies per year depending on consultation with other humanitarian actors, annual

harvest assessments, food security reporting, early warning and market analyses, and any vulnerability studies.⁹⁹

In 2013, CSA requested and received 32,000 MT of cereals for a 2014 distribution to 489,821 poor HHs in vulnerable regions during the lean season months.¹⁰⁰ From March-August 2014, the GoM (under the CSA), joined WFP and the ICRC to feed about 1.56 million people requiring immediate assistance (Integrated Phase Classification 3 and 4) in the lean season. According to the Food Security Cluster, WFP reached 47 percent of the total 2014 lean season emergency collaboration (703,920 beneficiaries), the CSA 33 percent (489,821 beneficiaries), and then the ICRC (20 percent, 303,900 beneficiaries).¹⁰¹

The CSA does not buy food on the commercial market, but instead receives its supply from the Office of Agricultural Products of Mali (OPAM, Office des Produits Agricoles du Mali). OPAM manages a public grain reserve and purchases millet and sorghum on commercial terms when necessary. Under the agreement between the CSA and OPAM, up to 35,000 MT of OPAM stock can be transferred for CSA emergency distributions each year.¹⁰²

3.7. Other Donors and Initiatives

ICRC. ICRC has operated in northern Mali since 2008 and supports vulnerable populations affected by the conflict and/or food crises through food and animal feed assistance; destocking; animal vaccination campaigns; CFW; seed distribution; and other needed interventions. ICRC maintains sub offices in Mopti, Kidal, Gao, and Timbuktu. In 2014, ICRC provided rice, wheat (semolina), beans, RVO, and salt in its emergency lean season ration.¹⁰³ The table below enumerates the specific tonnages that ICRC has acquired by the type of procurement.¹⁰⁴

Table 21. ICRC Food Aid Volumes (MT) by Type of Procurement, 2011-13

Type of Procurement	2011	2012	2013
Direct Purchase of In-kind		6,714	2
Rice		4,778	
Beans		1,167	
Grains - other		448	
Edible oils		320	
RUTF, Plumpy'Nut		2	2
Local Purchase	1,061	15,025	9,525
Rice	1,061	7,861	3,821
Beans		2,466	2,666
Millet		3,058	672
Edible oils		1,432	1,494
Grains - other			656
Other		208	178

⁹⁹ Personal communication with CSA, November 2014.

¹⁰⁰ Ibid.

¹⁰¹ Mali Food Security Cluster, 2014, *Réponse en Sécurité Alimentaire par Type d'Activités et par Régions depuis Mars 2014* (Response on Food Security by Type of Activities and by Regions since March 2014).

¹⁰² Personal communication with CSA, November 2014.

¹⁰³ Personal communication with ICRC/Bamako office, November 2014.

¹⁰⁴ According to WFP Interfais definitions outlined in the text preceding Table 17.

Type of Procurement	2011	2012	2013
Wheat			35
RUTF, Plumpy'Nut			3
Triangular Purchase		1,534	12,495
Rice		1,518	8,043
Grains - other			1,629
Edible oils			1,093
Beans			1,090
Millet			528
Other		16	112

Source: USAID-BEST using data from WFP Interfais, downloaded November 2014.

Note: WFP Interfais data from 2014 were not available. It is assumed that 'millet' also includes sorghum. The semolina wheat might be captured under 'Grains-other'.

European Commission, Humanitarian Aid and Civil Protection (ECHO). ECHO funds emergency food assistance in Mali through donations. In 2014, ECHO provided WFP €11 million and ICRC €4 million for their response in the north; WFP and ICRC continued to procure food aid through their own supply chains.¹⁰⁵

In addition to the €15 million given for in-kind food assistance, ECHO contributed €10 million for cash and vouchers to 40,000 HH communes in Timbuktu and Gao to supplement existing food aid to further secure livelihoods. A consortium of five NGOs (ACF, Danish Refugee Committee, Handicap International, OXFAM, and Solidarités Internationales) implemented this response¹⁰⁶ and each NGO decided on the modality and delivery mechanisms that would best suit their organization considering security risks and geographic intervention zones. The majority of NGOs conducted direct cash transfers through microfinance banks or traders, but some opted for food vouchers; in one commune of Gao, Oxfam utilized mobile money.¹⁰⁷ No matter the modality, the total value of the transfers were XOF 100,000 per HH divided into three installments from May-November 2014.¹⁰⁸

World Bank Emergency Social Safety Net Project. The World Bank is funding a five-year (2013-18) US\$70 million social safety net project called *Jigisemejiri* in five southern regions (Mopti, Kayes, Kolikoro, Sikasso, and Ségou) and Bamako. Under the direction of the Ministry of Finance, this project will provide unconditional cash transfers to 62,000 vulnerable HHs. The targeting of HHs was done in collaboration with village authorities and members, and upon evaluation of vulnerability indicators. Besides receiving the cash transfers, targeted villages are expected to attend four workshops per year on nutrition, childcare, and education. The project also intends to create a unified registry of vulnerable HHs. This project and the unified registry would then serve as a foundation for a potential national social safety net system. IFPRI is expected to conduct the research on the use and impact of the cash transfer.¹⁰⁹

As of November 2014, 5,000 HHs had received the first transfer. Although each HH receives XOF 10,000 per month regardless of size, the transfer only occurs quarterly to decrease transaction costs. The monthly transfer was calculated using a seven person HH and poverty

¹⁰⁵ Personal communication with ECHO/Bamako office, October 2014.

¹⁰⁶ This response is commonly referred to as ECHO's *Cadre Commun* Initiative in Northern Mali.

¹⁰⁷ Personal communication with ECHO/Bamako office, October 2014.

¹⁰⁸ EU, 2014, *Projet du Cadre Commun sur les Filets Sociaux Saisonniers au Nord du Mali, régions de Tombouctou et Gao. (Seasonal Safety Net Common Framework Project in Northern Mali, Timbuktu and Gao Regions).*

¹⁰⁹ Personal communication with World Bank/Bamako office, November 2014.

indicators. In order to transfer the money the World Bank and Ministry of Finance rely on regional banks that have an agent on the ground, or local microfinance institutions that have representatives at the community level. As the project provides ID cards and accounts, the beneficiaries do not need these credentials prior to participation. The World Bank considered using mobile money transfers through the service provider Orange Money but the cost proved prohibitive.¹¹⁰

UNICEF. For the treatment of severe acute malnutrition, UNICEF provides Plumpy'Nut to health centers around Mali. UNICEF estimates that it supplies about 125,000 cartons (150 92 g sachets per carton) of Plumpy'Nut annually for this effort. With the start of a new program cycle (2015-19), UNICEF plans to integrate additional nutrition activities into their portfolio, such as distribution of Plumpy'Doz and micronutrient powders in Sikasso and Mopti in new pilots to research prevention of malnutrition.¹¹¹

An Be Jigi Project. HKI has collaborated with ICRISAT and Institut d'Economie Rural to research the bioavailability of iron and zinc in select varieties of sorghum and millet. With funding from the McKnight Foundation, this project is working in six villages in Koulikoro to determine which varieties have greater availability of iron and zinc, nutritional advantages, processing techniques, and food behaviors. At present, the first phase of developing seeds in a lab has been completed, and the focus has now shifted to working with farmers and HHs at the village level. Pending positive results, this project may be scaled up.¹¹²

Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED). This initiative funded by the UK Department for International Development expects to increase the resilience of vulnerable people to climatic events and spans several countries in sub-Saharan Africa and South Asia. In Mali, BRACED funds numerous projects through NGOs in Koulikoro, Ségou, Mopti, Timbuktu, and Gao that focus on natural resource management, climate-adapted livelihoods, and disaster risk reduction.¹¹³

3.8. Local Nutritious Food Products

The growing food processing sector in Mali is capable of producing nutritious foods relevant for FFP. The table below highlights the most pertinent details of these products. Of the four listed below, Nutriblé is the only product not currently available on the commercial market.

Table 22. Local Blended Food Products

Company	Product	Ingredients	Capacity
Association Misola	Misola	Millet (60%), soybeans (20%), groundnuts (10%), sugar, and micronutrient mix (All procured in Mali except micronutrient mix)	100 MT/ month currently – spread across 20 production facilities, including Mopti region (4 districts in Mopti have Misola production units) Retail price is about US\$1.10 for 500 g
		Wheat flour, sugar, micronutrient mix, and flavoring (available in vanilla, strawberry, chocolate, & banana)	Current production level: 66.5 MT/month 5,320 bags of 25 sachets (500 g each) per month
Groupe AMI	Vitablé	(Micronutrient mix is imported from France and wheat flour is a mix of local and imported)	Retail price is about US\$1.50 for 500 g

¹¹⁰ Personal communication with World Bank/Bamako office, November 2014.

¹¹¹ Personal communication with UNICEF/Bamako office, October 2014.

¹¹² Personal communication with HKI/Bamako Office, November 2014.

¹¹³ UKaid, 2014, Interactive Project Map – PDG phase Department for International Development (PowerPoint presentation).

Company	Product	Ingredients	Capacity
Groupe AMI	Nutriblé	Wheat flour, soy flour, and micronutrient mix	Current production level: 3.5 MT/month 280 bags of 25 sachets (500 g each) per month
		(Micronutrient mix is imported from France, soy flour is imported from various locations, and wheat flour is a mix of local and imported)	Equivalent retail price to bulk buyer would be about US\$2.00 for 500 g
Danaya Cereals	10 different products	Base of fonio, millet, sorghum, or maize (Majority procured in Mali; some fonio from Guinea & Burkina Faso)	1.5 MT/day currently (Danaya planned to move to a new facility in December 2014 and capacity is expected to increase to 3.5 MT/day)

Source: USAID-BEST using information from Association Misola, Groupe AMI, and Danaya Cereals, received November 2014.

Danaya Cereals. USAID-funded projects have supported this company with improvements in processing, procurement of new machinery, and even the purchase of land for new facilities.¹¹⁴ USAID should continue to support the local processing sector, but a Title II MCHN program should exclude Danaya Cereals products. At present, Danaya Cereals does not have the capacity or intention to incorporate micronutrients into their products. Although the company does use local ingredients and processes in an innovative way, the end products do not necessarily target nutrition interventions as effectively compared to other foods with micronutrient compositions.¹¹⁵

Groupe AMI. The large wheat mill Groupe AMI produces two of the main local blended food products: Vitablé and Nutriblé. Vitablé, consisting of wheat flour, sugar, micronutrient mix, and flavoring (vanilla, strawberry, chocolate, and banana), is sold on the commercial market primarily in pharmacies and supermarkets, and Groupe AMI gears this food toward children, PLW, and the elderly. Nutriblé contains the same ingredients but adds soybeans for protein and variable micronutrients. Groupe AMI only sells Nutriblé to humanitarian organizations to utilize in programs that treat malnutrition. Nutriblé is not available for sale on the commercial market.

Association Misola. Association Misola receives donor support primarily in the form of small awards from European missions and embassies. For example, in 2014 the Embassy of France funded Misola production in Gao. Association Misola reports that historically they have been granted ad hoc funding from USAID, WFP, and the EU Delegation.¹¹⁶

Manufacturers of Misola developed this product with local ingredients to meet the nutritional needs of children, pregnant women, and the elderly, though other groups can consume it as well. Of all the products listed above, Misola is the only food that utilizes primarily locally procured ingredients, employs solely female processors, is fortified, and is widely produced throughout the country. Supermarkets and pharmacies sell Misola, but for ad hoc occasions NGOs have bought and distributed Misola to beneficiaries. On the market, Misola in aluminum packaging sells at XOF 600 per 500 g packet while the plastic packaging is slightly cheaper at XOF 500. One 500 g packet can yield about eight-ten meals. HHs typically prepare Misola by adding water and then boiling to create a porridge; some people add different flavorings of tamarind or orange juice.¹¹⁷ The following table breaks down the inputs required to make this product.

¹¹⁴ Personal communication with Danaya Cereals, November 2014.

¹¹⁵ Personal communication with Danaya Cereals and WFP Procurement/Bamako Office, November 2014.

¹¹⁶ Personal communication with Association Misola, November 2014.

¹¹⁷ About 100 g of Misola is 405 kcals. Personal communication with Association Misola, November 2014.

Table 23. Inputs Required for 1 MT of Misola

Inputs	Quantity	Source of Inputs
Millet	780 kg	Malian wholesalers and vendors at cereal fairs nationwide
Soybeans	240 kg	Producers in Ségou and Sikasso
Sugar	130 kg	Malian wholesalers of imported sugar
Groundnuts	113 kg	Malian producers nationwide
Micronutrients	40 units	France, Denmark, Burkina Faso, and South Africa
Salt	dash	Mali
Vanilla extract	dash	Imported product available at Malian markets

Source: USAID-BEST using data from Association Misola, received November 2014.

Currently, Association Misola operates with funding from commercial and donor sales, as well as donor funding. Since other Misola production centers exist in neighboring countries, the Association Misola in Mali focuses solely on domestic sales. Association Misola reports that lack of sufficient funds for marketing strategies to expand the consumer base represents the largest barrier to growth. Association Misola stated that, if they have the funding, their preferred marketing tool would be cooking demonstrations and free distributions to potential consumers.¹¹⁸

3.8.1. Food Fortification

Numerous GoM ministries, including the Ministry of Health, Ministry of Rural Development, and the National Agency for Food Safety, manage and ensure compliance of relevant parties to the wheat and cooking oil fortification regulations.¹¹⁹

Of the three largest domestic wheat mills (Grands Moulins du Mali in Koulikoro, Moulin Moderne du Mali in Ségou, and Moulins du Sahel in Bamako), the first two already fortify their wheat flour with iron (ferrous fumarate), folic acid, zinc, and B12 to comply with GoM laws; the last mill is expected to do so in 2015.¹²⁰ Importers of wheat flour must also ensure that these products contain the required fortificants.¹²¹

Imported refined cooking oil and domestically processed cottonseed oil must also adhere to Vitamin A fortification requirements. Given that the majority of imported palm oil entering Mali originates from Côte d'Ivoire, a country with strong fortification compliance, it is reasonable to assume that most imported refined cooking oil is fortified; however, palm oil on the market from Southeast Asian countries with lax or no fortification requirements may not necessarily be fortified.¹²²

According to HKI, wheat flour and cooking oil in Mali require specific fortificant blends to help improve nutrition in the national diet. USAID-BEST could not obtain updated information on actual compliance with fortification regulations.

¹¹⁸ Personal communication with Association Misola, November 2014.

¹¹⁹ Personal correspondence with HKI/Bamako office, November 2014.

¹²⁰ Ibid.

¹²¹ Food Fortification Initiative, 2014, Country Profile Mali. http://www.ffinetwork.org/country_profiles/country.php?record=133, accessed December 2014.

¹²² Personal correspondence with HKI/Bamako office, November 2014.

Chapter 4. Recommendations for Program Design

4.1. Introduction

This chapter provides recommendations for future Title II development food assistance programs in Mali that consider best practices to mitigate any negative impact on local markets from distributed transoceanic and locally procured food aid. The recommendations stem from the well-documented fact that food assistance is most likely to have minimal market impact when it is effectively targeted. Targeting concerns the who, when, where, what, and how questions surrounding food assistance interventions; projects properly targeted reach people that require it most, in the form, and at the time the food is most needed.¹²³

Importantly, USAID-BEST provides recommendations to ensure a proposed food assistance program will not result in a substantial disincentive to, or interference with, domestic production or marketing in a specified country (i.e., will comply with the Bellmon Amendment).

To arrive at the following set of recommendations, the analysis relied on a combination of desk research, including review of food security assessments and program documents; market visits around the country; interviews with donors and non-governmental organizations (NGOs); and discussions with field staff and beneficiaries of primarily those food security projects based on food and cash assistance. USAID-BEST conducted field research in October/November 2014 after the end of Title II development programs, and therefore much of the analysis presented draws from the practices of previous multi-year assistance programs (MYAPs) and current emergency food assistance programs.

Select Food Assistance Terminology

Local and regional procurement (LRP), cash, and voucher programs are procurement approaches that aim to support local markets by stimulating production and/or marketing of basic goods. Typically, LRP refers to donors purchasing relatively sizeable food tonnages from relatively large market actors; cash and voucher programs generally refer to donor provision of cash transfers or vouchers to beneficiaries, who then procure small amounts of food and non-food items from supermarkets, vendors in local markets, or organized fairs.

*Terminology**

LRP: Local procurement refers to the in-country purchase of food to reach targeted beneficiaries via direct distribution. Regional procurement refers to the purchase of food by donors in a third country for distribution in the recipient country.

Conditional cash transfer: Beneficiaries receive cash to purchase items themselves, but on a conditional basis. The conditionality associated with the transfer requires the beneficiary to carry out a certain livelihood activity, or engage in some behavior, such as visiting a health center or attending a training.

Unconditional cash transfer: Beneficiaries receive cash to purchase items themselves. Unconditional cash transfers allow beneficiaries to spend the money according to their own perceived need, with no restrictions on behavior or use of money.

Cash voucher: Beneficiaries receive a voucher that has a cash value. The cash voucher can be redeemed at pre-identified shops, through pre-identified traders, and/or at pre-identified

¹²³ Barrett, Christopher, 2002, *Food Aid Effectiveness: "It's The Targeting, Stupid"*.

markets. The cash voucher can be exchanged for a range of commodities up to the specific cash value. This mechanism is also referred to as an open voucher because end purchases are not defined.

In-kind/food voucher: Beneficiaries receive a voucher which can be redeemed at pre-identified shops, through pre-identified traders, and/or at pre-identified markets for a range of pre-determined foods. Food vouchers can be exchanged for a fixed value or quantity of select foods. This mechanism is also referred to as a closed voucher because the program pre-determines the range of possible purchases. Closed vouchers can also be used for non-food items, such as livestock or agricultural inputs.

Food-for-work/cash-for-work/voucher-for-work (FFW/CFW/VFW): Food/cash/vouchers are provided to workers as wages. The projects are generally community-wide public works.

Food-for-asset/cash-for-asset/voucher-for-asset (FFA/CAFA/VFA): Food/cash/vouchers are provided to workers as wages for community-based public works projects that create community assets.

Food-for-training/cash-for-training/voucher-for-training(FFT/CFT/VFT):

Food/cash/vouchers are provided to beneficiaries as compensation for participating in skills-based and capacity building trainings.

** Drawn from Cornell University, 2010, LRP Market Monitoring Training, Introduction to LRP and CaLP, 2012, Cash Transfer Programming.*

4.2. HH Food Security and Nutrition

HH food security in Mali heavily depends on harvest yields and fluctuations in the prices of staple foods during the lean season. Generally, HHs allot 30-50 percent of food expenditures for cereals, depending on the time of year and area of the country.¹²⁴ In addition to the purchase of cereals, Malian HHs remain dependent on local markets for other food items. Rural HHs purchase 70 percent of their food needs at markets as a result of their own, rainfall reliant, limited production.¹²⁵

The large HH sizes in Mali affect food purchase and consumption decisions, and therefore can play a key role in food security and nutrition outcomes.¹²⁶ While the same is true for many poor HHs across the globe, the typical Malian HH structure -- particularly the large size, with upwards of 20 people living in one HH -- makes the link between income and maintaining sufficient food consumption for all HH members especially important.

Food insecurity often results in malnutrition. Mali suffers both from high levels of stunting (height-for-age) and wasting (weight-for-height). The 2012-13 Demographic and Health Survey (DHS) reports 38.3 percent of children under age 5 are stunted (moderate and severe) and 12.7 percent of children under age 5 are wasted (moderate and severe).¹²⁷ Other recent reports such as the 2014 National Anthropometric Nutrition and Retrospective Mortality (SMART) Survey estimate stunting at 28.1 percent for the same age group; this variation in estimates likely

¹²⁴ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*.

¹²⁵ INSTAT, May 2014, *Sante, Emploi, Securite Alimentaire et Depenses de Consommation des Menages. October - Decembre 2013 (Health, Employment, Food Security and Households Expenditure on Consumption. October to December 2013)*.

¹²⁶ CIRAD, 2012, *Food Insecurity in Mali: Identifying Vulnerable Households with Precision*.

¹²⁷ CPS/SSDSPF, INSTAT, et al, 2014, *Enquête Démographique et de Santé (EDSM V) 2012-2013 (2012-13 Demographic and Health Survey, DHS V)*.

reflects both irregular and inconsistent growth monitoring as well as differing methodology, including exclusion of conflict areas from the sample surveys.¹²⁸

Nutrition experts and stakeholders in Mali report numerous reasons for poor nutrition outcomes, but agree that the main underlying factors are poverty, lack of knowledge of proper nutrition, and inadequate micronutrient intake.¹²⁹ Besides these primary issues, additional problems include poor hygiene and sanitation; insufficient calories; unpredictable rainfall and therefore meager harvests; inadequate nutrition of women of reproductive age due to various factors such as taboos in some ethnic groups that discourage the consumption of eggs or meat; absence of proper infant and young child feeding practices primarily because of the norm of preparing one meal for the entire family and overlooking the specific nutrition needs of infants; lack of family planning and birth spacing; health and disease burdens; low levels of education; and the prolonged conflict in the north of the country.¹³⁰

The Government of Mali (GoM) is equipped to respond to emergency food crises as evidenced by its provision of cereals via the Food Security Commissariat (CSA, Commissariat à la Sécurité Alimentaire) to almost 500,000 beneficiaries during the 2014 lean season crisis.¹³¹ Besides emergency food assistance, at present, the GoM has joined the Global Alliance for Resilience and provided support to the World Bank Social Safety Net Project (*Jigisemejiri*) in an effort to ensure food security.

Treatment of malnutrition is the primary focus for the GOM's malnutrition policies, with little funding dedicated to prevention activities. Progress in the area of prevention remains slow as donors and NGOs have traditionally tailored their activities around the GoM focus on treatment. The GoM has taken certain steps that indicate it understands the value of prevention, such as the imposition of certain food fortification regulations and GoM participation in global efforts with Scaling Up Nutrition (SUN). Even with these efforts, gaps still exist in efforts to prevent food malnutrition and Title II food assistance development program would be much welcomed.

4.3. Activity Type

This section covers anticipated activities and modalities for a new Title II development program in Mali and emphasizes those components that could include in-kind food aid or a transfer intended to increase food consumption. Activity type can affect the market as it determines the targeted beneficiaries, which in turn influence the appropriate choice of commodity for any food assistance transfer.

The Title II development programs that ran from 2008-14 focused on similar strategic objectives: agriculture, nutrition, and early warning systems and preparedness.¹³² Going forward, the Office of Food for Peace (FFP) could continue to program along these lines, but also integrate a greater variety of activities that would place more weight on maternal and child health and nutrition (MCHN), resilience, water, sanitation, and hygiene (WASH), and strengthening livelihoods.

¹²⁸ To provide a complete picture of malnutrition rates in Mali and to see a comparison over time, a table in Annex 2 presents data from four surveys: 2012-13 Demographic and Health Survey (DHS), 2014 National Anthropometric Nutrition and Retrospective Mortality Survey (SMART), 2006 DHS, and 2010 Multiple Indicator Cluster Survey (MICS).

¹²⁹ Michigan State University, 2011, *Mali Agricultural Sector Assessment 2011*. And personal communication with numerous NGOs, donors, and program beneficiaries, November 2014.

¹³⁰ Personal communication with numerous NGOs, donors, and program beneficiaries, November 2014.

¹³¹ Details provided in Chapter 3.

¹³² Chapter 3 details the specific Strategic Objectives of the two Title II development programs.

MCHN. Given the food security situation of Malian HHs, there is a great need for increased focus on the prevention of chronic malnutrition. Although Mali is a member of the global SUN movement, efforts thus far have primarily centered around treating acute malnutrition. Consequently, a Title II development program would do well to focus on preventing chronic malnutrition in the 1,000 days window by reaching pregnant and lactating women (PLW) and children under the age of two (U2s). Activities could include regular education sessions on health and nutrition with a strong behavior change component which teaches family planning and birth spacing; monthly community-based growth monitoring sessions; and conditional targeted blanket transfers (food, vouchers, and/or cash) for the beneficiary population.

Resilience. Numerous stakeholders define the focus of their interventions along this theme. USAID-BEST expects that a Title II development food assistance program will also incorporate enhancing resilience as an overarching objective. Specific projects to achieve this general goal could include shifting greater attention to MCHN programming as described above; strengthening livelihoods, employment opportunities, and agricultural investments to combat inconsistent climate and rainfall patterns; and forming village savings and loan groups and improving literacy to increase resilience at the community level.

Agricultural development and livelihoods. Depending on the objective of the agricultural development interventions - increased food availability, improved nutrition, improved incomes - Title II may consider working with HH kitchen gardens and communal market gardens and/or supporting less traditional value chains (e.g., cowpeas, orange flesh sweet potatoes), livestock, or in other sectors such as agroforestry (e.g., to integrate moringa, cinnamon trees, fruit trees, and even trees for firewood given how much time HHs spend collecting firewood for fuel and cooking).

Regarding the modality of response options, fortunately, numerous actors (GoM, WFP, etc.) have successfully piloted the use of flexible food assistance tools. As described in Chapter 3, the plethora of existing emergency programs (e.g., the FFP Emergency Food Security Project awards, WFP initiatives, ECHO-funded activities, etc.) already employ a wide range of methods for food assistance, and future awardees should draw on the lessons learned by these organizations. Market-based transfers appear to work well in Mali due to sufficient food availability and market functionality, and therefore, the next Title II cycle should consider incorporating these types of transfers (cash transfers, food vouchers, CFW, FFW, VFW, etc.).¹³³

Resilience activities such as road rehabilitation, communal reforestation, water and sanitation infrastructure improvement, and construction of irrigation schemes could be well-suited for CFW, FFW, and/or VFW programs that utilize food assistance in a manner to support local and regional markets.

USAID-BEST suggests FFP revisit the practice of providing unconditional general food distributions to the most vulnerable at select times during the year, which was a component of the previous Title II development programs. A new program with a strong resilience focus may choose to disregard this activity, which is difficult to manage as the beneficiary count varies by year and complicates support to livelihood strengthening due to a continual refocus on seasonal emergency responses. Alternatively, FFP could rely on any temporal seasonal emergency assistance response (e.g., such as those undertaken by CSA, WFP, and FFP EFSP awards) to carry out these kinds of distribution, if and when the need arises.

¹³³ This report uses FFW/CFW and FFA/CFA interchangeably because, in practice within the context of Mali these terms are treated the same. USAID-BEST notes that the meanings are not always equivalent in other countries and that FFP generally considers FFA/CFA more aligned with a resilience approach.

4.4. Geographic Targeting

Geographic targeting refers to the identification of regions in the country that should be targeted for interventions and, if possible, should reach down to *cercles*, communes, and communities.

In the previous Title II cycle, both the Consortium for Food Security in Mali (NEMA) and the Timbuktu Food Security Initiative (TFSI) shifted their geographic focus in the middle of programming due to the conflict in the north. NEMA initially covered Douentza (Mopti) and Bourem (Gao) but then switched to Bankass (Mopti), Tominian (Ségou), and Yorossa (Sikasso). As for TFSI, the original program area was in Timbuktu, Goundam, Dire, and Niafunke (Timbuktu) but operations relocated to Nara (Koulikoro).

Based on discussions with USAID, this report provides recommendations for geographic targeting on the assumption a new round of Title II development programming will exclusively focus on Mopti. To determine the specific *cercles* and communes under the next program intervention area, awardees should consider existing projects and strategies, and which geographic coverage would lead to the best implementation from a managerial, logistical, and programmatic perspective.

FTF overlap. Importantly, given that Mopti also falls into the Feed the Future (FTF) zone, awardees need to consider the most appropriate way to layer Title II and FTF activities. The following list provides, in no particular order, some of the possibilities to achieve complementarity:

- **Same cercles, same communities.** Since current FTF programs do not reach all the beneficiaries in their communities, Title II and FTF could work in the same communities to reach different beneficiaries. For example, in Mopti the PLW and U2s are not direct beneficiaries of FTF projects and, therefore, a future Title II MCHN intervention would not necessarily interfere with FTF projects. However, both FTF and Title II programs would need to coordinate the agricultural interventions in order to target different HHs. In this scenario, FTF could focus on mid- and large-scale farming HHs while Title II concentrates on assisting small-scale farmers and PLW/U2s; such an arrangement would allow for some HH members to be beneficiaries of more than one program.
- **Same cercles, distinct communities.** FTF does not program in all communities of every *cercle* in Mopti. Therefore, Title II could work in communities without any kind of FTF programming to broaden the reach of USAID food security programming.
- **Integrated interventions.** USAID could also consider a deeper collaboration between these two programs to target the same beneficiary HHs. Title II partners could implement the MCHN interventions while FTF manages agricultural interventions. This type of collaboration would require significant coordination in design, implementation, and overall management, but the layering could leverage the strengths of each program.
- **Condensed interventions.** Title II might consider selecting just a subset of *cercles*, communes, and communities and condense the Title II interventions into a smaller geographic area. Though implementation would be easier with this practice, it could also put pressure on local markets if programming includes significant food assistance.

Awardees also need to consider the most appropriate way to layer Title II with other USAID-funded activities, including Global Health and Democracy and Governance programs.

4.5. Seasonal Targeting

Considering seasonality is important when timing the food, cash, and/or voucher transfers to beneficiaries as consumption, marketing, production, and labor fluctuate based on the cropping

calendar. Nonetheless, to better support a resilience focus, most activities in a new Title II development food assistance program should occur on an annual basis.

For rural Malian HHs, consumption of own production occurs during harvest (roughly October/November-January) and the immediate months afterward. At other times (especially April-September), these HHs rely on market purchases to meet food needs, which places them at a disadvantage as this period is also often when cereal prices increase due to reduced availability.¹³⁴ To cope during the lean season, poor HHs send members to urban centers, including Bamako, to seek labor opportunities; these migrants then return for the harvest and other agricultural season obligations. Since Mali has only one growing season for its main cereals, during harvest time much of the country is engaged in essential labor, and children are even pulled out of school to help in the fields.

Alternative coping strategies in lean season include selling assets, going into debt, taking children out of school so they can find work, avoiding health center services, decreasing consumption, and eating native plants.¹³⁵ Such strategies are undermined by relatively poor terms of trade during lean season months. Beneficiaries report that the price of a goat decreases in lean months to 1/3 the price they could receive by selling the same animal at other times in the year.

Given the effect of seasonal changes on HH behavior, USAID-BEST recommends that a new Title II development program tailor transfers to the conditions of the lean and non-lean months. The paragraphs below detail the recommendations for design based on the type of activity.

MCHN. These activities should occur throughout the year, but awardees need to recognize that at certain times mothers will be busier with agricultural labor. A monthly transfer of a fortified blended food (see 4.8.2 for details on blended food options) complemented by a food voucher or cash would better support the entire HH during lean months.

FFW/CFW/VFW. Labor-based projects should also continue throughout the year, with specific adjustments based on the time of year as beneficiaries become occupied with agricultural labor demands on their own land during harvest and other peak periods. Village authorities and community members are best placed to plan out their own work schedules in alignment with the agricultural calendar. Awardees should understand seasonal migration patterns in the implementation area before designing FFW/CFW activities, especially those that provide cash, as such projects can be an incentive or disincentive to seasonal migration.

4.6. HH and Individual Targeting

Targeting the right person with the appropriate resources to meet program objectives minimizes any potential market distortions or negative impact on livelihoods. Providing food aid to a significant number of people who do not need or value it wastes limited time, money, and food resources.

No official standard exists for targeting HHs or individuals in Mali. Most NGOs select beneficiaries based on their own organization's standards and procedures. Emergency responses often utilize results from the Harmonized Framework for the Analysis and Identification of Areas at Risk and Vulnerable Groups in the Sahel, commonly referred to as the *Cadre Harmonisé*. Although this framework provides essential information for a Title II development program in monitoring areas of intervention and crop production for local

¹³⁴ FEWS NET, 2014, *Mali Food Security Outlook*.

¹³⁵ Personal communication with numerous NGOs, donors, and program beneficiaries, November 2014.

procurement, the results are more relevant to seasonal and acute responses than to longer-term development programs.

MCHN. NEMA and TFSI structured their MCHN programs to identify and treat moderately malnourished children under age 5. The MYAPs did not emphasize improving the health and nutrition of pregnant women. A new development food assistance program should divert from the existing norm within Mali of targeting malnourished individuals and instead aim to include all PLW and U2s in a select geographic area regardless of their socioeconomic or nutrition status. Some PLW and U2s may live in the same HH as beneficiaries of other programs, such as FTF.

Awardees should provide transfers conditional upon attendance at health and nutrition workshops, community-based growth monitoring sessions, and ante- and post-natal care visits.

FFW/CFW/VFW. Direct involvement of village authorities will be essential for all Title II objectives, and coordination with local leaders is especially important for communal labor-based projects. Since community members know who has assets, who receives remittances and which HHs are suffering from health constraints, they can offer awardees insight during the selection process to promote fairness and equity, even if the difficulty of the work by nature leads to self-selection of some of the poor and very poor families. NGOs report that community-based targeting is more reliable in the context of Mali as compared to other countries because community members share especially strong trust in one another, and a commitment to their village leader and structures.

4.7. Food Aid Ration Composition

The quantity and type of food distributed can affect incentives to produce and purchase food on the market, both directly and through price effects. If the ration exceeds perceived needs, the HH will likely decrease market purchases and/or sell the food aid. Since reviewing historical and present ration breakdowns informs the determination of the appropriate ration composition and size in a new cycle of programming, the following sections summarize the details of rations in previous MYAPs as well as current levels used by WFP, the International Committee of the Red Cross (ICRC), and school feeding programs.

4.7.1. Previous Title II MYAPs

NEMA. For the treatment of moderate acute malnutrition (MAM), NEMA provided Corn Soy Blend (CSB) and refined vegetable oil (RVO). Additionally, NEMA distributed bulgur wheat and peas as an incentive for FFW and safety net activities. The safety net ration was only provided for three months during the lean season to the most vulnerable. For both FFW and the safety net rations, CRS assumed a seven person HH.

Table 24. NEMA Food Aid Rations (g/person/day) by Activity

Commodity	Nutrition	FFW	Safety Net
Bulgur wheat		400	300
CSB	250		
Green split pea		555	25
RVO	25		

Source: USAID-BEST using data from CRS, received November 2014.

TFSI. Soy fortified bulgur wheat was given to HHs of malnourished children so as to ensure that the ready-to-use therapeutic food provided by the health center to treat MAM would reach the child. TFSI also provided soy fortified bulgur for FFW and in its safety net rations, assuming a five person HH.

Table 25. TFSI Food Aid Rations (g/person/day) by Activity

Commodity	Nutrition	FFW	Safety Net
Soy fortified bulgur	1,200	600	600

Source: USAID-BEST using data from Africare, received December 2014.

4.7.2. WFP

WFP distributes cereals (millet, sorghum, or rice depending on price and availability), pulses, fortified blended foods, RVO, and salt from a variety of sources, including local and regional procurement, international purchases, and in-kind donations. The general food distribution (GFD) ration is intended to last for 30 days and assumes a five person HH.

Table 26. WFP Food Aid Ration (g/person/day) by Activity

Program	Cereals	Pulses	SuperCereal	RVO	Salt
GFD	200	50	50	25	5
FFA	2,000	400		250	2.5
Nutrition 6-59 months			200		
Nutrition PLW			250	20	

Source: USAID-BEST using data from WFP, received November 2014.

Note: Infants receive SuperCereal Plus while PLW receive regular SuperCereal.

4.7.3. ICRC

ICRC provided three distributions in 2014 (April/May, June/July, and August/September) calculated off a daily caloric consumption of 2,400 kcals for a HH of six members to cover food needs for two months. This standard ration did not vary according to HH size or geography, but ICRC stated that it may redesign the composition in coming years as part of their ongoing portfolio monitoring.¹³⁶

Table 27. ICRC Food Aid Ration (kg per distribution)

	Rice	Wheat Flour (Semolina)	Pulses	Oil	Salt
ICRC	75	25	25	10 liters	1

Source: USAID-BEST using data from ICRC, received November 2014.

As a comparison to ICRC ration, the GoM CSA monthly ration size in 2014 was 18 kg of millet and/or sorghum per month per beneficiary HH. In the GoM CSA 2014 emergency response, some HHs received the cereals for three months and some for six months depending on the severity of the localized food crisis.¹³⁷

4.7.4. School Feeding

A National School Feeding Policy outlines GoM support to school meal programs. Besides government activities, which account for 10 percent of all school feeding programs, WFP covers 60 percent by drawing from multiple donor funding, and CRS funds the remaining 30 percent through USDA support.¹³⁸ Not all schools in Mali are beneficiaries of school feeding programs due to insufficient funding.

¹³⁶ Personal communication with ICRC/Bamako office, November 2014.

¹³⁷ Personal communication with GoM CSA, November 2014.

¹³⁸ Personal communication with CRS/Bamako office, November 2014.

WFP and CRS both integrate a carbohydrate (rice or millet), pulses, and RVO, accompanied by a girls' take-home ration (details below).

Table 28. WFP and USDA School Feeding Rations (g/student/day)

	Rice	Millet	Pulses	RVO	Take Home Ration
WFP		150	30	10	Quarterly 4 liter RVO girls' take-home ration
USDA (CRS)	100		30	10	Quarterly 4 liter RVO girls' take-home ration

Source: USAID-BEST using data from WFP and CRS, received November 2014.

Note: Specific details on the GoM school feeding projects were not sought out during the USAID-BEST field study since they are not crucial details for a Title II development program.

4.7.5. Beneficiary Preferences

In speaking with beneficiaries during the November 2014 field visit, a majority reported a preference for their current ration, notably cereals and oil, compared to any hypothetical alternative. Preferring the known is common across countries and is most likely because beneficiaries do not want to risk losing the assistance. However, when asked about the use of cash, beneficiaries varied in their opinions with some expressing fear of insecurity and possible theft while others stated that receiving cash would lessen the pressure they feel to share food with neighbors.¹³⁹

4.8. Recommendations for Commodity Selection

Awardees need to consider that no matter the commodity, Malians share meals, and therefore food aid rations, with the entire family.

Although the terms HH and family are often used interchangeably in common language and even in this report, these words do not always equate in the context of Mali given the prevalence of polygamy and its effect on communal living. For example, a HH might be a husband with three wives and many children, but a wife with her own children represent one family unit producing and consuming their own food. Implementing partners should be aware of this distinction for all activities.

The average family and HH size of beneficiary populations varies greatly from a family size of five upwards to seven or eight and a HH size of up to 20 depending on ethnicity, religion, level of education, health of the family, and socioeconomic status. Currently in Mali a standard for calculating food rations or cash transfer sizes does not exist and is not necessarily due to varying HH size but more likely a lack of consensus in the development community about the most appropriate manner for setting transfer size based on number of HH members. In planning the transfer size, awardees should take in consideration market prices at the regional level, beneficiary populations, HH and family dynamics, other existing transfers, food prices, and the security context.

4.8.1. Commodity Availability and Recommendations

From a market perspective, USAID/Mali and future Title II awardees can incorporate numerous local food procurement options into their MCHN and FFW rations and do not need to rely on transoceanic imported food aid. The following table summarizes the possible commodities available as of November 2014 based on a review of the agricultural market dynamics and suitable local foods for anticipated beneficiaries.

¹³⁹ Personal communication with beneficiaries of WFP GFD, WFP FFA, and WFP Nutrition activities, November 2014.

For the purpose of this report, transoceanic in-kind refers to traditional Title II food aid shipped from the US, donated to a NGO, and distributed in Mali. Donor local procurement refers to the NGOs themselves procuring a large quantity of food on the Malian market, either from local production or from imports, for distribution. In the table below, a "yes" beside cash transfers or food vouchers indicates the team's expectation that the commodity would be available in local markets if beneficiaries were provided cash transfers or food vouchers. (Whether beneficiaries would be *likely* to purchase the foods if provided a cash transfer or food voucher is treated separately, under Table 30.)

Table 29. Availability for Procurement by Commodity and Modality

Commodity	Transoceanic In-kind	Donor Local Procurement	Cash Transfers	Food Vouchers
Blended Foods	y	y	y**	y**
Bulgur wheat	y	n	n	N
Edible oil, fortified	y	n*	n*	n*
Maize	y	y	y	Y
Millet	n	y	y	Y
Pulses	y	y	y	Y
Rice	y	y	y	Y
Sorghum	y	y	y	Y

Source: USAID-BEST.

Note: y=available; n=not available;

*no assurance that the edible oil on the local market (cotton and palm blends) is consistently fortified.

**blended food availability is referring to Misola and Vitablé which are available only in select markets.

Given the availability of the above commodities, and considering typical consumption patterns, USAID-BEST has indicated in the table below the recommended modalities for food assistance. A check mark under the cash transfer or food voucher column is intended to convey that a beneficiary could easily purchase this food in their local market (i.e., the good is widely available) if cash or vouchers were provided and, based on typical consumption patterns, would be reasonably likely to do so.

Table 30. Recommended Options for Title II Rations

Commodity	Transoceanic In-kind	Donor Local Procurement	Cash Transfers	Food Vouchers
Blended foods	✓*	✓	✓**	✓**
Bulgur wheat	x	x	x	x
Edible oil, fortified	✓	x	x	x
Maize	x	x*	✓	✓
Millet	x	✓	✓	✓
Pulses	✓***	✓	✓	✓
Rice	x	x*	✓	✓
Sorghum	x	✓	✓	✓

Source: USAID-BEST.

Note: ✓=recommended

x=not recommended

x*=Rice and maize could be considered if price and production are favorable compared to other cereals.

✓*=Transoceanic in-kind CSB is recommended when local/regional supplies are insufficient or fail to meet food safety standards.

✓**=Locally made and available fortified blended foods Misola and Vitablé which are available only in select markets and are more likely to be purchased through a voucher program than cash transfer.

✓***=Transoceanic in-kind pulses should be considered when local/regional supply is insufficient.

USAID-BEST recommends against the distribution of bulgur wheat or soy-fortified bulgur wheat because Mali has a vibrant cereals market. Therefore, importing food, especially a foreign cereal, would only make sense in a time of crisis. Although beneficiaries of previous MYAPs are already familiar with bulgur, this group represents a small portion of the population and cannot adequately justify continued distribution.

If Title II awardees decide to distribute a fortified RVO, then they should procure it via transoceanic means because, despite the availability of edible oil in local markets, these products are not always fortified. Regarding pulses, Malians do produce and consume them and therefore it would be appropriate for distribution. However, cash/vouchers to beneficiaries for the purchase of fish, meat, or milk could also offer a way to access healthy protein.

Another possible collaboration between Title II and FTF in the new program cycle could include a future Title II awardee locally procuring millet, sorghum, and/or rice from FTF farmers if and when production is sufficient. Title II could source these cereals from FTF regardless of geographic location of the two programs.

Awardees should seriously consider program objectives, security, staff capacity to manage procurements, timing, HH patterns, and food preferences when designing and selecting the appropriate rations and transfers.

USAID-BEST focused primarily on local procurement of food for distribution in Mali and did not explore regional options. A larger West Africa study conducted by USAID-BEST during the same timeframe as the November 2014 field visit assessed food availability to address possible staple food needs in the three primary Ebola-affected countries (Guinea, Liberia, and Sierra Leone) and therefore is not especially pertinent for a new Title II program in Mali.

4.8.2. Food Assistance Modalities

The recent conflict has led beneficiaries and field staff to prioritize security as a main concern. Consequently, in determining the most appropriate transfer modality (in-kind, cash transfer, or food voucher) and delivery mechanism(s) for planned food assistance, awardees must consider this uneasiness when planning for implementation of such transfers.

Further, given that anticipated Title II development programming is expected to be relatively geographically concentrated (i.e., limited to the Mopti region of Mali), the scale of the program is a critical consideration for the awardee to take into account when designing and implementing any transfer modality that relies on the availability of local market supply. Specifically, the greater the percentage of the population receiving transfers and the higher the total value of transfers relative to the volume of market supply in the relevant marketshed, the more important it will be for the awardee to take the following actions:

- Ensure the ability and willingness of market vendors to respond to additional demand arising from transfers
- Set up a monitoring system that captures information about both prices and vendor activity to quickly enable any required program adjustments.

The monitoring system will need to cover the relevant marketshed, and not just the programmatic area, since unintended consequences may negatively affect both non-beneficiary HHs as well as non-participating vendors. For guidance on designing and implementing a monitoring system, potential awardees should consult their organizational resources as well as,

for example the LRP Learning Alliance tools available online¹⁴⁰ and the Humanitarian Practice Network's 2011 *Good Practice Review: Cash Transfer Programming in Emergencies*.

The following sections describe in greater detail the available modalities, in no particular order.

Cash. Although beneficiaries enjoy greater flexibility with this type of transfer to purchase those items that they feel are most needed, it remains a risky option and some actors are hesitant or refuse to bear the responsibility for transport, safekeeping, and delivery. Additionally, NGOs report that increasing prices in the market could diminish the value of cash received and consequently feel some apprehension when utilizing cash transfers over food vouchers

Currently, the conditional and unconditional cash transfer programs in Mali utilize a variety of ways to transfer money to beneficiaries, including:

- Mobile money (via Orange Money and Malitel);
- Bank-managed cash-in-hand distribution;
- NGO-managed cash-in-hand distribution;
- Trader-managed cash-in-hand distribution; and
- Cash vouchers.

WFP and other actors report if a better rate/fee was negotiated with the cell phone companies they would be more inclined to use a mobile phone-based modality for cash transfers. As an example of costs, an OFDA-funded World Vision project that provides West African CFA Franc (XOF) 50,000 each month via Orange Money to beneficiaries in Kolikani and Bamako must pay a fee of XOF 1,800 per transaction, or 3.6 percent of each transfer. For beneficiaries however, Orange Money kiosks are widespread across urban and rural areas and are commonplace even outside of donor-funded project areas. Orange Money kiosks only require a SIM card to process the transaction and therefore do not rely on ownership of a cell phone. NGOs report that beneficiaries are indifferent to the modality as long as the NGO bears the transaction cost.

Food vouchers. The use of vouchers provides awardees greater control over the type of food or non-food item that beneficiaries may purchase; awardees can also ensure that transfers are redeemed locally. Under a restricted food voucher program with preselected traders, the contract can be written so the traders cannot increase prices of preselected foods.

NGOs report lessons learned on the design of paper vouchers in Mali, including:

- Placement of noticeable expiration dates on the voucher;
- Utilization of graphics on the voucher since many traders and beneficiaries are illiterate;
- Discussions at the beginning regarding donor requirements in terms of logo placement; and
- Clear communication with the printing company on the cardstock and colors.

Electronic vouchers are not widely utilized likely due to other popular food assistance modalities, primarily paper food vouchers and cash transfers that became increasingly frequent after the 2012 conflict. Additionally, at that time, donors/NGOs did not feel inclined to invest in technology. Furthermore, the numerous stakeholders interviewed for this research reported a strong interest in establishing electronic payments and cash transfers via mobile technology instead of vouchers.

Local Blended Foods. Chapter 3 details the growing food processing sector in Mali and the nutritious foods currently in production of most relevance for FFP, however this information is

¹⁴⁰ Available via http://dyson.cornell.edu/faculty_sites/cbb2/MIFIRA/price_analysis/.

briefly highlighted again in this section because several local blended foods are relevant to the discussion of programmatic recommendations.

The large wheat mill Groupe AMI produces two of the main local blended food products: Vitablé and Nutriblé. Vitablé, consisting of wheat flour, sugar, micronutrient mix, and flavoring (vanilla, strawberry, chocolate, and banana), is sold on the commercial market primarily in pharmacies and supermarkets, and Groupe AMI gears this food toward children, PLW, and the elderly. Nutriblé contains the same ingredients but adds soybeans for protein and variable micronutrients. Groupe AMI only sells Nutriblé to humanitarian organizations to utilize in programs that treat malnutrition.

Twenty production facilities around the country also produce a local fortified blended food called Misola made of millet (60 percent), soybeans (20 percent), groundnuts (10 percent), sugar, and a micronutrient mix. Currently, these operations report an output of about 100 MT per month but state that they could increase production if demand grows.¹⁴¹ All ingredients in Misola are procured in Mali except the micronutrient mix.

Of these available options to Title II awardees, Misola is the only one that utilizes primarily local ingredients and contains the main Malian dietary staples of millet and sorghum. For these reasons, future programming should consider Misola the primary option in any preventative 1,000 days (preventing malnutrition in children under two (PM2A)-type) targeted MCHN blanket feeding. Depending on the number of PLW/U2 beneficiaries, Title II may need to support an increase in production capacity (and/or complement Misola with imported CSB). One potential additional benefit of supporting the use of Misola in a future Title II program is that FTF and/or Title II millet farmers may benefit since increasing Misola production would require greater volumes of millet.

If Title II awardees choose to program this food, they will need to conduct regular quality checks and food safety testing. Awardees should also remain aware of the two products from Groupe AMI in case of any changes in Misola production. Groupe AMI indicates a willingness to make any new products that meet USAID standards.

4.8.3. MCHN Ration Composition Options

Many key informants in the nutrition, food aid, and food security sector interviewed for this research stated that the only way to avoid food sharing or diversion of the ration from the intended beneficiary in a MCHN activity is to provide prepackaged ready-to-use foods, such as a Nutributter, Plumpy'Nut, Plumpy'Doz, and Plumpy'Sup.

Even though many key informants prefer pre-packaged ready-to-use foods, USAID-BEST suggests that Title II consider, upon consultation with a nutritionist, the use of fortified blended foods and/or food vouchers in a malnutrition prevention program rather than just ready-to-use foods. Fortified blended foods, such as Misola and other available foods, are more sustainable in the long term and HHs are more likely to continue consumption after a project ends. Regardless of the nutritious food transfer selected, a strong behavior change communication and nutrition education component should complement the transfer to ensure the transfer reaches the intended beneficiaries.

The table below presents some of the possibilities for the PLW and U2 ration, in no particular order, that would best avoid any negative market effect. The table provides some of the possible compositions, and is meant to be illustrative. Some options are based off a complete ration of

¹⁴¹ Personal communication with Association Misola, November 2014.

carbohydrate, fortified food, protein, and fat, while other options provide the beneficiary more flexibility, for example with a food voucher or cash transfer and a fortified food.

Table 31. Illustrative Composition Options for MCHN PLW and U2 Ration

Option A	Transfer	Timing	Source
Carbohydrate	Cash transfer or voucher	Year-round* (HH ration)	Beneficiary locally procured, local market (food and non-food items)
Fortified blended food	Misola	Year-round	Donor locally procured from Association Misola production centers
Protein	Cash transfer or voucher	Year-round*	Beneficiary locally procured, local market (fish, meat, milk, pulses, groundnuts, etc.)
Fat	Cash transfer or voucher	Year-round*	Beneficiary locally procured, local market (refined, cottonseed oil, imported palm oil, shea butter)
Option B	Transfer	Timing	Source
Carbohydrate	Millet and sorghum	Lean season (HH ration)	Donor locally procured
Fortified blended food	Misola	Year-round	Donor locally procured from Association Misola production centers
Protein	Food voucher	Year-round (HH ration)	Beneficiary locally procured, local market (fish, meat, milk, pulses, groundnuts, etc.)
Fat	RVO	Year-round	Transoceanic in-kind
Option C	Transfer	Timing	Source
Carbohydrate	Millet and sorghum	Year-round (HH ration)	Donor locally procured
Fortified blended food	CSB	Year-round	Transoceanic in-kind
Protein	Pulses	Year-round (HH ration)	Transoceanic in-kind or donor locally procured
Fat	RVO	Year-round	Transoceanic in-kind
Option D	Transfer	Timing	Source
Carbohydrate	Food voucher	Lean season (HH ration)	Beneficiary locally procured, local market (millet, sorghum, rice, maize, etc.)
Fortified blended food	Misola	Year-round	Donor locally procured from Association Misola production centers
Protein	Food voucher	Lean season (HH ration)	Beneficiary locally procured, local market (fish, meat, milk, pulses, groundnuts, etc.)
Fat	RVO	Year-round	Transoceanic in-kind

Source: USAID-BEST.

Note: Option A assumes no imported transoceanic in-kind food aid.

*During the lean season, cash transfer programming has greater potential to result in food price fluctuations and so will need to be especially well-targeted with market monitoring.

4.8.4. Labor-based Projects Ration Composition Options

Given the abundance of cereals and functioning market systems in Mali, especially during the harvest months, USAID-BEST recommends the inclusion of CFW to meet beneficiaries cash needs and to avoid self-monetization of commodities (an important factor to consider even though the previous MYAPs did not report it as a concern). However, due to security concerns awardees should consider conditions to manage the cash distribution and when necessary incorporate VFW and FFW. Title II awardees should design rations for the labor-based projects to reflect informal agricultural wage rates at the region and commune level since a national standard does not exist. Since this transfer is intended to be a wage and not a nutrition

intervention, awardees can select components of the options below based off program objectives, beneficiary preferences, timing, and commodity prices.

The table below presents in random order some of the possibilities for the FFW/CFW/VFW ration that would best avoid any negative market effect. As noted earlier, for the purposes of this report, FFW/CFW and FFA/CFA are frequently used interchangeably in Mali; FFP considers FFA/CFA more aligned with a resilience approach.

Table 32. Illustrative Composition Options for FFW/CFW/VFW Ration

Option A	Transfer	Timing	Source
General	Cash transfer	Non-lean season	Beneficiary locally procured, local market (food and non-food items)
Carbohydrate	Millet and sorghum	Lean season	Donor locally procured
Option B	Transfer	Timing	Source
Carbohydrate	Food voucher or cash transfer	Non-lean season	Beneficiary locally procured, local market (millet, sorghum, rice, maize, etc.)
Carbohydrate	Millet and sorghum	Lean season	Donor locally procured
Option C	Transfer	Timing	Source
Carbohydrate	Food voucher	Non-lean season	Beneficiary locally procured, local market (millet, sorghum, rice, maize, etc.)
Carbohydrate	Millet and sorghum	Lean season	Donor locally procured
Protein	Pulses	Year-round	Donor locally procured
Fat	RVO	Year-round	Transoceanic in-kind

Source: USAID-BEST.

Note: Options A and B assume no imported transoceanic in-kind food aid.

USAID-BEST does not recommend CFW on an annual basis because the concentration of Title II activities solely in the Mopti region and the large beneficiary population that a program would attract could lead to food price fluctuations. Awardees would need to engage in significant market monitoring before any implementation of CFW and ensure that activities are properly targeted.

4.9. Additional Considerations

Collaboration. Future Title II awardees should support and participate in existing NGO coordination efforts at the national and regional (Mopti) level through the food security cluster, nutrition cluster, and cash working group.

Humanitarian crisis. Awardees will have to create a contingency plan in the case that conflict and security become a concern in their programmatic area, as happened in the previous MYAPs.

Nutrition professionals. Numerous stakeholders reported the difficulty of finding professionals with sound proficiency in nutrition at the regional and community level, even in Bamako. One possible way to address this problem is for Title II awardees to incorporate regular nutrition trainings and certificates for their staff.

PM2A pro-natal effect. To address the concern that a PM2A-type program that provides a blanket food assistance distribution to PLW women could have a pro-natal effect Title II partners could design a program whereby a pregnant women can participate in the education sessions

and growth monitoring numerous times, but can only receive food rations once (for one pregnancy) or twice (for up to two pregnancies).

Chapter 5. Adequacy of Ports, Transport, and Storage

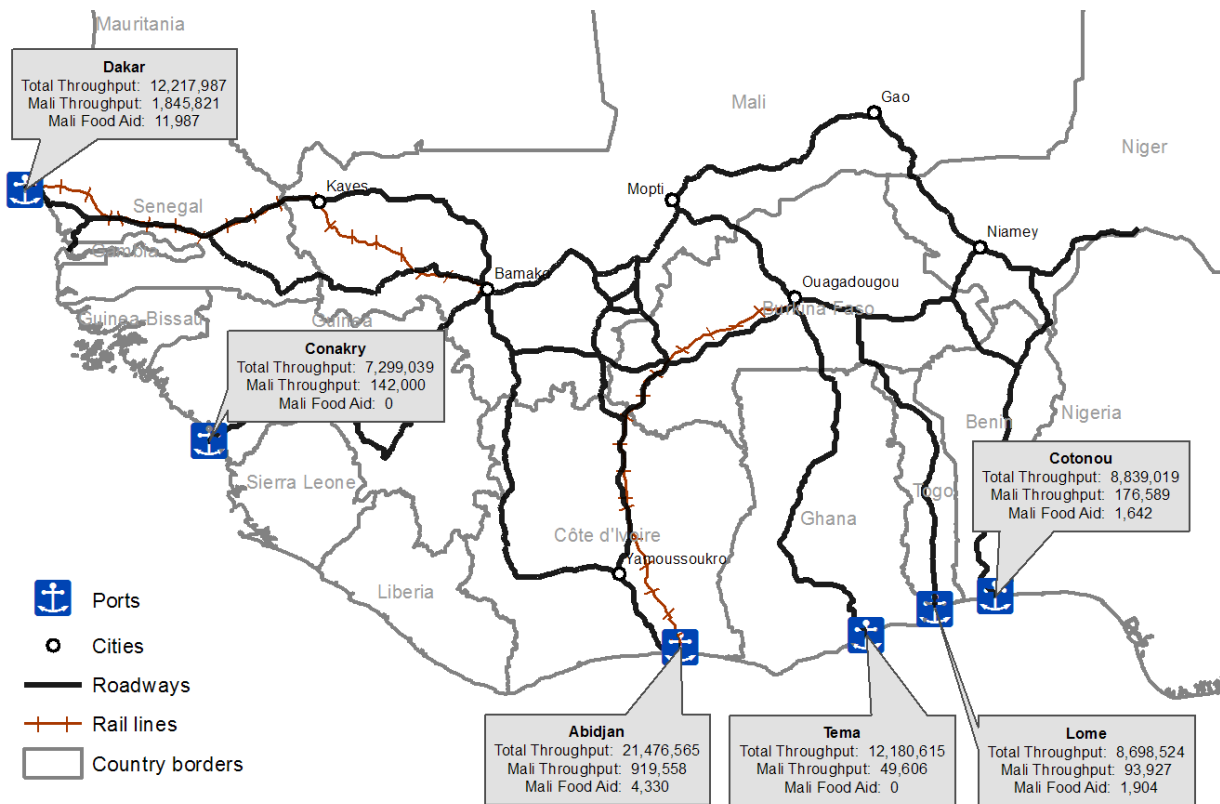
5.1. Introduction

The Bellmon Amendment requires that adequate storage facilities are available in the recipient country to prevent spoilage or waste of any donated food aid. USAID-BEST researched in November 2014 the regional ports serving Mali, transport routes in-country and regionally, and Mali's storage facilities; this assessment found these aspects of logistics capable of handling current food aid tonnages.

5.2. Ports

As a landlocked country, Mali heavily depends on its port-bearing neighboring countries for the import and export of goods. Given the numerous ports of medium to large capacity in the region, Mali has a number of options when considering the final destination and type of shipment. The map below illustrates those regional ports of major relevance.

Figure 32. Major Ports in West Africa, 2013

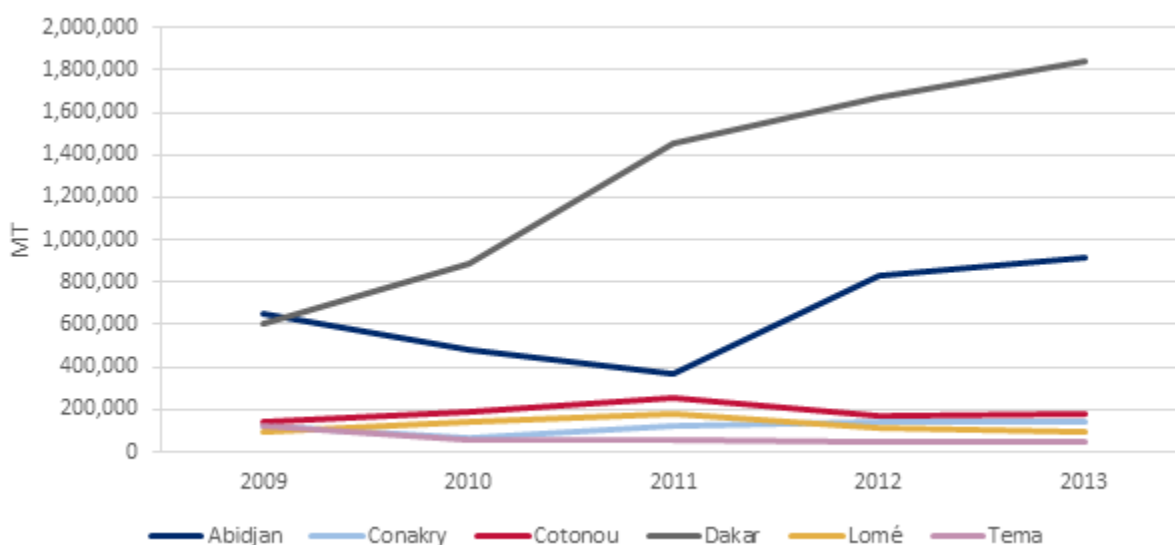


Source: USAID-BEST using data collected from FAO's GAUL dataset; annual reports of the ports of Abidjan, Conakry, Dakar and Tema; the website for the port of Lomé; the West Africa Trade Hub report on the Tema-Ouagadougou-Bamako corridor; personal communication with key informants; and WFP Interfais.

Presently, Mali imports commercial goods and food aid primarily through the Port of Dakar, Senegal. However, prior to the political instability in Côte d'Ivoire in 2002, Mali depended on the Port of Abidjan for the majority of its commercial imports. The figure below charts the changing

volumes at the regional ports for international transit cargo destined for Mali during the most recent five years for which data are available.

Figure 33. Mali International Transit Cargo, 2009-13 (MT)



Source: USAID-BEST using data collected from annual reports of the ports of Abidjan and Dakar, newspaper articles, and in-country communication with key informants.

With the renewed political stability in Côte d'Ivoire, informants report that Malian importers and traders are returning to Abidjan to transit their goods, but do not appear ready to completely abandon Dakar as a port of preference. Further, all ports in the region are investing heavily to attract the business not only of Mali, but other landlocked neighbors in the West Africa region. The wealth of regional infrastructure investment could change the status quo significantly in the coming years.

The following sections detail the primary ports in the region, in order of plausibility and significance, that may be options for future Title II awardees.

5.2.1. Port of Dakar

The Port Authority for the Port of Dakar (PAD, Port Autonome de Dakar) manages operations, but in 2008 leased oversight of the Container Terminal to Dubai Port World (DPW) for a period of 25 years.¹⁴²

As of early January 2015, the port requires sanitary inspection for all anchoring vessels hailing from Ebola-affected countries.¹⁴³ Following satisfactory results, vessels are cleared for entry.

Location. With its position on the Atlantic coast between ships heading south from Europe and the Mediterranean and those heading north toward those regions, the Port of Dakar is strategically positioned and thus a busy hub for international freight. Additionally, this port is a frequent port of call for goods heading to and from the landlocked countries to the east of Senegal, primarily Mali.

¹⁴² WAM, 2014, President of Senegal acclaims DP world's efforts in Dakar. <http://www.wam.ae/en/news/economics/1395269415885.html>, accessed October 2014.

¹⁴³ Personal communication with the Port of Dakar, January 2015.

Capacity. As the fifth largest port on the African continent,¹⁴⁴ the Port of Dakar handled 2,745 vessels in 2013 and averaged 2,661 vessels annually over the 2009-13 period (ranging from a low of 2,262 in 2009 and a high of 2,931 in 2011).¹⁴⁵ In this time, container vessels accounted for 28 percent of all traffic, followed by general cargo vessels (21 percent), Roll-on Roll-offs (RoRos, 16 percent), tankers and fishing vessels (each at 12 percent), other (9 percent), and mineral and cruise ships (each at 1 percent).¹⁴⁶

If considering throughput in terms of tonnage,¹⁴⁷ the volume has increased year-on-year from 8.7 million metric tons (MMT) in 2009 to 12.2 MMT in 2013. This growth since 2009 covers all categories of goods: bulk solids, bulk liquid, containerized goods, and other categories.

Transit cargo to and from neighboring countries accounts for a significant, and growing, proportion of the traffic at the Port of Dakar, rising from close to 700,000 MT in 2009 to 1.89 MMT in 2013 - an increase from 8 to 15 percent of all traffic at the port.¹⁴⁸ Over the same 2009-13 period, transit cargo to and from Mali increased from 86 to 98 percent of all transit cargo, averaging about 94 percent over the five year period. Imports for Mali (notably fertilizer, coal, petroleum products, rice, and sugar) increased from 576,000 MT to 1.6 MMT over the period, and exports from Mali (primarily iron ore) have increased from 26,000 MT to 229,000 MT.¹⁴⁹ Transit cargo to and from other countries fell, dropping from nearly 96,000 MT to 41,000 MT (a drop from 14 to two percent of transit cargo). Over the period, throughput for Mali increased from 7 to over 15 percent of all cargo at the Port of Dakar, which equates to a growth in tonnage from close to 600,000 MT in 2009 to 1.85 MMT in 2013.¹⁵⁰

To support burgeoning traffic and high volumes, the Port of Dakar possesses a container terminal with an annual throughput averaging over 328,000 Twenty Foot Equivalent Units (TEUs)¹⁵¹ per year, with a space that covers 24 hectares (ha) and contains three berths;¹⁵² however, another 76,000 TEUs are handled outside of the container terminal per year, bringing total annual throughput to over 400,000 TEUs.¹⁵³

DPW has increased overall port capacity to 600,000 TEUs per year since assuming control over container terminal operations in 2008,¹⁵⁴ and claims it has reduced wait time for vessels waiting

¹⁴⁴ After Richard's Bay and Durban in South Africa, Lagos (Nigeria), and Abidjan (Côte d'Ivoire). WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁴⁵ Port Autonome de Dakar, 2014, Rapport Statistiques 2013 Synthèse (2013 Statistical Overview).

http://www.portdakar.sn/images/RAPPORT_STATISTIQUES_2013_SYNTHESE.pdf, accessed October 2014.

¹⁴⁶ Traffic from container vessels, general cargo, and RoRo vessels comprised 65 percent of all traffic over 2009-13. Port Autonome de Dakar, 2014, Rapport Statistiques 2013 Synthèse (2013 Statistical Overview).

http://www.portdakar.sn/images/RAPPORT_STATISTIQUES_2013_SYNTHESE.pdf, accessed October 2014.

¹⁴⁷ Throughput is the sum of both import and export cargo.

¹⁴⁸ Port Autonome de Dakar, 2014, Rapport Statistiques 2013 Synthèse (2013 Statistical Overview).

http://www.portdakar.sn/images/RAPPORT_STATISTIQUES_2013_SYNTHESE.pdf, accessed October 2014.

¹⁴⁹ Although exports from Mali, primarily minerals, reached a high of 285,000 MT in 2012. Port Autonome de Dakar, 2014, Rapport Statistiques 2013 Synthèse (2013 Statistical Overview).

http://www.portdakar.sn/images/RAPPORT_STATISTIQUES_2013_SYNTHESE.pdf, accessed October 2014. Although exports from Mali, primarily minerals, reached a high of 285,000 MT in 2012.

¹⁵⁰ Port Autonome de Dakar, 2014, Rapport Statistiques 2013 Synthèse (2013 Statistical Overview).

http://www.portdakar.sn/images/RAPPORT_STATISTIQUES_2013_SYNTHESE.pdf, accessed October 2014.

¹⁵¹ From 2010-13, the container terminal had a low throughput of 286,000 TEU in 2010 and a high of nearly 360,000 TEU in 2013.

¹⁵² Port Autonome de Dakar, 2014, Installations.

http://www.portdakar.sn/index.php?option=com_content&view=category&layout=blog&id=62&Itemid=234&lang=en, accessed October 2014.

¹⁵³ Ibid.

¹⁵⁴ WAM, 2014, President of Senegal acclaims DP world's efforts in Dakar.

<http://www.wam.ae/en/news/economics/1395269415885.html>, accessed October 2014.

to dock from fifteen to zero hours (USAID-BEST did not investigate this claim). Additionally, the port has developed facilities to receive general cargo, container vessels, liquid and solid bulk, RoRos, Reefer (i.e., refrigerated), fishing vessels, and passenger ships.¹⁵⁵ Currently, the PAD is finishing a new Logistics Platform (referred to as the Port du Futur) within the port confines, which encompasses over 21 ha of space, and includes warehousing and offices for freight forwarders, wholesalers, and custom officers. DPW, the same operator of the container terminal, is facilitating this project and expects the Port du Futur to come online by 2020.¹⁵⁶

Specifications. The port has approximately 10 kilometers (km) of piers and 40 available berths,¹⁵⁷ divided between northern and southern zones. The PAD also recently increased the draft of its access canal to 13.5 meters (m),¹⁵⁸ and plans to further deepen it to 16 m,¹⁵⁹ though draft will vary at different piers.

The **southern zone** has piers 1, 2, and 3, which each have a draft between 8.5 and 10 m.¹⁶⁰ According to the PAD, this zone mostly handles general cargo, approximately 40 percent of container traffic, cargo in transit to Mali, and passenger cargo.¹⁶¹ To facilitate operations, this zone possesses 12 facilities for general cargo and three for RoRo traffic. Pier 3, dedicated to transit cargo en route to Mali, has an alongside draft of 10 m, but is in poor condition and requires reconditioning.¹⁶²

The **northern zone** has piers 4, 5, 8, and 10 with drafts that vary from 5-13 m,¹⁶³ and can accommodate all other varieties of cargo, including bulk wheat, rice, and oil.¹⁶⁴ The container terminal has a minimum draft of 11 m, and an alongside draft of 13 m;¹⁶⁵ moreover, due to the system of window berthing,¹⁶⁶ vessels calling at this terminal experience minimal wait time.¹⁶⁷

¹⁵⁵ WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁵⁶ Jeune Afrique, 2014, Senegal: à Dakar, ces quais qui ne dorment jamais (Senegal: Dakar, the ports that never sleep). <http://economie.jeuneafrique.com/regions/afrique-subsaharienne/23677-senegal-a-dakar-ces-quais-qui-ne-dorment-jamais.html>, accessed December 2014.

¹⁵⁷ WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁵⁸ Announcement of newly finished work: Port Autonome de Dakar, 2014, Cérémonie de réception des travaux de dragage, le 23 Avril 2014 à 16h au mole 1 (Reception ceremony for dredging work, April 23, 2014 at 4pm on Pier 1). http://www.portdakar.sn/index.php?option=com_content&view=article&id=575:ceremonie-de-reception-des-travaux-de-dragage-le-23-avril-2014-a-16h-au-mole-1&catid=60&Itemid=294&lang=en, accessed December 2014. . As of January 2015, the port authority has not updated their website to reflect this change.

¹⁵⁹ Le Soleil Online, 2013, Port autonome de Dakar: Le dragage du chenal d'accès permettra d'accueillir des navires de dernière génération (Autonomous Port of Dakar: Dredging of the access channel will accommodate the latest generation of ships). http://www.lesoleil.sn/index.php?option=com_content&view=article&id=34176:port-autonome-de-dakar-le-dragage-du-chenal-daces-permettra-daccueillir-des-navires-de-derniere-generation&catid=51:economy&Itemid=63, accessed December 2014.

¹⁶⁰ WFP, 2013, Logistics Capacity Assessment: Senegal - Additional Port of Dakar Information. <http://dlca.logcluster.org/download/attachments/853704/Additional%20Port%20of%20Dakar%20Information.docx?version=1&modificationDate=1376495778000&api=v2>, accessed October 2014.

¹⁶¹ Ibid.

¹⁶² Port Autonome de Dakar, 2014, Installations. http://www.portdakar.sn/index.php?option=com_content&view=category&layout=blog&id=62&Itemid=234&lang=en, accessed October 2014.

¹⁶³ WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁶⁴ Ibid.

¹⁶⁵ Ibid.

¹⁶⁶ Ibid.

¹⁶⁷ Whereby ships dock according to a prearranged schedule instead of docking on a first-come first serve basis. IDE-JETRO, 2009, DP World. http://www.ide.go.jp/English/Data/Africa_file/Company/senegal06.html, accessed December 2014. ; WAM, 2014,

The port has a variety of handling equipment, including four wharf gantry cranes, four mobile cranes, ten yard gantry cranes, fifteen reach stackers, and 30 forklifts.¹⁶⁸ The container terminal also has 400 connectors for reefer containers.¹⁶⁹

Further, the port of Dakar maintains compliance with the International Ship and Port Security (ISPS) Code.¹⁷⁰ A number of planned and/or on-going projects to improve infrastructure include: deepening the access channel to the port, rehabilitating the petroleum wharf, repairing Pier 3 (reserved for Malian Traffic), and installing a fruit terminal.¹⁷¹

Storage. The Port of Dakar can adequately store shipments. At present, the port has 112,500 square meters (sq m) of space for open storage, 48,800 sq m of covered warehousing space,¹⁷² 15,000 sq m of cold storage, and 13 ha of space for container storage.¹⁷³ With the completion of the Port du Futur, an anticipated 40,000 sq m of covered storage space in an area of 210,000 sq m will become available.¹⁷⁴

Goods in transit to Mali can make use of the Malian Warehouses in Senegal (EMASE, Entrepôts Maliens au Senegal), created via bilateral agreement between the two states in 1963 to facilitate transit to and from Mali. EMASE contains several facilities: a dedicated 2,350 sq m of covered warehouses on Pier 3 in addition to a 5,000 sq m covered warehouse and 4,000 sq m of open storage on the quay.¹⁷⁵ Additionally, EMASE offers quayside storage (23,000 sq m) at a facility in the Bel-Air section of Dakar, along with 30,000 sq m of covered warehousing and an undeveloped 9,600 sq m plot.¹⁷⁶

Required documentation for food aid shipments. Importers of food aid in transit to Mali must provide the following documents for customs clearance at the Port of Dakar:¹⁷⁷

- Commercial Invoice from supplier
- Freight Transport Invoice
- Certificate of Origin, issued by the Chamber of Commerce from originating country

President of Senegal acclaims DP world's efforts in Dakar. <http://www.wam.ae/en/news/economics/1395269415885.html>, accessed October 2014.

¹⁶⁸ Port Autonome de Dakar, 2014, Installations.

http://www.portdakar.sn/index.php?option=com_content&view=category&layout=blog&id=62&Itemid=234&lang=en, accessed October 2014.

¹⁶⁹ Ibid.

¹⁷⁰ WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁷¹ Port Autonome de Lomé, 2012, Projets (Projects).

http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=124&Itemid=112, accessed November 2014.

¹⁷² World Port Source, 2014, Port of Dakar: Port Commerce.

http://www.worldportsource.com/ports/commerce/SEN_Port_of_Dakar_2295.php, accessed December 2014.

¹⁷³ Ibid.

¹⁷⁴ Port Autonome de Dakar, 2014, Rapport d'Activités 2012 (Activity Report 2012).

http://www.portdakar.sn/images/fidak/RAPPORT_PAD.pdf, accessed December 2014.

¹⁷⁵ GoM, 2013, Mali National Report on the Implementation of the Almaty Programme of Action for Landlocked Developing Countries. <http://www.lldc2conference.org/custom-content/uploads/2013/07/Mali-National-report-English.pdf>, accessed December 2014.

¹⁷⁶ Ibid.

¹⁷⁷ Personal communication with Government of Senegal (GoS) Customs/Direction for Customs Operations, December 2014. Note that goods imported commercially into Senegal (as opposed to goods in transit to other countries) also require other documents for the customs clearance process. Port Autonome de Dakar, 2014, Customs clearance of imported goods.

http://www.portdakar.sn/index.php?option=com_content&view=article&id=214&Itemid=239&lang=en, accessed December 2014.

- Copy of the original bill of lading (B/L), or actual B/L, endorsed; food aid passing through Senegal destined for other countries must be marked "Cargo in transit to" the destination country on the B/L¹⁷⁸
- Certificate of Insurance
- Certificate of exchange for foreign currency (excluding the Euro)
- Packing List
- Quality certificate from authorities in originating country
- Quality control certificate from Senegalese health authorities

For certain products, additional documentation is required (see table below).

Table 33. Customs Clearance Documents Required by Commodity

Product/Certificate	Phytosanitary	Health	Origin	Fumigation	Best Used by Date/Expiry
Cereals	X		X	X	
Pulses	X		X		
Processed Cereals		X	X		
Processed Pulses		X	X		
Dairy Products		X	X		
Blended Food Products		X	X	X	
Oils	X		X		X
Sugar		X	X		
Canned Food		X	X		

Source: USAID-BEST using information from personal communication with Government of Senegal Customs/Direction for Customs Operations, December 2014, and WFP, 2013, Logistics Capacity Assessment: Senegal.

<http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014. ; Jeune Afrique, 2014, Senegal: à Dakar, ces quais qui ne dorment jamais (Senegal: Dakar, the ports that never sleep). <http://economie.jeuneafrique.com/regions/afrique-subsaharienne/23677-senegal-a-dakar-ces-quais-qui-ne-dorment-jamais.html>, accessed December 2014.

Note: The 2013 WFP LCA for Senegal noted select imports may require GMO documentation for entrance into Senegal, but GMO requirements may differ for transit goods to Mali.

In all cases awardees should work with a certified freight forwarder. Additionally, WFP notes that any goods shipped in bulk should always be accompanied by bags.¹⁷⁹

Importers of goods in transit to Mali must obtain a transit bond note that transfers customs formalities from the office at the port to the customs office at the border, which requires the following documents:¹⁸⁰

- Declaration of export from country of origin
- Bank guarantee
- Confirmation of clearance from different offices within customs

Goods in transit are not subject to customs fees upon arrival at the port. Although they are liable for handling fees, they do receive the following benefits:¹⁸¹

- Priority docking (at Post 32, on Pier 3)
- A 10 percent discount on fees for storage at bonded warehouses
- 50 percent discount for fees on goods at loading and unloading from vessel

¹⁷⁸ WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁷⁹ Ibid.

¹⁸⁰ Port Autonome de Dakar, 2014, Customs clearance of imported goods. http://www.portdakar.sn/index.php?option=com_content&view=article&id=214&Itemid=239&lang=en, accessed December 2014.

¹⁸¹ Ibid.

- A flat rate fee per container, for goods in transit
- Exemption from VAT for port fees
- Incentive structure for rebates on shipments over a certain level
- Station available for oversized Malian tractor trailers

After being cleared to leave the port, goods in transit receive a customs escort to the border.¹⁸²

Key informant experience. Experience with the Port of Dakar varied by individual or organization, but in general, as of November 2014, key informants agreed that Dakar was the most suitable option for food assistance cargo en route to the Bamako region of Mali. The Malian Shippers Council (CMC, Conseil Malien des Chargeurs) felt that Dakar would better suit shipments of food aid cargo, and key informants in the freight forwarding sector felt that Dakar was the better and faster option for cargo to Mali. Catholic Relief Services (CRS) reported delays in receiving cargo from the port, but WFP did not encounter such problems and as of the November 2014 field visit reaffirmed the Port of Dakar as its primary choice for goods destined for the Bamako region.

5.2.2. Port of Abidjan

Under the management of the Port Authority of Abidjan (PAA, Port Autonome d'Abidjan), the Port of Abidjan currently handles as much as 40 percent of cargo in transit to Mali. Regionally, the Port of Abidjan represents the largest port in West Africa, and continent-wide is the fourth largest port in Africa. Although traffic at the port fell following the political instability of the late 1990s and early 2000s, it has rebounded since the most recent political crisis in 2010-11.

As of December 2014, all vessels that have called at countries with active cases of Ebola are subject to mandatory inspection in the outer harbor prior to being granted entry into port confines.¹⁸³

Location. Situated in the country's largest city and financial center of Abidjan, the port lies 100 km from Côte d'Ivoire's border with Ghana, and 400 km from the its border with Liberia.

Capacity. In terms of utilized capacity, the port handled a throughput of over 21 MMT in 2013, and over 2,900 vessels hailed at the port in 2013.¹⁸⁴ Traffic in transit to Mali has increased to reach 800,000 MT in 2013 from a low of 350,000 MT in 2011 during the political crisis; exports from Mali also increased from 18,000 MT in 2011 to 115,000 MT in 2013.¹⁸⁵ Volumes of transit cargo for Burkina Faso have increased as well at the port, with imports rising from 330,000 MT to 740,000 MT, and exports rising from nearly 64,000 MT to close to 145,000 MT from 2011-13.¹⁸⁶ Overall, total throughput for transit cargo reached 1.8 MMT in 2013 from a low of 760,000 MT in 2011.¹⁸⁷

According to the PAA, the Port of Abidjan has the capacity to accommodate as many as 60 vessels at a single time and can process approximately 23 MMT of total cargo throughput in a

¹⁸² WFP, 2013, Logistics Capacity Assessment: Senegal. <http://dlca.logcluster.org/display/public/DLCA/Senegal>, accessed October 2014.

¹⁸³ Xinhua News Agency, 2014, Côte d'Ivoire/Ebola: Les navires provenant du Nigéria et du Sénégal ne seront plus inspectés (Ships from Nigeria and Senegal no longer inspected). <http://news.abidjan.net/h/513780.html>, accessed December 2014.

¹⁸⁴ Port Autonome d'Abidjan, 2014, Rapport d'Activités (Annual Report) 2013. <http://www.portabidjan.ci/sites/default/files/document-pdf/rapportpaa2013.pdf>, accessed October 2014.

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

given year.¹⁸⁸ The container yard has 30 ha of space and four separate berths of 11.5-12.5 m draft. In 2013, this terminal handled 170,000 TEUs of imports and 181,000 TEUs of exports, for a total of 351,000 TEUs.¹⁸⁹ Combined with the nearly 100,500 TEUs of empty TEUs imported and 80,700 empty TEUs exported, and 117,000 TEUs of transshipped containers, the port handled approximately 649,200 TEUs in 2013.¹⁹⁰

Given the current level of international and regional traffic, the port possesses sufficient facilities to process a large variety of cargo, including: general, bulk vegetable oil and wheat, petroleum, timber, fertilizer, and fresh fish. In terms of grains, the port has the capacity to handle approximately 400,000 MT of bulk wheat per year at a daily handling rate of 4,000-6,000 MT of wheat per hour.¹⁹¹ Furthermore, the port also has facilities to bag up to 2,000-5,000 MT of bulk flour, rice, and fertilizer per day.¹⁹²

Specifications. The port has a large number of berths to accommodate a wide variety of vessels and cargo. Besides the 20 general cargo conventional berths divided across its three main quays, specialized berths handle lightering vessels; barges; vessels carrying vegetable oil, petroleum, wine, timber, fruit, oil, grain, industrial cargo, and RoRo cargo; and container vessels.¹⁹³ In all, the quays and berths extend 6 km in total with a water surface extending 10 million sq m, all of which serve a land area of 8 million sq m.¹⁹⁴

The channel of entry into the port (known as the Vridi Channel) is 2.7 km long and 370 m wide with a draft of 11.5 m.¹⁹⁵ Currently, the length of permissible vessels is limited to 250 m.¹⁹⁶ Draft at the three main general cargo and two container berths ranges from 10-11.5 m in depth.¹⁹⁷ The port has the following equipment to handle cargo, each with the following capacity:¹⁹⁸

- Six gantry cranes of 40 MT
- Three mobile cranes of 100 MT
- 16 rubber tire gantry cranes of 40 MT¹⁹⁹
- 13 super stackers of 45 MT
- Six stackers of 40 MT
- 11 forklifts of varying capacity, from four to 32 MT
- 45 Tug Master Tractors of 40 MT
- 55 Cornerless Trailers of 40 MT

¹⁸⁸ As listed as the "target" for global traffic at the port for 2013. Port Autonome d'Abidjan, 2014, Rapport d'Activités (Annual Report) 2013. <http://www.portabidjan.ci/sites/default/files/document-pdf/rapportpaa2013.pdf>, accessed October 2014.

¹⁸⁹ Port Autonome d'Abidjan, 2014, Rapport d'Activités (Annual Report) 2013. <http://www.portabidjan.ci/sites/default/files/document-pdf/rapportpaa2013.pdf>, accessed October 2014.

¹⁹⁰ Ibid.

¹⁹¹ Port Autonome d'Abidjan, 2014, Installations et Activités (Installations and Activities). <http://www.portabidjan.ci/fr/content/installations-et-activit%C3%A9s>, accessed October 2014.

¹⁹² Ibid.

¹⁹³ WFP, 2013, Logistics Capacity Assessment: Côte d'Ivoire. <http://dlca.logcluster.org/pages/releaseview.action?pagelId=853507>, accessed October 2014.

¹⁹⁴ Ibid.

¹⁹⁵ Port Autonome d'Abidjan, 2014, L'Agrandissement du Canal de Vridi (Enlargement of the Vridi Canal). <http://www.portabidjan.ci/fr/projets/l%E2%80%99agrandissement-du-canal-de-vridi>, accessed October 2014.

¹⁹⁶ Ibid.

¹⁹⁷ WFP, 2013, Logistics Capacity Assessment: Côte d'Ivoire. <http://dlca.logcluster.org/pages/releaseview.action?pagelId=853507>, accessed October 2014.

¹⁹⁸ Port Autonome d'Abidjan, 2014, Terminal à Conteneurs (Container Terminal). <http://www.portabidjan.ci/fr/content/terminal-%C3%A0-conteneurs>, accessed October 2014.

¹⁹⁹ An additional 16 rubber tire gantry cranes are on order. Port Report Africa, October 2014, *Port of Abidjan*. An additional 16 rubber tire gantry cranes are on order.

The port is ISPS compliant and is open seven days a week, 365 days per year. Additionally, a GPS management system improves performance at the container terminal by moving about 60 containers per hour.²⁰⁰

As the political environment in Côte d'Ivoire continues to stabilize, and consequently port activities increase, the PAA plans to further invest in improvements that would increase the economic competitiveness of the Port of Abidjan within the region.²⁰¹ One planned future project is a second container terminal (TC2, Terminale de Containers 2) conceded to the supervision of APM Terminals/Bolloré Africa/Bouygues TP Group. TC2 will include a 1,250 m long quay with three berths that will each have a draft of 18 m, which would allow the passage of vessels with a capacity of 8,500 TEUs - a volume unprecedented in the region.²⁰² Some other investments currently underway or planned for the near future include:²⁰³

- Deepening the Vridi Canal to a draft of the 15-16 m, thus allowing it to receive general cargo and container vessels of any length;
- Backfilling the bay behind the Vridi Lagoon to create more land space;
- Constructing a new grain terminal to create 10 ha of reclaimed land and add warehouse space;
- Updating and rehabilitating beacons and coastal lighthouses;
- Upgrading the electrical network and equipment;²⁰⁴
- Improving telecommunication networks and equipment; and
- Installing a system to save energy port-wide and generate revenue from the sale of electric power.

Via these investments, the PAA hopes to make the Port of Abidjan the most important transshipment hub on the Atlantic coast of Africa.²⁰⁵

Storage. The Port of Abidjan possesses substantial storage capacity. Within the customs area, the port has the following spaces:²⁰⁶

- 19 warehouses - 106,200 sq m/each
- 19 open storage areas - 54,000 sq m of space
- An open space of approximately 75,000 sq m, on which will stand approximately 25,000 sq m of warehousing when construction is completed
- Paved open storage for containers - 280,000 sq m
- Other specialized facilities for, among other goods, fruit, lumber, and cacao

²⁰⁰ Port Autonome d'Abidjan, 2014, Installations et Activités (Installations and Activities).

<http://www.portabidjan.ci/fr/content/installations-et-activit%C3%A9s>, accessed October 2014.

²⁰¹ Port Autonome d'Abidjan, 2014, Rapport d'Activités (Annual Report) 2013. <http://www.portabidjan.ci/sites/default/files/document-pdf/rapportpaa2013.pdf>, accessed October 2014.

²⁰² Notably, in an effort to compete against other ports in the region, the port will be offering a discount of 40 percent on tariffs at the new container terminal. Port Autonome d'Abidjan, 2014, Rapport d'Activités (Annual Report) 2013.

<http://www.portabidjan.ci/sites/default/files/document-pdf/rapportpaa2013.pdf>, accessed October 2014.

²⁰³ Port Autonome d'Abidjan, 2014, Rapport d'Activités (Annual Report) 2013. <http://www.portabidjan.ci/sites/default/files/document-pdf/rapportpaa2013.pdf>, accessed October 2014.

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Port Autonome d'Abidjan, 2014, Espace Sous Douane (Space Under Bond). <http://www.portabidjan.ci/fr/content/espace-sous-douane>, accessed November 2014.

The container terminal can store approximately 20,000 TEUs of cargo concurrently, as well as accommodate 456 Reefer containers.²⁰⁷ Outside of the customs area, the port has approximately 4.4 million sq m of available storage.²⁰⁸

Just as at the Port of Dakar, Mali has dedicated storage in Côte d'Ivoire of the following specifications:²⁰⁹

- In Vridi, a 6,000 sq m warehouse dedicated to cotton bales from Mali with the capacity to hold 3,000 MT
- A quayside storage area next to the customs warehouse of 5,342 sq m
- An enclosure of 10,660 sq m located in the Vridi industrial zone that includes an office building
- A 1,000 sq m warehouse in Ouangolodougou²¹⁰ for break bulk cargo

Required documentation for food aid shipments. For shipments arriving by ocean vessel, customs at the port must receive the following documents seven days prior:²¹¹

- B/L
- Supplier Invoice
- Certificate (proof) of Insurance
- Shipping Invoice
- Packing List
- Cargo Tracking Note (from the Ivorian Shippers Office)
- Certificate of Origin

Goods in transit to Mali must also include:²¹²

- Container packing certificate
- Carnet Interstate Road Transportation (TRIE, Transport Routier Inter-Etat)
- Declaration of entry for declarations of discharge

The Ivorian customs office considers phytosanitary documents (for grains/vegetable matter) and health certifications (for products of animal origin) for goods in transit to be a matter of the destination country.²¹³

²⁰⁷ Port Report Africa, October 2014, *Port of Abidjan*.

²⁰⁸ Port Autonome d'Abidjan, 2014, Espace Hors Douane (Space Out Customs). <http://www.portabidjan.ci/fr/content/espace-hors-douane>, accessed December 2014.

²⁰⁹ GoM, 2014, *EMACI Rapport d'Activités: 2013 (Annual Report: 2013)*. Known as the Malian Warehouses in Côte d'Ivoire (EMACI, Entrepôts Maliens en Côte d'Ivoire). Known as the Malian Warehouses in Côte d'Ivoire (EMACI, Entrepôts Maliens en Côte d'Ivoire).

²¹⁰ Ouangolodougou is located in the north of Côte d'Ivoire and is served by the railway connecting Abidjan to Ouagadougou.

²¹¹ If appropriate, commercial goods imported via the port of Abidjan may also require an Advance Import Declaration and certificate confirming ECOWAS or WAEMU origin. GoCI, 2012, Dédouanement (Customs Clearing Process).

<http://www.douanes.ci/?page=Infos.Dedouanement.dedouanement&rub=dedouanement>, accessed December 2014. If appropriate, commercial goods imported via the port of Abidjan may also require an Advance Import Declaration and certificate confirming ECOWAS or WAEMU origin.

²¹² GoCI, 2012, Dédouanement (Customs Clearing Process).

<http://www.douanes.ci/?page=Infos.Dedouanement.dedouanement&rub=dedouanement>, accessed December 2014.

²¹³ A key informant in Ivorian customs noted that phytosanitary and health certificates would not hinder the formality process. Personal communication with GoCI Customs/Service Douanier du Port, December 2014.

Key informant experience. CRS currently uses the Port of Abidjan as its default port for programs in Mali and Burkina Faso. The International Committee of the Red Cross (ICRC) similarly expressed satisfaction with the Port of Abidjan and cited security as the main reason for their decision to utilize this port despite the higher cost compared to other regional options. Part of the comfort that ICRC feels in transiting goods through the Port of Abidjan also comes from the fact that there is only one border crossing en route to Mali (compared to two if using the ports of Lomé and Cotonou).

However, WFP and numerous freight forwarders uniformly stated that the charge for transit cargo to Mali from Abidjan is prohibitively high. One informant stated that Abidjan is guilty of applying unnecessary movements when unloading and moving goods from vessel to container yard or storage facility at the port so as to extract more money from customers, given that fees collected often depend on the number of movements performed.

5.2.3. Port of Tema

The Ghana Ports and Harbour Authority (GPHA) manages the Port of Tema, which serves as the primary port in Ghana and handles approximately 80 percent of the country's international cargo.²¹⁴ Import cargo in transit to Mali has decreased steadily in recent years in favor of Dakar and, to a lesser extent, Abidjan.

As of January 2015, vessels hailing from Ebola-affected countries must notify the port prior to arrival of any crew members displaying symptoms of the Ebola virus.²¹⁵ Further, the crew are required to disinfect cargo handling areas prior to arrival at the port. Vessels are permitted to dock upon satisfactory screening by port health officials.

Location. About 29 km east of the capital of Accra, the Port of Tema lies almost directly on the Prime Meridian on the Gulf of Guinea.²¹⁶

Capacity. The port received 1,553 vessels in 2013, down from a 10-year high of 1,994 in 2006. Total throughput in 2013 was approximately 12.2 MMT, with imports just over 10 MMT, exports at approximately 1.5 MMT, and goods in transit at 620,000 MT (down from a high of 887,000 MT in 2006). The dedicated container terminal, located on Quay 2, handled 842,000 TEUs in 2013.

Although in 2003, the Port of Tema handled 416,000 MT of cargo in transit to Mali, that number dropped significantly in 2013 to 50,000 MT. That same year, Burkina Faso surpassed Mali in the usage of this port, accounting for 464,000 MT of total goods in transit.

Specifications. The Port of Tema has a total of 12 berths across two quays with a combined length of nearly 2.2 km. Berths 1 and 2 on Quay 2 is a dedicated container terminal that can receive vessels with a maximum draft of 11.5 m and length of 275-299 m. Berths 3 – 11 serve a variety of cargo, and Berth 12 exclusively handles clinkers. WFP reports that the port frequently lightens vessels to dock them at more shallow berths.²¹⁷

²¹⁴ World Port Source, 2014, Port of Tema: Review and History.

http://www.worldportsource.com/ports/review/GHA_Port_of_Tema_2242.php, accessed December 2014.

²¹⁵ Personal communication with GPHA/Customer Service, January 2015.

²¹⁶ World Port Source, 2014, Port of Tema: Review And History.

http://www.worldportsource.com/ports/review/GHA_Port_of_Tema_2242.php; , Ghana Ports and Harbour Authority, 2013, Tema Port: The Maritime Hub of West Africa. <http://ghanaports.gov.gh/files/a161bfded01e46f88d8e09fe19dea2e0.pdf>, accessed December 2014.

²¹⁷ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

Three 45 MT gantry cranes and six 30-200 MT mobile cranes (four reserved for container vessels on Pier 2) are used to unload cargo. According to WFP, gantry cranes only operate one at a time because of electricity problems and the tendency of ships to utilize their own gear.²¹⁸ The unloading rate for the gantry cranes is between 20-25 containers per hour, although as of the most recent WFP Logistics Capacity Assessment, problems of power supply prevented more than one crane from operating at a time; shipping vessels thus normally unload at an hourly rate of 10-12 containers.²¹⁹ The port can unload conventional cargo at 250 MT per hatch per shift,²²⁰ and 200 forklifts of varying capacity (5-40 MT capacity) serve the port and vessels.²²¹ Additionally, 290 connection points facilitate Reefer containers.²²²

The Port of Tema averages about 400 containers (of both 20 and 40 feet (ft)) per day, averaging about 100 TEUs and 100 Forty Foot Equivalent Unit containers per shift. Six private sector back port terminals support the container-handling facilities by providing services to receive, store, and deliver containerized goods.²²³

The port has facilities to bag bulk fertilizer, but WFP reports that suppliers can bring their own bagging machines for those operations as well.²²⁴ The port has a dry dock for ship repair. As of 2013, turn-around time for vessels stood at six days, although the GPHA hoped that with the arrival of new mobile cranes would allow them to lower this time to four days.²²⁵

The GPHA has launched a US\$1 billion multi-phase plan to significantly increase capacity.²²⁶ The first phase of construction will include two new berths for container terminals (each with an alongside draft of 16 m), as well as facilities for RoRo and cruise ships; Phase 1 will bring throughput at Tema to over 2 million TEUs per year.²²⁷ Phases 2-5 will add additional container terminals and other facilities to handle fruit and other foodstuffs, and installations to serve oil rigs in the region.²²⁸

The port is open every day of the year, although ships are only handled in emergencies on Christmas Day and Good Friday.²²⁹ The port is ISPS compliant.²³⁰

²¹⁸ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

²¹⁹ Ibid.

²²⁰ WFP reports that laborers work on contract and stop unloading once this tonnage is reached. WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014. WFP reports that laborers work on contract and stop unloading once this tonnage is reached.

²²¹ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

²²² Ibid.

²²³ Ibid.

²²⁴ Ibid.

²²⁵ Attenkah, Richard, 2014, Vessel turnaround time at Tema port to reduce to four days. <http://allafrica.com/stories/201401090796.html>, accessed October 2014.

²²⁶ Port Finance International, 2014, APMT signs \$1bn deal with Ghana for Tema Port expansion. [http://www.portfinanceinternational.com/categories/emerging-economies/item/1861-apmt-signs-\\$1bn-deal-with-ghana-for-tema-port-expansion](http://www.portfinanceinternational.com/categories/emerging-economies/item/1861-apmt-signs-$1bn-deal-with-ghana-for-tema-port-expansion), accessed November 2014.

²²⁷ Ghana Ports and Harbour Authority, 2014, Ghana Ups the Ante. <http://ghanaports.gov.gh/news/1092/GHANA-UPS-THE-ANTE->, accessed December 2014.

²²⁸ Port Finance International, 2014, APMT signs \$1bn deal with Ghana for Tema Port expansion. [http://www.portfinanceinternational.com/categories/emerging-economies/item/1861-apmt-signs-\\$1bn-deal-with-ghana-for-tema-port-expansion](http://www.portfinanceinternational.com/categories/emerging-economies/item/1861-apmt-signs-$1bn-deal-with-ghana-for-tema-port-expansion), accessed November 2014.

²²⁹ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

Storage. For containers and other products suitable for outside storage, the port has 77,200 sq m of open paved space.²³¹ Additionally, approximately 25,000 sq m across six sheds are available for enclosed storage, which collectively could hold about 50,000 MT of cargo.²³² About 18 ha of paved space could be utilized for up to 2,000 MT of cold storage.²³³ WFP reports that two private companies could also provide approximately 24 ha of warehousing space outside of the port.²³⁴

Required documentation for food aid shipments. Any food aid entering the Port of Tema must comply by providing the same documentation as commercial goods.²³⁵

- Original B/L
- Attested invoice
- Import declaration form
- Final classification and valuation report
- Tax clearance certificate
- Tax payers identification number
- Delivery order

Good should also be accompanied by permits, licenses, and details as noted in the table below.

Table 34. Customs Clearance Documents Required by Commodity

Commodity	Phytosanitary	Veterinary	Health	Origin	Production /Crop Year	Best Used by Date/Expiry
Cereals	X			X	X	
Pulses	X			X	X	
Processed Cereals			X	X		X
Dairy Products		X	X	X		X
Blended Food Products			X	X		X
Vegetable Oils			X	X		X
Sugar			X	X		X
Canned food			X	X		X

Source: USAID-BEST using information from WFP, 2014, Ghana Overland delivery. <http://dlca.logcluster.org/display/public/DLCA/1.4.3+Ghana+Overland+delivery>, accessed December 2014.

Imports of transit goods require the following documents as well:²³⁶

²³⁰ Ghana Ports and Harbour Authority, 2013, Tema Port: The Maritime Hub of West Africa.

<http://ghanaports.gov.gh/files/a161bfded01e46f88d8e09fe19dea2e0.pdf>, accessed December 2014.

²³¹ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

²³² Ibid.

²³³ Ghana Ports and Harbour Authority, 2014, FAQs. <http://ghanaports.gov.gh/fag>, accessed December 2014.

²³⁴ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

²³⁵ Ghana Ports and Harbour Authority, 2013, Tema Port: The Maritime Hub of West Africa.

<http://ghanaports.gov.gh/files/a161bfded01e46f88d8e09fe19dea2e0.pdf>, accessed December 2014.

²³⁶ WFP, 2014, Ghana Overland delivery. <http://dlca.logcluster.org/display/public/DLCA/1.4.3+Ghana+Overland+delivery>, accessed December 2014.

- Transport Loading Advice
- Loading Ticket

WFP notes that importers wishing to transit relief commodities through Ghana should submit a letter requesting approval from the Ministry of Foreign Affairs; upon approval, the Ministry will forward the request to customs.²³⁷ Upon approval from customs, the Cost and Freight agent submits the full set of shipping documents and customs-endorsed Ministry approval at the port of entry.²³⁸

Key informant experience. Few informants had worked directly with the Port of Tema, but CRS referred to language as being a major barrier for Malian transit cargo through Ghana. Further, Ghana has been stricter in its implementation of axle load limits than other countries in West Africa, which has affected transit cargo through its ports as well.²³⁹

5.2.4. Port of Lomé

Following the 2002 onset of a civil war in Côte d'Ivoire, the Port of Lomé in neighboring Togo became one of the ports of choice for cargo en route to its West African landlocked neighbors. Lomé maintained that status until political stability returned to Côte d'Ivoire in 2012. Volumes at the Port of Lomé destined for Mali averaged 120,000 MT per year since 2009, and fell sharply to a five-year low of 94,000 MT in 2013 from a high of 178,000 MT in 2011.²⁴⁰

Location. Situated immediately to the east of Ghana, the long, narrow country of Togo has approximately 50 km of shoreline on the Bight of Benin in the Gulf of Guinea. With its natural water depth of 14 m, the Port of Lomé has one of the deepest drafts in West Africa.

Capacity. The port handled a total throughput of 311,470 TEUs in 2013, which aligns closely to its five-year average of 329,000 TEU.²⁴¹ However, the volume of imports via containers (2.38 MMT) is almost double the tonnage of exports (1.35 MMT).²⁴² A variety of cargo passes through the port, including containerized, refrigerated, RoRo, and conventional cargo in bulk or bagged form.²⁴³ In 2013, throughput at the port totaled nearly 8.7 MMT;²⁴⁴ imports accounted for the majority of this volume at 6.58 MMT while exports were close to 1.5 MMT. Shipments in transit represented 620,000 MT of traffic, but country-specific breakdown is unavailable.

²³⁷ WFP, 2013, Logistics Capacity Assessment: Ghana. <http://dlca.logcluster.org/display/public/DLCA/Ghana>, accessed October 2014.

²³⁸ Ibid.

²³⁹ West Africa Trade Hub, 2013, Trends In Transport And Logistics On The Tema-Ouagadougou-Bamako Corridor. <http://www.borderlesswa.com/resources/trends-transport-and-logistics-tema-ouagadougou-bamako-corridor-may-2013>, accessed December 2014.

²⁴⁰ Port Autonome de Lomé, 2012, Trafic Global (Total Traffic). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=131&Itemid=136, accessed November 2014.

²⁴¹ The port handled a high total throughput of 354,000 TEUs in 2009 and a low of 288,000 TEUs in 2012. Port Autonome de Lomé, 2014, Trafic Conteneurs (Container Traffic). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=130&Itemid=137, accessed December 2014. The port handled a high total throughput of 354,000 TEUs in 2009 and a low of 288,000 TEUs in 2012.

²⁴² Port Autonome de Lomé, 2014, Trafic Conteneurs (Container Traffic). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=130&Itemid=137, accessed December 2014.

²⁴³ Bolloré Africa Logistics, 2014, Bolloré Africa Logistics in Togo. <http://www.bolloré-africa-logistics.com/en/who-we-are/subsidiaries-in-africa/togo.html>, accessed December 2014.

²⁴⁴ Port Autonome de Lomé, 2012, Trafic Global (Total Traffic). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=131&Itemid=136, accessed November 2014.

The port can handle up to 10 vessels at one time across its two original quays and multiple berths (see below for specifications).²⁴⁵ Additionally, the port can handle up to 100 Reefer containers at one time.²⁴⁶

Specifications. The port is a free port with no customs fees on handling and transfer of cargo within the ports confines. After recently completed construction, the port now has three primary quays:

- Quay 1 has four berths, and can receive vessels carrying conventional as well as solid bulk cargo. Each of the four berths has a draft from 8-10 m, and can accommodate vessels from 7,500-15,000 deadweight tons (DWT). The quay has a length of 366.5 m and a width of 72 m.
- Quay 2 serves containerized goods and has two separate berths (Berths 5 and 6). Berth 5 has a draft of 11 m and can accommodate vessels up to 28,000 DWT, while Berth 6 is 250 m long by 140 m wide with a draft of 12 m to handle vessels up to 42,000 MT.
- Quay 3, the product of recent investment valued at XOF 300 billion, is 450 m in length and has a maximum draft of 15 m. This quay can receive container vessels holding up to 7,000 TEUs and has two berths.

Japan International Cooperation Agency (JICA) reported in a 2012 study that general cargo vessels wait on average 48 days to berth at the port²⁴⁷ and container vessels as long as 24 hours.²⁴⁸ According to WFP, the port authority appears to have improved waiting times with the introduction of fixed berthing windows, and the port can perform as many as 35 movements per hour.²⁴⁹ WFP further reports, however, that it takes at least four-five days to clear goods, and that the roads at the port are in poor condition.²⁵⁰ According to JICA, low port charges are one of the reasons landlocked countries to the north prefer to use Lomé for transit cargo.²⁵¹

As for future improvements, the port recently launched a single window to speed and facilitate formalities related to importing and exporting goods, and thereby also cut down on costs.²⁵² Containerized cargo is the first to utilize this new platform; other cargo types (RoRo, bulk, and break bulk cargo) will be added as the system is extended.²⁵³

At present, the existing terminal possesses the following equipment:²⁵⁴

²⁴⁵ Bolloré Africa Logistics, 2012, Port of Lomé, Togo. <http://www.bolloré-africa-logistics.com/en/ports-and-terminals/our-container-terminals/port-of-lome-togo.html>, accessed November 2014.

²⁴⁶ Ibid.

²⁴⁷ West Africa Trade Hub, 2013, Trends In Transport And Logistics On The Tema-Ouagadougou-Bamako Corridor. <http://www.borderlesswa.com/resources/trends-transport-and-logistics-tema-ouagadougou-bamako-corridor-may-2013>, accessed December 2014.

²⁴⁸ WFP, 2014, Logistics Capacity Assessment for Niger: Port of Lomé. <http://dlca.logcluster.org/display/public/DLCA/2.1.2+Niger+Port+of+LOME>, accessed December 2014.

²⁴⁹ Ibid.

²⁵⁰ Ibid.

²⁵¹ JICA, December 2012, *Data Collection Survey on Traffic for International Port and International Corridor in Western Africa*.

²⁵² The single window is an online platform that allows for the exchange and processing of data among actors involved in international trade at the port. TogoInfos.com, 2014, Le guichet unique prend définitivement corps au port de Lomé, (The single window definitively takes shape at the port of Lomé). http://togoinfos.com/spip.php?page=article&id_article=1475, accessed November 2014.

²⁵³ TogoInfos.com, 2014, Le guichet unique prend définitivement corps au port de Lomé, (The single window definitively takes shape at the port of Lomé). http://togoinfos.com/spip.php?page=article&id_article=1475, accessed November 2014.

²⁵⁴ Bolloré Africa Logistics, 2012, Port of Lomé, Togo. <http://www.bolloré-africa-logistics.com/en/ports-and-terminals/our-container-terminals/port-of-lome-togo.html>, accessed November 2014.

- Two ship-to-shore gantry cranes
- Five mobile harbor cranes
- Four rubber-tired gantry cranes
- 19 reach stackers

A new, recently installed third quay already has two ship-to-shore gantry cranes (with a total of five planned) and plans to install up to 24 yard gantry cranes. This third quay brings the port's yearly container handling capacity from 250,000 TEUs to 1.5 million TEUs.²⁵⁵

Additionally, the port plans to construct a second container terminal that will have a draft of 15.5 m, more than 1 km of quay space, and 12 ship-to-shore gantry cranes. This new terminal plans to have an installed capacity to handle 2 million TEUs per year and will cover a space of 54 ha.

The port aims to further solidify its position as a regional hub for logistics by constructing a dry port further inland and developing rail links to make it easier for other countries in the Sahel to ship their goods via Togo. Additionally, the Port Authority of Lomé will continue to roll out its single window to simplify the clearing and billing procedure.²⁵⁶

The Port of Lomé operates 24 hours a day every day of the year²⁵⁷ and is ISPS certified.

Storage. To support its operations, the port contains numerous storage facilities. Those spaces of particular relevance for transoceanic food aid shipments include:²⁵⁸

- 115,000 sq m of covered storage for operators and their goods within the free port area
- 4,500 sq m of quay-side warehousing
- Four warehouses of 7,500 sq m capacity each for transit goods
- Two warehouses of 10,000 sq m that belong to the Togolese Chamber of Commerce
- Original container terminal with 200,000 sq m of open storage for container and other goods (such as construction material)
- New container terminal with more than 38 ha of space to hold containers²⁵⁹
- An open space of 100,000 sq m at Togblekope in the north of Lomé, dubbed the Sahel Terminal as it is dedicated to goods in transit to northern landlocked countries

Mali has dedicated storage at the Port of Lomé via the Malian Warehouses of Togo facility:²⁶⁰

²⁵⁵ Togoinfos.com, 2014, Le guichet unique prend définitivement corps au port de Lomé, (The single window definitively takes shape at the port of Lome). http://togoinfos.com/spip.php?page=article&id_article=1475, accessed November 2014.

²⁵⁶ WFP, 2014, Logistics Capacity Assessment for Niger: Port of Lomé. <http://dlca.logcluster.org/display/public/DLCA/2.1.2+Niger+Port+of+LOME>, accessed December 2014. ; Port Autonome de Lomé, 2012, Projets (Projects). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=124&Itemid=112, accessed November 2014.

²⁵⁷ Bolloré Africa Logistics, 2012, Port of Lomé, Togo. <http://www.bolloré-africa-logistics.com/en/ports-and-terminals/our-container-terminals/port-of-lome-togo.html>, accessed November 2014.

²⁵⁸ WFP, 2014, Logistics Capacity Assessment for Niger: Port of Lomé. <http://dlca.logcluster.org/display/public/DLCA/2.1.2+Niger+Port+of+LOME>, accessed December 2014. ; Port Autonome de Lomé, 2012, Facilités de Stockage (Storage Facilities). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=127&Itemid=115, accessed December 2014.

²⁵⁹ Port Autonome de Lomé, 2014, Le Port Autonome de Lomé se dote d'un troisième quai (The Port of Lomé gets equipped with a third quay). http://www.togoport.net/togoport/index.php?option=com_content&view=article&id=210:le-port-autonome-de-lome-se-dote-dun-troisieme-quai&catid=58:latestnews, accessed December 2014.

²⁶⁰ GoM, 2013, Mali National Report on the Implementation of the Almaty Programme of Action for Landlocked Developing Countries. <http://www.lldc2conference.org/custom-content/uploads/2013/07/Mali-National-report-English.pdf>, accessed December 2014.

- A covered warehouse of 5,000 sq m
- Quayside storage of 4,000 sq m
- 9,600 sq m of undeveloped land²⁶¹

Required documentation for food aid shipments. Awardees must work with a certified freight forwarder for any consignment passing through the Port of Lomé. Additionally, any food aid entering the Port of Lomé must be accompanied by the following documentation:²⁶²

- B/L
- Packing List
- Commercial Invoice from supplier
- Certificate confirming goods are donated
- Phytosanitary certificate
- Cargo Tracking Note from the CMC at the port of loading

For urgent shipments, port authorities recommend that awardees officially notify the port, as well as a relevant government ministry (e.g., Human Rights Ministry, Foreign Affairs, Office of the Prime Minister) well in advance of the expected date of arrival that the goods are humanitarian cargo for food security activities in Mali.²⁶³ This information may help the port provide priority docking to the vessel and ensure that goods are unloaded and processed in a timely manner.²⁶⁴

Key informant experience. While informants generally preferred Lomé for containerized cargo to northern Mali due to the lack of customs escort for goods in containers, some actors expressed a strong hesitation to use the port. CRC management reported heavy congestion and delays of upward to two months before vessels could even dock to unload its cargo. However, the CMC expressed surprise at such delays as did the freight forwarding company Matrans, who also noted the ease of customs clearing at the Port of Lomé compared to other regional ports. ICRC considered Lomé too expensive in relation to other ports in the region, and Bolloré Africa Logistics questioned whether the fleet of vehicles at the port could sufficiently move large volumes of cargo inland (WFP reported never having an issue due to advanced planning). Also, the freight forwarder GAM Transit noted that passage through this corridor would necessitate traveling through Burkinabe territory, which could be excessively complicated because the Government of Burkina Faso requires containerized cargo to be opened and verified.

5.2.5. Port of Cotonou

Although the main port in Benin, operations at this hub have been known for being slow and inefficient. Recognizing this perception, the port is investing in reforms to reverse this view.

Location. Cotonou is approximately 135 km east of Lomé. Although not the capital city of Benin, it is the largest city in the country and its seat of government. Like Togo, Benin is a long narrow country with about 120 miles of coast on the Gulf of Guinea, before jutting up against Nigeria.

²⁶¹ According to the most current information available, this space was reclaimed by port authorities. GoM, 2013, Mali National Report on the Implementation of the Almaty Programme of Action for Landlocked Developing Countries. <http://www.lldc2conference.org/custom-content/uploads/2013/07/Mali-National-report-English.pdf>, accessed December 2014.

²⁶² Personal communication with PAC/Service Commerciale (Commercial Service), December 2014.

²⁶³ Ibid.

²⁶⁴ Ibid.

Capacity. The port handled 8.84 MMT in 2013,²⁶⁵ and received approximately 1,000 vessels per year from 2010-12.²⁶⁶ Over 80 percent of this volume was destined for delivery outside of Benin, and 90 percent of the transit cargo was from or destined for Niger and northern Nigeria.²⁶⁷ However, WFP has selected Cotonou as one of its three ports of unloading for cargo en route to Mali.²⁶⁸ JICA noted that low port charges, relative to competitors in the region, partially account for why this port has acquired some of the transit cargo for its landlocked neighbors.²⁶⁹

The port can receive general, containerized, and RoRo cargo, as well as clinker and gypsum, hydrocarbons, and bulk vegetable oil.

Specifications. Two dikes protect this port over a surface area of 6.4 million sq m of water. Although the maximum draft is 15 m, the access channel has a draft of 12.5 m, and alongside quays the maximum draft is 10 m.²⁷⁰

The port has a single quay with twelve separate berths of the following specifications:²⁷¹

- Four berths of 155 m in length to receive general cargo
- Two additional berths of 180 m in length for general cargo
- One berth, 220 m in length, reserved for container ships
- One berth (length unspecified) for RoRo cargo
- One berth, 250 m in length for hydrocarbons
- Two berths at container terminal; total length at container terminal is 550 m

Since the port instituted a single window system for some varieties of cargo, dwell time for containers improved from 39 days to six.²⁷² For containers in transit, dwell time decreased to eight days from 46 over the period of January 2012 to February 2013. Average container vessel waiting time at the port is approximately 1.31 days.²⁷³

Maersk and Bolloré both have container terminals at the port via local subsidiaries²⁷⁴ and the state-owned Benin Dock Workers Society handles all general cargo at the port. The port has two ship-to-shore gantry cranes, two mobile harbor gantry cranes, 10 rubber tire gantries, and 15 reach stackers.²⁷⁵

²⁶⁵ Port Autonome de Cotonou, 2014, Statistiques Annuelles (En Tonnes) (Annual Statistics (In MT)).

http://www.portdakar.sn/images/RAPPORT_STATISTIQUES_2013_SYNTHESE.pdf, accessed December 2014.

²⁶⁶ WFP, 2014, Logistics Capacity Assessment: Port of Cotonou.

<http://dlca.logcluster.org/display/public/DLCA/2.1.1+Niger+Port+of+COTONOU>, accessed November 2014.

²⁶⁷ MacWilliam, Daniel, 2013, "Reducing dwell time to boost efficiency at the Port of Cotonou", Africa Trade Policy Notes, 39.

²⁶⁸ The Protracted Relief and Recovery document for 2015-17 states approximately 25 percent of food assistance for Mali will pass through Cotonou for operations in Gao. As of the most currently available data from WFP Interfais HQ however, only three percent of all WFP food aid passed through Cotonou Port in 2013, and volumes for 2014 were not available.

²⁶⁹ JICA, December 2012, *Data Collection Survey on Traffic for International Port and International Corridor in Western Africa*.

²⁷⁰ Personal communication with Port Autonome de Cotonou/Representative for Mali, December 2014; and Port Autonome de Cotonou, 2014, Plans d'Eau (Body of Water).

http://www.portdecotonou.com/index.php?option=com_content&view=article&id=88&Itemid=59, accessed November 2014.

²⁷¹ Personal communication with Port Autonome de Cotonou/Representative for Mali, December 2014; and Port Autonome de Cotonou, 2014, Ouvrages (Structures).

http://www.portdecotonou.com/index.php?option=com_content&view=article&id=86&Itemid=59, accessed November 2014.

²⁷² Sawaya, Elie, May 2013, Single Window: Benin case (PowerPoint presentation).

²⁷³ WFP, 2014, Logistics Capacity Assessment: Port of Cotonou.

<http://dlca.logcluster.org/display/public/DLCA/2.1.1+Niger+Port+of+COTONOU>, accessed November 2014.

²⁷⁴ Ibid.

²⁷⁵ Bolloré Africa Logistics, 2012, Port of Cotonou, Benin. <http://www.bolloré-africa-logistics.com/en/ports-and-terminals/our-container-terminals/port-of-cotonou-benin.html>, accessed November 2014.

The Port of Cotonou is ISPS compliant²⁷⁶ and is open year round, except January 1, May 1, August 1, and December 25.²⁷⁷

Like many other ports in the region, the Port of Cotonou is investing in projects that will help solidify the port as a competitive option for transit cargo. These initiatives include construction of a new container terminal and continued improvement of its single window to facilitate the customs and regulatory formalities at the port.²⁷⁸

Storage. The Port of Cotonou has a variety of storage options for cargo passing through its confines, and those particularly of note for transoceanic food aid shipments include:

- 57,000 sq m of storage for bagged cargo²⁷⁹
- 379,000 sq m open storage²⁸⁰
- 240,000 sq m for containers²⁸¹
- 56 reefer plugs
- Free Zones for Niger, Burkina Faso, Mali, and Chad²⁸²
- Grain silo with a capacity of 11,000 MT²⁸³
- 43,700 cubic meter storage tanks for bulk vegetable oil and petroleum products²⁸⁴

Additionally, Mali possesses a dedicated 15,000 sq m of land and 17,018 sq m quayside for its transit goods.²⁸⁵ For imports and exports of oil, Mali has a reserved area of 400 sq m on Pier 8.²⁸⁶

Required documentation for food aid shipments. Importers of food assistance in transit must provide the following documents:²⁸⁷

- B/L
- Bill of sale
- Shipping Invoice

²⁷⁶ Port Autonome de Cotonou, 2007, Informations Destinées aux Navigateurs (Information for Seafarers). <http://www.portdecotonou.com/pdf/avisnavigateurs110607.pdf>, accessed December 2014.

²⁷⁷ Ibid.

²⁷⁸ *Matin Libre*, 2014, Lancement du projet de dématérialisation de la liasse de dédouanement: La Segub innove pour la performance des opérations au port (Launch of online customs clearance process: Segub innovates for port performance). <http://matinlibre.com/index.php/economie/item/923-lancement-du-projet-de-dematerialisation-de-la-liasse-de-dedouanement>, accessed December 2014.

²⁷⁹ WFP, 2014, Logistics Capacity Assessment: Port of Cotonou. <http://dlca.logcluster.org/display/public/DLCA/2.1.1+Niger+Port+of+COTONOU>, accessed November 2014.

²⁸⁰ Personal communication with Port Autonome de Cotonou/Representative for Mali, December 2014.

²⁸¹ Ibid.

²⁸² WFP, 2014, Logistics Capacity Assessment: Port of Cotonou. <http://dlca.logcluster.org/display/public/DLCA/2.1.1+Niger+Port+of+COTONOU>, accessed November 2014.

²⁸³ Ibid.

²⁸⁴ Ibid.

²⁸⁵ GoM, 2013, Mali National Report on the Implementation of the Almaty Programme of Action for Landlocked Developing Countries. <http://www.lldc2conference.org/custom-content/uploads/2013/07/Mali-National-report-English.pdf>, accessed December 2014.

²⁸⁶ The English translation of this document states 4,000 sq m of space, whereas the original French notes 400 sq m.

²⁸⁷ Personal communication with One Stop Port Single Window Operating Company of Benin (SEGUB, Société d'Exploitation du Guichet Unique du Bénin), December 2014. Additionally, commercial cargo requires the following documentation: Certificate of Insurance; License to import (if applicable); Port Autonome de Cotonou, 2014, Enlèvement (Collection). http://www.portdecotonou.com/index.php?option=com_content&view=article&id=93&Itemid=59&showall=1, accessed December 2014. ; and certificate of pre-shipment inspection (managed by BIVAC in port of loading). African Waivers, 2014, Benin - Waiver Certificate. <http://africanwaivers.com/waiver-information-by-country/benin-waiver-certificate/>, accessed December 2014.

- Packing List
- Phytosanitary certificates (if applicable)
- Certificate of Origin
- Certificate or statement confirming donation if goods are international assistance
- Cargo Tracking Bill

Additionally, copies of the following documents are required for port and handling fees:²⁸⁸

- Customs declaration for goods in transit
- Bill and receipt for Port of Cotonou surcharges
- Copy of invoice and release of goods from the Port Authority of Cotonou (PAC) for applicable surcharges

For the most current listing of requisite documents, awardees should contact the PAC.²⁸⁹

Key informant experience. WFP and Matrans all favored Cotonou for bulk cargo en route to the northern regions of Mali. CRS management however felt that Cotonou suffers from great delays, and preferred the Port of Abidjan even for deliveries to the north. As noted above, management at ICRC stated that Cotonou was too expensive relative to other options (notably Abidjan), and although Matrans recommended the port for bulk cargo, management also agreed that the port was becoming more expensive.

5.2.6. Port of Conakry

Although this port does not currently represent a plausible option for transit cargo en route to Mali given the ongoing Ebola public health crisis in Guinea, multiple informants noted that it offered the closest and fastest option for the transit of goods to many points in Mali. Depending on the evolution of the crisis in both Guinea and Mali, the port could thus become an option for shipments of food assistance in the future. Additionally, if roadway, rail, and trucking conditions improve, the Port of Conakry may be an option in future Title II cycles. Therefore, USAID-BEST provides below summary facts about the Port of Conakry that awardees should consider in the event this port becomes a plausible option.

Location. Located in the capital of Guinea, this port is about 750 km south and east of the port of Dakar, and continuing further down the coast, approximately 1,350 km west of the Port of Abidjan. At just over 700 km from Bamako, it is the closest sea port in the West Africa region to the Malian capital.

Capacity. Total throughput reached 7.3 MMT in 2013, and imports accounted for 3.8 MMT of that quantity. Transit cargo does not figure high into these numbers as it dropped from a previous year volume of 115,000 MT in 2012 to 93,000 MT in 2013. Exports of transit cargo dropped from only 217 MT in 2012 to 51 MT in 2013.

Specifications. The port has a container terminal, a quay for bauxite, a fuel terminal, a quay for alumina and clinker, a commercial quay, and a fishing port for smaller boats.²⁹⁰ The quay for

²⁸⁸ Port Autonome de Cotonou, 2014, Embarquement (Boarding).

http://www.portdecotonou.com/index.php?option=com_content&view=article&id=94&Itemid=59&showall=1, accessed December 2014.

²⁸⁹ As of December 2014, customs clearing procedures are listed at <http://www.douanes-benin.net/spip.php?article146>.

²⁹⁰ WFP, 2013, Guinea Port of Conakry Assessment.

<http://dlca.logcluster.org/display/public/DLCA/2.1+Guinea+Port+of+Conakry+Assessment>, accessed December 2014.

conventional cargo has a maximum draft of 8.5 m and three-four berths for vessels,²⁹¹ while the container terminal has two berths with a draft of 10.5 m to 13 m.²⁹²

Two mobile cranes and five yard gantry cranes support container terminal operations, which annually handles 150,000 TEUs.²⁹³ Also, like many of its other regional competitors, the Port of Conakry is making a number of investments to increase its long term competitiveness, such as the recently inaugurated second container wharf. Further, Bolloré Africa Logistics, the company which manages the container terminal, has stated its commitment to further investment despite the continuing health crisis; as such, Bolloré intends to construct a 45,000 sq m platform to handle containers and a 36,000 sq m platform for RoRo cargo.²⁹⁴ Upon completion,²⁹⁵ the container terminal will encompass 20 ha capable of holding 15,000 full containers, and have its own power plant to ensure a continuous supply of energy to terminal operations.²⁹⁶ Officials in Guinea hope to capture a greater share of the transit cargo to Mali via further investment into port and road infrastructure as well.²⁹⁷

The port is open year round, and is ISPS compliant.²⁹⁸

Storage. The Port of Conakry has nearly 15,000 sq m of warehousing.²⁹⁹ The port does not, however, have equipment for handling bagged or bulk cargo.³⁰⁰ Additionally, Mali recently inaugurated a new Malian Warehouses in Guinea facility on a complex of 5 ha that includes three warehouses of over 2,500 sq m each, a container truck parking lot of 5,000 sq m, and office space for staff.³⁰¹ The container terminal currently has 12.5 ha of open storage space,³⁰² 2.6 ha of which is dedicated to empty containers.³⁰³ The yard for full containers currently has a capacity to hold 8,000 TEUs.³⁰⁴

²⁹¹ WFP, 2013, Guinea Port of Conakry Assessment.

<http://dlca.logcluster.org/display/public/DLCA/2.1+Guinea+Port+of+Conakry+Assessment>, accessed December 2014.

²⁹² Jeune Afrique, 2014, Le Port de Conakry n'est plus en rade (Port of Conakry no longer stranded).

<http://economie.jeuneafrique.com/regions/afrique-subsaharienne/21421-le-port-de-conakry-nest-plus-en-rade.html>, accessed January 2015.

²⁹³ Ibid.

²⁹⁴ Bolloré Africa Logistics, 2012, Port de Conakry, Guinée (Port of Conakry, Guinea). <http://www.bolloré-africa-logistics.com/ports-et-terminaux/nos-terminaux-a-conteneurs/port-de-conakry-guinee.html>, accessed November 2014.

²⁹⁵ Expected in September 2015.

²⁹⁶ Bolloré Africa Logistics, 2014, Conakry Terminal pursuing its development. <http://www.bolloré-africa-logistics.com/en/media/press-releases/conakry-terminal-pursuing-its-development.html>, accessed January 2015. ; and Bolloré Africa Logistics, 2012, Port de Conakry, Guinée (Port of Conakry, Guinea). <http://www.bolloré-africa-logistics.com/ports-et-terminaux/nos-terminaux-a-conteneurs/port-de-conakry-guinee.html>, accessed November 2014.

²⁹⁷ Sekou Camara, November 2013, Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation: Transport and Logistics Innovation Towards the Review of the Almaty Programme of Action in 2014 (PowerPoint presentation).

²⁹⁸ AfriTramp, 2014, Guinea. <http://www.afritramp.eu/afritramp/ports-description-guinea#conakryfacilities>, accessed December 2014.

²⁹⁹ WFP, 2013, Guinea Port of Conakry Assessment.

<http://dlca.logcluster.org/display/public/DLCA/2.1+Guinea+Port+of+Conakry+Assessment>, accessed December 2014.

³⁰⁰ Ibid.

³⁰¹ Africaguinee.com, 2014, Le président IBK inaugure un entrepot pour le Mali ... Coyah (President IBK inaugurates warehouse for Mali in Coyah). <http://www.africaguinee.com/articles/2014/03/11/le-president-ibk-inaugure-un-entrepot-pour-le-mali-coyah>, accessed December 2014.

³⁰² Jeune Afrique, 2014, Le Port de Conakry n'est plus en rade (Port of Conakry no longer stranded).

<http://economie.jeuneafrique.com/regions/afrique-subsaharienne/21421-le-port-de-conakry-nest-plus-en-rade.html>, accessed January 2015. ; Bolloré Africa Logistics, 2012, Port de Conakry, Guinée (Port of Conakry, Guinea). <http://www.bolloré-africa-logistics.com/ports-et-terminaux/nos-terminaux-a-conteneurs/port-de-conakry-guinee.html>, accessed November 2014.

³⁰³ Bolloré Africa Logistics, 2012, Port de Conakry, Guinée (Port of Conakry, Guinea). <http://www.bolloré-africa-logistics.com/ports-et-terminaux/nos-terminaux-a-conteneurs/port-de-conakry-guinee.html>, accessed November 2014.

³⁰⁴ Ibid.

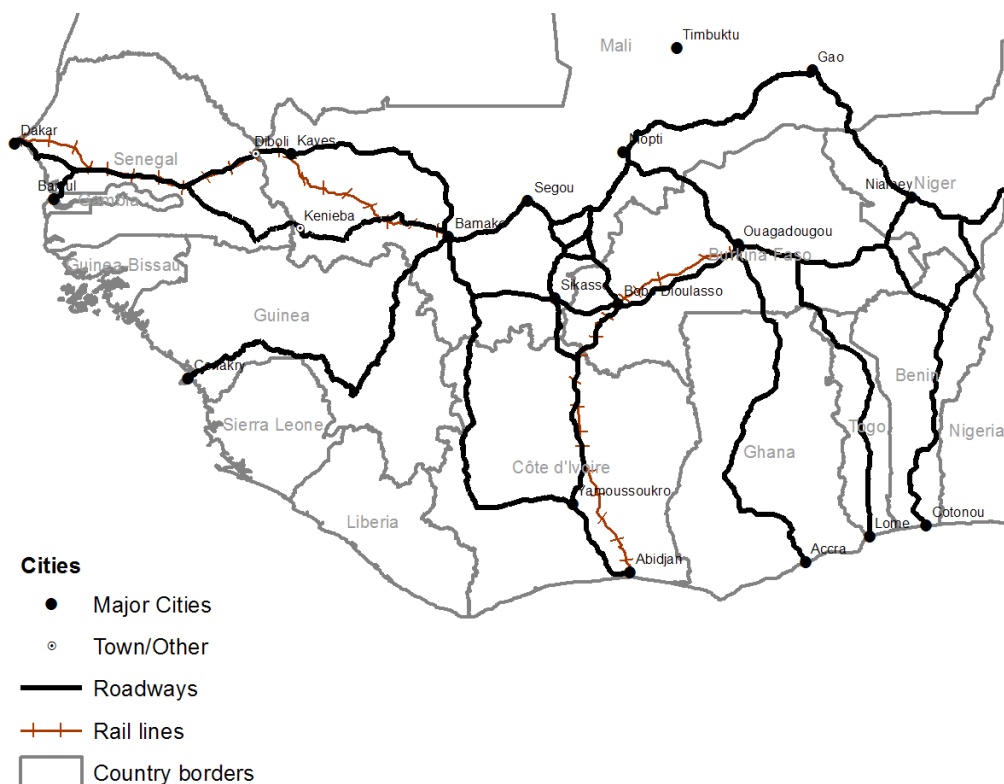
Key informant experience. Due to the proximity of the Port of Conakry to Mali, management at GAM Transit noted a preference for using this port for shipments of food cargo, although they stated some hesitation in transiting cargo through the port because of the Ebola crisis. Other informants, such as management at Matrans, stated that the Port of Conakry should be the primary port for all transit cargo to Mali, but this port is currently not an option due to the poor road network in Guinea and the aging vehicle fleet.

5.3. Transport

With approximately 87 percent of the Malian population concentrated in the bottom third of the country,³⁰⁵ roadways are more dense in the south than the north as the transportation network has been developed primarily to serve this population base. However, roadway density in southern Mali still lags behind the regional average. As such, the Government of Mali (GoM) has committed to repairs and reconstruction as the nation seeks improved access to domestic and international markets.

To depict the transportation landscape in Mali, this section first considers regional networks connecting Mali to the various ports of entry described above and then delves into an analysis of domestic routes and modalities for in-country movement of commodities. Mali's major international transport linkages are illustrated in the map below.

Figure 34. Major International Transport Linkages to and from Mali



Source: USAID-BEST using data from various sources: cities, ESRI; international borders, FAO's GAUL dataset; international corridors - World Bank, ESRI; rail, WFP Log Cluster.

³⁰⁵ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

5.3.1. Regional Transportation Networks

Connection to the Port of Dakar. As illustrated in the map above, Senegal is the only country with both rail and road connections to Mali. Key informants estimate that from the time of docking it generally takes 10-18 days for goods to arrive by road from the Port of Dakar. As for rail, the freight forwarding company Delmas approximates 14 days for shipments to arrive in Bamako.³⁰⁶

Rail. Both WFP and CRS recommend against transporting food aid via rail from the Port of Dakar. The private concessionaire for the railway (Transrail) has experienced significant financial and managerial problems over the last decade,³⁰⁷ and has not been able to invest in the aging rail lines or fleet of wagons and locomotives as expected.³⁰⁸ Further, a small number of heavy, frequent users appear to receive priority access to the line, and use by other actors appears complicated.³⁰⁹ Thus, although rail transit cargo between Dakar and Bamako benefits from a greatly simplified customs regime,³¹⁰ use of rail does not appear a viable option for food aid deliveries to Mali in the immediate future.

However, though rail does not presently appear as a plausible option, it may become one in the near to mid-future. Transrail is working to upgrade its equipment,³¹¹ and as of December 2014, the company had eight engines in service to improve operations.³¹² Senegal and Mali are also currently pursuing high level discussions to reinvigorate the line;³¹³ and although as of December 2014 timing has not been set for project completion,³¹⁴ Mali signed a US\$1.5 billion agreement with China in late 2014 to rehabilitate the rail line to Dakar.³¹⁵ Additionally, as noted above, interstate commerce can clear customs more efficiently because of simplified procedures.

³⁰⁶ Delmas, 2014, CBLT-Watch: August 2014. <https://www.delmas.com/static/communication/Attachments/CTBL-Watch%20-%20Issue%208%20-%20August%202014.pdf>, accessed December 2014.

³⁰⁷ This is hinted at in the volumes of cargo the company carries; whereas in the past the rail line carried as much as 70-80 percent of freight between the two countries, it now carries as little as 12 percent of the cargo destined for Mali. Nathan Associates, September 2013, *Logistics Cost Study of Transport: Corridors in Central and West Africa.*, WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

³⁰⁸ BA, Arouna, 2014, Interview de Mme Mbène Sène, Transrail SA: «Des projets sont en herbe, nous attendons leur concrétisation» (Interview with Mrs. Mbene Sene, Transrail SA: "Projects are being planned, we're waiting for them to come together"). <http://www.senegal-logistique.net/2014/12/Transrail-Dakar-Bamako-Train.html>, accessed January 2015.

³⁰⁹ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

³¹⁰ Transit by rail between Mali and Senegal only requires customs formalities at the point of departure and the point of unloading.

³¹¹ Delmas, 2014, CBLT-Watch Africa: November 2014. <https://www.delmas.com/static/communication/Attachments/CTBL-Watch%20-%20Issue%2011%20-%20November%202014.pdf>, accessed December 2014. As of mid-December 2014, Transrail appeared to have approximately 10 engines total, although generally only about seven are working at any given time. BA, Arouna, 2014, Interview de Mme Mbène Sène, Transrail SA: «Des projets sont en herbe, nous attendons leur concrétisation» (Interview with Mrs. Mbene Sene, Transrail SA: "Projects are being planned, we're waiting for them to come together"). <http://www.senegal-logistique.net/2014/12/Transrail-Dakar-Bamako-Train.html>, accessed January 2015. ; WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

³¹² Delmas, 2014, CBLT-Watch Africa: November 2014. <https://www.delmas.com/static/communication/Attachments/CTBL-Watch%20-%20Issue%2011%20-%20November%202014.pdf>, accessed December 2014.

³¹³ Dakar Actu, 2014, La mission sur le secteur des chemins de fer au Senegal (The mission for the railway lines in Senegal). http://www.dakaractu.com/La-mission-sur-le-secteur-des-chemins-de-fer-au-Senegal_a80109.html, accessed December 2014.

³¹⁴ The Chinese partner companies will have 12 months to submit a detailed proposal for the project following signing of the framework agreement. Associated Press, 2014, Mali eyes \$9.5 bln rail projects to unlock iron ore, bauxite deposits. <http://uk.reuters.com/article/2014/10/27/mali-mining-china-idUKL6N0SJ06920141027>, accessed January 2015.

³¹⁵ Delmas, 2014, CBLT-Watch Africa: November 2014. <https://www.delmas.com/static/communication/Attachments/CTBL-Watch%20-%20Issue%2011%20-%20November%202014.pdf>, accessed December 2014.

International rail transit is also exempt from the 1.5 percent ECOWAS road maintenance tax, known as the *Fonds de Garantie*.³¹⁶

Road. Use of a roadway between Senegal and Mali only became an option in the early 2000s with the completion of the Kayes (Mali)-Kidira (Senegal) route. The popularity of that route led to the construction of a second roadway connection linking the capitals to the south via the town of Kéniéba. Transporters have been unable to use this newer, southern route however because Senegal will not allow its use by anyone but drivers transporting goods for mining operations in the area near the border; vehicles transporting people or goods to or from Bamako are forbidden from crossing the border along this route.³¹⁷ It is unclear when this issue will be resolved, and therefore traffic will continue to have to pass via Kayes.³¹⁸

Although the physical infrastructure of the roadway remains in relatively good condition, transporters stated that all commerce passing via the Kayes border station experience prolonged waits (on average 2.5 hours - the longest in the region)³¹⁹ at Kayes border control because Senegalese customs officers inefficiently manage and/or adhere to procedures. This situation also encourages informal payments (and harassment) before drivers can proceed to their final destination.³²⁰

Connection to the Port of Abidjan. Despite the availability of rail and roadway infrastructure, Côte d'Ivoire does not maintain a rail line that passes into Mali. Rather, the rail line from the Port of Abidjan diverts northeast out of the country and into Burkina Faso. Subsequently, transit cargo travels north from Abidjan to Mali by road and takes approximately one to two weeks from the time of vessel unloading in Abidjan to arrival at a final destination in Mali for an individual truck traveling the route; it can take up to one full month for a consignment of 2,000-3,000 MT.³²¹

A reportedly high level of corruption affects the use of this route. The most recent Borderless West Africa report notes that Mali and Côte d'Ivoire have the ignominy of holding first and second place, respectively, among countries where uniformed officers extract bribes from drivers.³²²

Future connection to other ports. Mali recently signed a US\$8 billion agreement with China to construct a railway to Guinea's capital city, which would connect Mali directly to the Port of Conakry.³²³ Investment of this nature could make Guinea a much more attractive option moving forward if this plan comes to fruition.

5.3.2. Malian Road Network

While select Malian roads are in poor condition, or become poor during heavy rains, numerous informants noted the road network is adequate for the delivery of food aid to the intended

³¹⁶ CRS, 2014, *Port and Inland Transit Assessment: The Abidjan Corridor for Mali and Burkina Faso*.

³¹⁷ GoM, 2014, Corridor Bamako-Dakar par le sud: L'EXPECTATIVE (The Bamako-Dakar southern corridor: EXPLAINED). http://www.primature.gov.ml/index.php?option=com_content&view=article&id=11904:corridor-bamako-dakar-par-le-sud-lexpectative&catid=5&Itemid=100037, accessed December 2014. Key informants confirmed this was still the case as of November 2014.

³¹⁸ GoM, 2014, Corridor Bamako-Dakar par le sud: L'EXPECTATIVE (The Bamako-Dakar southern corridor: EXPLAINED). http://www.primature.gov.ml/index.php?option=com_content&view=article&id=11904:corridor-bamako-dakar-par-le-sud-lexpectative&catid=5&Itemid=100037, accessed December 2014.

³¹⁹ UEMOA, 2013, *24th Road Governance Report: Survey Results for the 2nd Quarter 2013*.

³²⁰ Ibid.

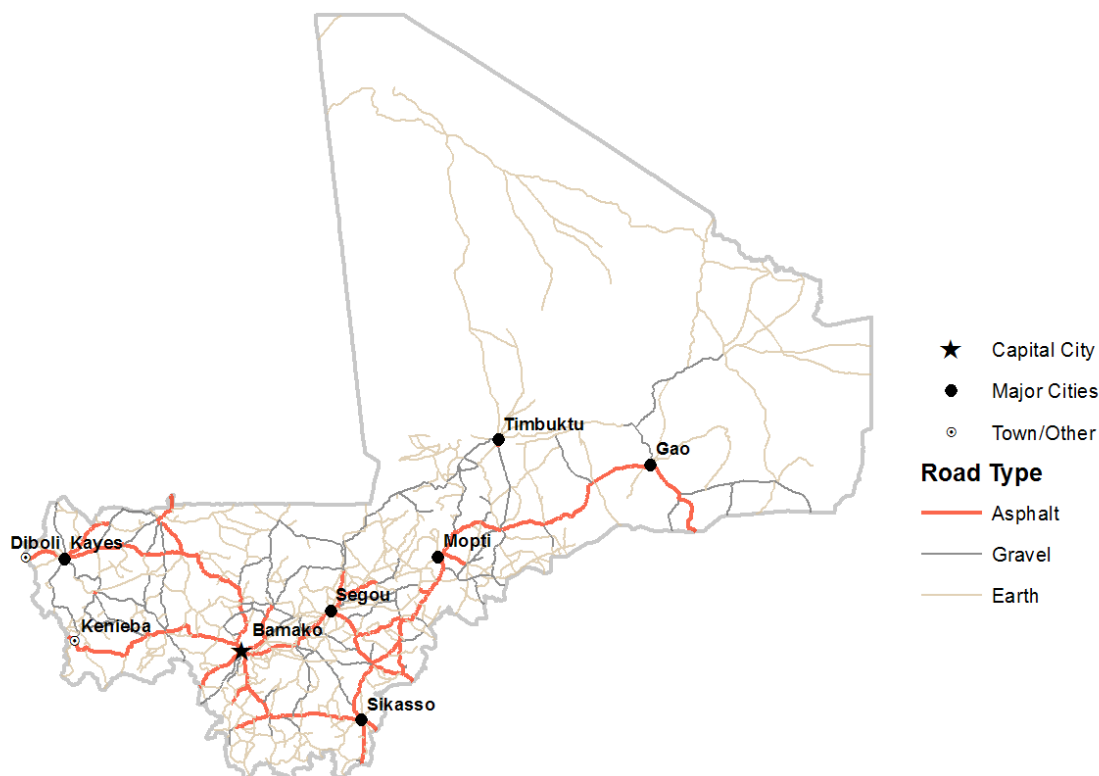
³²¹ Personal communication with CRS, December 2014.

³²² UEMOA, 2013, *24th Road Governance Report: Survey Results for the 2nd Quarter 2013*.

³²³ Delmas, 2014, CBLT-Watch Africa: November 2014. <https://www.delmas.com/static/communication/Attachments/CTBL-Watch%20-%20Issue%2011%20-%20November%202014.pdf>, accessed December 2014.

beneficiaries throughout the country. USAID-BEST team members observed during the field visit that the main roads between urban centers are well connected and handle traffic from a wide variety of users, including large trucks, UN fleets, motorcycles, private vehicles, pedestrians, school children, donkey carts, herders and their animals, and all facets of daily life. Rural roads on the other hand are not as well defined or established and can require community labor (even donor funded food-for-work projects) for upkeep.

Figure 35. Roads in Mali by Type



Sources: USAID-BEST using data from various sources: cities - ESRI; international borders - FAO's GAUL dataset; roadways - World Bank, ESRI.

The following paragraphs detail the capacity and specifications of the road network.

Capacity. Generally, in-country primary roads can sufficiently withstand international and domestic commerce, although WFP LCA notes that transport can be challenging due in large part to the poor condition of the road network.³²⁴ A recent study from the National Road Directorate (DNR, Direction Nationale des Routes) found that only approximately 40 percent of paved national roads and 10-15 percent of other road classification types are in good condition.³²⁵

Key informants estimate the availability of thousands of private transport companies around the country, with the majority located in Bamako. However, the largest fleets, often belonging to importers for their own use, do not seem to surpass 50 vehicles.

³²⁴ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

³²⁵ "Good" condition refers to roads that received a VIZIR index of greater than 4 in the assessment. Personal communication with GoM DNR, November 2014.

The standard vehicle for hauling freight is often an old 44 MT truck of German or French construction³²⁶ that has been reinforced and repurposed for harsher driving conditions and heavier loads (typically about 60 MT) than its intended capacity. Key informants note that Malians generally have an understanding of the spare parts required for any maintenance, and auto repair shops/vendors tend to sell these pieces throughout the country. All other types of vehicles (American or Chinese) are infrequently seen because of difficulty acquiring spare parts and minimal working knowledge of repairs. However, Chinese-made tractor trailers are gaining in popularity because of their high transport capacity and low sticker price.³²⁷

Specifications. Fuel remains widely available throughout the country. Key informants state that they do not expect this situation to change in the near future. Although fuel is expensive, transporters do not seem particularly worried that fuel costs will force them out of business.

Future developments. The DNR has numerous plans in place to improve the road network throughout the country at national, regional, and local levels, but in order to make the best of limited resources, the DNR prioritizes investments of national and international importance to its road network.³²⁸ Once the country has satisfactory primary roads linking it to ports and commerce in other countries in the region, it will prioritize connecting all *cercles* throughout the country to the national road network; and only after that project is completed will it focus on improving and building rural roads.³²⁹

5.3.3. Current Food Aid Routes and Transport Practices

CRS. CRS contracts out its transport needs for food aid distributions in Mali to the private sector. Management at CRS generally expressed satisfaction with the availability of adequate transport options in the West Africa region and within Mali. Further, management was confident in the ability of local transporters to deliver goods to their points of distribution despite the inconsistent condition of the road network.

At present CRS receives their USDA Food for Education food aid shipments via a single, annual call forward and delivers their goods directly from port to warehousing via a through B/L. While the organization has successfully managed these deliveries, management felt that future Title II programming should consider multiple calls forward in one year rather than consolidating a year's worth of food aid into a single shipment.³³⁰

For distributions for their USDA-funded school feeding project, CRS ships food aid from warehouses in Bamako to the Koulikoro region, and from warehouses in Sévaré throughout the Mopti region. Since distributions occur only during the school year in dry season, CRS can avoid transporting goods during the rainy season. If activities change and distributions during rainy season are required, CRS expressed concern regarding the sufficiency of local transport options to effectively move goods in these months. Notably, transporters do not seem similarly worried.

³²⁶ European standards vary by country, although 40 to 44 MT is generally the norm. International Transit Forum, 2013, Permissible Maximum Weights Of Trucks In Europe (In Tonnes). <http://www.internationaltransportforum.org/IntOrg/road/pdf/weights.pdf>, accessed December 2014.

³²⁷ Key informants said that new trucks of Chinese build cost significantly less than new German and French trucks, and they are factory-designed to haul tonnages up to and over 60 MT of freight.

³²⁸ Personal communication with GoM Ministry of Equipment and Transportation, November 2014.

³²⁹ Ibid.

³³⁰ CRS management did note that some US shippers were making efforts to group calls forward together in an effort to keep costs down, which occasionally created competition among awardees for transporters to ship their goods inland.

CRS negotiates rates with drivers and pays on an XOF/MT basis for specific locations within seven days of proof of delivery.

When contracting for deliveries, CRS hires transporters 10 days in advance, and stipulates only that goods must arrive at the final destination but not how this delivery must happen.³³¹ Transporters may only carry goods for CRS on their deliveries, and they must reimburse the organization based on purchase price if they incur any losses. Given the high cost of distributed food aid of US origin, this reimbursement mandate has efficiently motivated transporters to avoid loss in their deliveries.

WFP. WFP uses the ports of Dakar, Lomé, and Cotonou for its ocean shipments of goods destined for Mali, and transports goods multiple times per year to its warehouses in Bamako and Mopti on a through B/L. Generally, WFP prefers Dakar for goods destined for Bamako, and Lomé or Cotonou if Mopti is the final destination.³³² WFP manages the majority of regional procurement out of the Dakar office.

Similar to CRS, WFP contracts with the private sector for its transporting needs, and management expresses satisfaction with the availability of transportation to and within Mali. Since WFP does not own a fleet of vehicles for international or domestic shipments, they work through numerous freight forwarders at the different ports in the region, and report no shortage of transport options in Mali. Additionally, since WFP/Mali purchases significant food aid within Mali they rely on transporters to both collect and distribute the food and do not report a shortage of transporters or trucks for these local purchases.

The tendering process in working with transporters occurs over the course of the calendar year. A committee at WFP reviews each application based on capacity, quality of vehicles, cost of transport, and reliability. Additionally, WFP assesses transport companies on a yearly basis.

Unlike commercial contracts done on a per MT/km basis, WFP follows the mechanism utilized by many in the humanitarian community of payment on a per route basis. Transporters present a confirmation of delivery to WFP that it receives once goods arrive at the final destination and someone has signed to confirm the volume. Consequently, any missing shipments or loss are deducted from the transporter's fee. WFP contracts state they will pay within 30 days of presentation of proof of delivery.

Some informants report that WFP pays below market price for their transport costs, and that the WFP tendering system is too rigid since rates are valid for an entire calendar year instead of considering fluctuations in fuel costs or the seasonality of transport costs. Thus, some transporters stated that they had to operate at a loss at times of high transport or fuel costs in order to honor their contracts with WFP.

Office of Malian Agricultural Products (OPAM, Office des Produits Agricoles du Mali). The GoM hires out drivers on the commercial market for transport between its warehouses in-country. OPAM staff interviewed during November 2014 field work express similar confidence about transport capacity to ensure arrival of food deliveries.

OPAM pays its drivers on an XOF/MT basis, generally in the range of XOF 30,000-100,000 per MT, negotiated individually based on the difficulty of the driving conditions expected along the route. An additional XOF 10,000 per MT can be added to contracts if transporters need to

³³¹ CRS management notes that due to poor transport conditions in one distribution area, they contract a transporter to arrange local transport as necessary, which specifically includes the use of mule and hand-pushed cart for deliveries.

³³² As WFP uses its regional Dakar office for local/regional purchases, those goods intended for distribution to EMOP activity areas - 90 percent of which are located in the north - transit through Dakar, and are shipped through to warehouses in Mopti.

employ extra effort, such as moving goods across rivers via boats. OPAM pays their drivers immediately upon presentation of proof of delivery, which OPAM management feels allows them to negotiate lower transport prices.

OPAM contracts larger trucks, ranging from 40-60 MT in capacity, for their deliveries between cities and larger towns and smaller 10-20 MT vehicles for deliveries in the communes. The office works with approximately 60 different transporters and transporting companies. Similar to the practice employed by WFP and CRS, transporters may only carry OPAM goods and are liable for any losses. In fact, OPAM holds transporters liable for twice the value of the goods that are lost³³³ because management feels such a strong requirement effectively prevents theft or losses during delivery.

ICRC. With operations in remote areas of the north, ICRC reports that there was sufficient availability of transport on the market, and present conditions adequately allow for the movement of goods.

ICRC maintains a small fleet of vehicles for its operations in Mali,³³⁴ but it also uses about 20 local transporters for deliveries - mostly when requiring 60 MT trucks. ICRC transports goods from its main storage area in Mopti to other operation areas. Since the organization works in conflict regions with a higher security risk, they often run into problems with transporters refusing delivery and/or price gouging due to limited availability of willing drivers. Already, transport costs increase by as much as 20-30 percent in the lean season, and often vary based on the region (e.g., prices in Timbuktu escalate at a higher rate than those in Gao).

Although ICRC holds transporters liable for any losses at the final destination, unlike WFP and CRS, the organization does experience some loss of goods (although they are not significant volumes). Management felt that the low purchase price of the locally procured goods was not enough to deter transporters from ensuring that goods arrive intact at the final destination; since the price of the goods they were transporting was below local market price, management noted transporters or their contacts could feasibly sell the goods for a profit even if they had to reimburse ICRC for the goods that were lost.³³⁵ Although price may be a factor in the disappearance, since WFP also purchases large volumes of food locally and regionally, there are likely other factors that influence ICRC's apparent losses.

5.3.4. Overall Transportation Challenges

In addition to inconsistent rural road conditions that can slow the speed of transport in-country and the enormity of the country, numerous other issues (listed below, in alphabetical order) potentially constrain the efficiency and feasibility of deliveries.

Corruption. Mali has the most illegal road blocks in the West African region.³³⁶ Moreover, at these stops, authorities demand bribes priced at some of the highest levels of all West African countries.³³⁷ With these informal tolls, drivers frequently lose hours or days waiting to pass as

³³³ A sample contract provided by a key informant at Office de Riz Mopti (ORM, Mopti Rice Office) states that ORM will deduct the actual cost of any goods not delivered, not twice the value of those goods.

³³⁴ The ICRC has four 40 MT trucks to transport goods between Bamako and Mopti, however, it hires local drivers as necessary.

³³⁵ Personal communication with ICRC/Mali, November 2014.

³³⁶ UEMOA, 2013, *24th Road Governance Report: Survey Results for the 2nd Quarter 2013*.

³³⁷ According to the most recently available UEMOA Road Governance Survey available, officials at the Heremakano border post (which passes from Mali to Burkina Faso) demanded an average of XOF 13,000 to allow drivers to proceed with their journeys. This compares to the average payment of XOF 300 demanded by officials at the Paga border post (linking Togo to Burkina Faso). UEMOA, 2013, *24th Road Governance Report: Survey Results for the 2nd Quarter 2013*.

they are held up by officials.³³⁸ Banditry also poses a threat throughout Mali, but more specifically in the northern areas.

Domestic insecurity. Conflict in the north has led to a heightened sense of insecurity, which has disrupted the flow of goods and people to and from the region. Although the situation is improving, rebels continue to pursue hit and run attacks. Donors and NGOs report concerns around distributing food aid in the north and must take steps to ensure the security of their staff. To avoid potential problems, some resort to heavily relying on vendors to implement voucher-based programs. Other mechanisms used to mitigate risk are 1) to hire, as much as possible, local staff who might be a less of a target, and 2) for any visitors from Bamako to fly into the northern cities for only a few hours at a time.

Key informants note that given the reluctance of transporters to travel into the north, they frequently have to rely on drivers who have personal or family connections in the area in order to secure deliveries. Drivers understand the scarcity of willing transporters and some take advantage of this situation to dramatically increase their rates if delivering to the north.

Enforcement of axle loads. Poor enforcement of axle loads places undue wear and tear on roads. Indeed, non-adherence to the West African Economic and Monetary Union (UEMOA, Union Economique et Monétaire Ouest Africaine) limits on total load per vehicle has degraded roads far more quickly than otherwise anticipated with the original engineering plan.³³⁹ Regulations vary depending on the truck and trailer type, number of axles, and total tonnage placed on each axle; the maximum permitted tonnage allowed should be 51 MT for vehicles with six axles.

Weighbridges cannot effectively counteract this legal breach because transporters either pay a bribe to avoid the XOF 20,000/MT fine or simply pay the fine itself³⁴⁰ since both of these options are more profitable than loading their trucks to the mandated tonnage. Consequently, what appears to be happening in Mali, according to one informant, is that roads are deteriorating at such a fast pace that they have bypassed the stage of low cost general maintenance and now require more expensive repairs.³⁴¹

However, Mali is not the only country in the West Africa region to avoid the UEMOA requirements. In this environment of non-compliance from regional neighbors, drivers across borders often transport their goods via heavily overloaded trucks into and from Mali without penalty. One informant notes that if surrounding countries, notably Côte d'Ivoire, actually begin to enforce axle load limits, then transporters in Mali would follow suit out of necessity. As of the November 2014 field work, the inauguration in Côte d'Ivoire of its first weigh station has sparked some protest from Malian and Burkinabe transporters who say they will take their business elsewhere if Côte d'Ivoire imposes fines for overloaded trucks per UEMOA regulation.³⁴²

³³⁸ UEMOA, 2013, *24th Road Governance Report: Survey Results for the 2nd Quarter 2013*.

³³⁹ The president of the UEMOA noted that because of such heavy overloading, some roads engineered to last 15 years begin to degrade within only two or three years. L'Intelligent Abidjan, 2014, *Mise en oeuvre du pesage routier en Côte d'Ivoire* (Phasing in weigh stations in Côte d'Ivoire). <http://l'intelligentdabidjan.ci/component/k2/540-une-de-l-ia/10231-mise-en-oeuvre-du-pesage-routier-en-cote-d-ivoire.html>, accessed December 2014.

³⁴⁰ West Africa Trade Hub, 2013, *Trends In Transport And Logistics On The Tema-Ouagadougou-Bamako Corridor*. <http://www.borderlesswa.com/resources/trends-transport-and-logistics-tema-ouagadougou-bamako-corridor-may-2013>, accessed December 2014.

³⁴¹ From 2008-12, the state spent XOF 18 billion to maintain an average of 18,110 km of roads per year. Over the same period, the state spent XOF 30 billion to repair an average of 1,770 km per year. Personal communication with the Ministry of Equipment and Transport, November 2014.

³⁴² L'Infodrome, 2014, *Frais de péage, pesage et carburant à la pompe: Des commerçants font de graves révélations* (Tolls, weighbridge fees and gas at the pump: Striking revelations from traders). <http://www.linodrome.com/societe-culture/18211-frais-de->

Implementation of TRIE agreement. Despite all countries in the region having signed the TRIE agreement, which aims to facilitate road transport between the neighboring states by simplifying interstate customs regulations, member nations have ineffectively implemented this practice. Subsequently, regulations governing trade are excessively complicated, and transaction costs unnecessarily high.³⁴³ However, management at the Malian Shippers' Council report that this issue should be resolved within the next several years, at least with regard to trade between Senegal and Mali.

Seasonality. During the rainy season, some roads, particularly in the north, become washed out and impassible. Therefore, deliveries during this period often require river transport which increases overall transport costs to drivers regardless of whether those costs are reflected in their contracts with awardees.

West Africa regional insecurity. A disruption in trade flows between certain corridors due to conflict can significantly affect commerce and transport in Mali. For example, the events in Côte d'Ivoire in the early 2000s led Mali to turn to the Port of Dakar for its transit goods. Although the political situation has generally stabilized in the region, recent events in Burkina Faso demonstrate the ever present potential for instability to arise, which could greatly affect the free flow of goods and people. Moreover, the outbreak of the Ebola virus shows that public health emergencies can disrupt trade as well.

5.4. Storage

Although the majority of warehousing space resides within Bamako, options do exist outside of the capital. The following sections detail the facilities that organizations currently utilize for their food storage needs.

5.4.1. CRS

CRS oversees two main warehousing facilities: one in Bamako and one in Sévaré, just outside of Mopti. USAID-BEST visited both sites during the November 2014 field visit. Although CRS does not currently share their space with other awardees, management reports it would be willing to do so if needed. The table below notes the capacity of these CRS warehouses and includes findings from USAID-BEST observations.

Table 35. CRS Warehousing Capacity

Location	Capacity (MT)	Cost	Period	Observations
Bamako	4,000	US\$6,400 per month XOF650,000	Paid quarterly	Clean and well ventilated Among highest quality available in Bamako Direct access to railroad Used to store rice, peas, vegetable oil, and other products as needed
Sévaré 1	1,000	/month*	Paid quarterly	Dark, cool, and clean. Used to store rice and pulses.
Sévaré 2	100	*		Cement floor Used to store rice
Sévaré 3	100	*		Used to store RVO

Source: USAID-BEST using information from CRS/Bamako and CRS/Mopti, November 2014.

*The Sévaré facilities are covered in a single lease, costing XOF 650,000 per month total.

[peage-pesage-et-carburant-a-la-pompe-des-commerçants-font-de-graves-revelations](#), accessed December 2014. ; GoCI, 2014, Revue de Presse du Vendredi 05 Décembre, 2014 (Press Review for Friday, December 5, 2014). www.commerce.gouv.ci/fichier/RP-05-decembre-2014.pdf, accessed December 2014.

³⁴³ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

Regarding phytosanitary precautions, CRS hires private local companies to fumigate and spray their facilities on a scheduled basis, and these companies are also available on an as-needed basis for any required supplemental treatments. Supplies are readily available for these operations, according to key informants.

Bamako. CRS rents its largest facility within the Senegalese Warehouses in Mali (ENSEMA, Entrepôts du Senegal au Mali) dry port. During the November 2014 field visit, the space appeared bright, well ventilated, clean, and secure. CRS uses this building to hold peas, rice, Corn Soy Blend (CSB), and refined vegetable oil (RVO). Given current storage conditions, rice and dried peas can last up to four years and CSB and oil can be stocked up to one year. To ensure these items leave the warehouse before their best-by date, CRS staff keep records of shipments, rotate goods on a first-in first-out basis, and prioritize damaged goods that require repackaging on site.

Sévaré. During the time of the last Title II development program, CRS had substantial warehousing space in this area but, at the time of the 2012 crisis, CRS terminated their warehouse contracts in Mopti and moved their regional storage operations to San for the year. After restoration of relative calm in the region, CRS resumed leasing a facility at Mopti because of its proximity to distribution sites.

CRS currently rents three warehouses from the Mopti Rice Office (ORM, Office Riz de Mopti). The two smaller warehouses (100 MT capacity each) are dedicated to rice and RVO, while the large warehouse holds rice and green split peas. RVO is kept separately because of the prospect that rust could corrode the metal containers.

CRS has exclusively used these warehouses for food aid provided as part of USDA McGovern-Dole school feeding program. CRS hires a private firm to provide 24/7 security for the facility, and management expresses satisfaction with the arrangement. The warehouse managers note that frequently the commodity arrives with tears in the bags, either from the shipping, offloading, or transport process so the warehouse does a lot of re-bagging to maintain freshness of the commodities.³⁴⁴ Distributions to the schools occur on a quarterly basis as the schools also have small on-site storage.

Distribution. At final distribution points, CRS reports the existence of sufficient storage to stock 10-15 MT of goods for up to three months. Management generally only store goods for periods of up to one month and prefer to distribute to beneficiaries within one week of arrival as local storage conditions are not ideal for long term storage.

For its current operations, CRS worked with local communities to build small warehouses and trained a local resident to oversee operations. CRS reports satisfaction with this process and states that communities have satisfactorily taken care of the distributed food, but they did note that not all storage at distribution points would be appropriate during the rainy season.

5.4.2. WFP

WFP has over 47,000 MT of storage throughout the country, based primarily in Bamako and Mopti. The organization makes use of transoceanic shipments as well as local and regional purchases (LRP) to supply its food assistance requirements. As noted above, goods destined for warehousing in the Bamako region are shipped via Dakar, and goods destined for warehousing in Mopti are shipped from the ports of Lomé and Cotonou; no matter the port, all are generally shipped via B/L.

³⁴⁴ Personal communication with CRS warehouse managers/Sévaré, November 2014.

The table below details the storage capacity at these various locations.

Table 36. WFP/Mali Warehouse Capacity by Location

Location	Type	Sum of Capacity (MT*)
Bamako		12,700*
Bakaribougou	Unknown	1,550 sq. m*
Djelibougou 1	Warehouse	2,000
Djelibougou 2	Warehouse	1,500
ENSEMA - Cold Storage	Warehouse	200
ENSEMA 2	Warehouse	2,000
ENSEMA 2A	Warehouse	2,000
ENSEMA 3	Warehouse	2,000
ENSEMA WH 1	Rubb Hall	1,000
ENSEMA WH 2	Rubb Hall	1,000
ENSEMA WH 3	Rubb Hall	1,000
Gao		3,300
DNPP 1	Warehouse	1,500
DNPP 2	Warehouse	1,000
DNPP 3	Warehouse	800
Kayes		4,500
DNPP Warehouse 1	Warehouse	1,500
Warehouse 2	Warehouse	500
Warehouse 3	Warehouse	2,500
Mopti		18,340
DNPP 1	Warehouse	2,320
DNPP 2	Warehouse	1,120
DNPP 3	Rubb Hall	350
DNPP 4	Rubb Hall	350
DNPP 5	Rubb Hall	350
Ex-SOMIEX	Warehouse	10,000
ORM 1	Warehouse	1,000
ORM 2	Warehouse	1,000
ORM WH 1	Rubb Hall	350
ORM WH 2	Rubb Hall	350
ORM WH 3	Rubb Hall	350
ORM WH 4	Rubb Hall	350
ORM WH 5	Rubb Hall	450
Ségou		830
DNPP	Warehouse	830
Sikasso		1,000

Location	Type	Sum of Capacity (MT*)
Diakite et frère	Warehouse	1,000
Timbuktu		6,700
DNPP 1	Warehouse	1,000
DNPP 2	Warehouse	700
DNPP 3	Warehouse	5,000
Grand Total		47,370*

Source: USAID-BEST using information from WFP/Mali.

* All capacity data are noted in MT, with exception of the facility at Bakaribougou in Bamako, which is in square meters.

Bakaribougou is thus not included in the regional total for Bamako, nor the grand total. Also, not all of the warehouse space in the table was utilized in November 2014.

As noted in the table above, one of the warehouses in the Mopti region is very large, with the ability to store 10,000 MT of grains. A warehouse this size is required primarily because WFP/Mali sources a significant portion of their cereal requirements through local purchases and this allows them to purchase and store more when the prices are relatively low. However, this large warehouse is only used for cereals and pulses and does not store more fragile commodities, such as RVO or CSB.³⁴⁵

WFP in Mopti hires a company to provide 24/7 security at each of their facilities and WFP also hires companies to fumigate on an ad hoc basis when it appears there might be a pest infestation.³⁴⁶

WFP stores a variety of products at all locations,³⁴⁷ and management notes they have not had security issues at any of their storage facilities in country, with the exception of looting in Kidal in 2012 during the civil insecurity.

The GoM National Office of WFP Projects (DNPP, Direction des Projets PAM) provides storage rent-free for WFP via an agreement with the organization that dates back to 1968. If WFP requires additional storage, then it either rents from OPAM, ORM, or the private sector.

5.4.3. GoM

The GoM possesses substantial storage capacity via different agencies. Some of these facilities are dedicated to supporting food assistance operations, others to supporting agricultural marketing in-country, and still others for rental on the market as needed.

DNPP. DNPP management notes that in addition to the warehouses currently in use by WFP, their inventory includes an additional four empty warehouses: two in Kidal and two in Kayes. The facilities in Kidal are not in use because of the political situation in that region, and one of the warehouses in Kayes is out of service due to damage, and the other due to its impractical location.³⁴⁸

OPAM. This organization was first established in the 1960s and '70s so the public sector could better control cereal marketing. During the liberalization of the 1990s, the responsibility of cereal marketing transferred to the private sector. Subsequently, OPAM now manages dedicated

³⁴⁵ Personal communication with WFP warehouse managers/Sévaré, November 2014.

³⁴⁶ Ibid.

³⁴⁷ Stored products include cereals, pulses, vegetable oil, salt, mixed and blended foods, and micronutrient powder.

³⁴⁸ The facility in Kayes was constructed in 2012 and was damaged by heavy winds and rain. The other facility is out of use because it is on the line of rail and is not accessible via road. Since the train has not been used for food aid shipments in several years, it is no longer practical to use that facility.

storage for the National Food Security Stock (SNS, Stock National de Sécurité) and emergency stock at locations throughout the country. Facilities slated for SNS storage are exclusively reserved for that purpose, and are not made available on the market, but UN agencies and non-governmental organizations (NGOs) can rent non-SNS warehouses. The following table lists the capacities of OPAM storage spaces throughout Mali.

Table 37. OPAM Storage Facilities by Region

Region	Location	Type	No. Warehouses	Condition	Total
Bamako					19,250
	Bamako - HQ	Other	1	Good	9,250
	Bamako - Sogniko	SNS	10	Good	10,000
Gao					11,700
	Ansongo	Other	1	Fair	1,000
	Bourem	Other	1	Fair	1,000
		Other	2	Needs repairs	1,300
	Gao city	SNS	5	Good	4,500
		Other	3	Good	2,900
	Ménaka	Other	1	Fair	1,000
Kayes					14,400
	Diéma	Other	1	Good	450
	Kayes (city)	SNS	3	Good	3,000
		Other	4	Good	6,200
	Kita	Other	2	Good	2,250
	Nioro	Other	1	Good	500
	Yélimané	Other	1	Good	2,000
Kidal					950
	Kidal city	SNS	1	Fair	500
		Other	1	Fair	450
Koulikoro					8,200
	Banamba	Other	1	Fair	500
	Dioïla	Other	1	Fair	1,250
	Kolokani	Other	1	Fair	1,250
	Koulikoro ville	Other	3	Fair	2,500
	Nara et Arr	Other	6	Fair	2,700
Mopti					22,300
	Bandiagara	Other	1	Fair	500
	Bankass	Other	3	Fair	2,050
	Djenné	Other	3	Fair	1,600
	Douentza	Other	3	Good	1,400
	Koro	Other	4	Fair	2,600
	Mopti city	SNS	10	Good	10,000
		Other	3	Good	2,650
	Ténenkou	Other	1	Fair	500
	Youwarou	Other	1	Fair	1,000
Ségou					36,000
	Baraouéli	Other	1	Good	500
	Macina	Other	5	Acceptable	2,350
	Niono	Other	1	Fair	500
	San	Other	5	Fair	5,050
	Ségou city	SNS	14	Good	17,500

Region	Location	Type	No. Warehouses	Condition	Total
		Other	1	Good	9,200
	Tominian	Other	(blank)	n/a	0
	Katiena	Other	1	Acceptable	450
	Bla	Other	1	Fair	450
Sikasso					9,200
	Bougouni	Other	1	Good	1,800
	Kolondiéba	Other	1	Fair	800
	Koutiala	Other	3	Good	3,000
	Sikasso city	Other	3	Good	2,700
	Yanfolila	Other	0	n/a	
	Yorosso	Other	1	Fair	450
	Kouri	Other	1	Needs repairs	450
Timbuktu					16,150
	Diré	Other	2	Fair	2,750
	Goundam	Other	1	Fair	500
	Niafunké	Other	1	Fair	1,000
	Rharous	Other	1	Fair	1,000
	Timbuktu city	SNS	4	Good	4,500
		Other	3	Good	6,400
Grand Total					138,150

Source: WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

In addition to the warehousing detailed in the above table, UEMOA is funding the construction of new facilities, as detailed in the table below.

Table 38. OPAM Planned Warehouse Construction

Location	No. of Warehouses	Capacity (MT)
Bamako	2	2,000
San	1	1,000
Koutiala	1	1,000
Kouri	1	1,000
Sikasso	1	1,000
Ségou	1	3,000
Mopti (Sévaré)	2	1,000

Source: USAID-BEST using information from personal communication with OPAM, November 2014.

Ministry for Rural Development (MDDR, Ministère du Développement Rural). Through regional authorities that provide extension and other assistance to Malian farmers, the MDDR possesses numerous storage options.

ORM. As touched on previously, ORM leases its warehouses currently to WFP and CRS. ORM storage is intended to assist with the marketing of rice within the region of Mopti, but it leases unused storage on the private market. Although the conditions of these spaces vary, they can be repaired if necessary and made usable. Storage costs vary by location, and ORM negotiates the terms of the lease with each lessee. The table below lists current ORM sites and the total area available.

Table 39. Size of ORM Warehouse Facilities by Location

Location	Number of Warehouses	Total Area Available (sq m)
Bougoula	6	581.21
Dia	6	422.99
Diambacourou	3	194.07
Fatoma	1	103.73
Guirowel	3	277.42
Ibétimé	1	200.50
Koloni	1	81.25
Koubi	1	209.71
Kouna	3	184.80
Madiama	21	843.99
Mayataké	1	160.15
Penga	3	319.51
Perimpé	1	103.54
Sakarel	1	80.99
Sarantoumou	1	81.25
Sarémala	6	878.89
Sofara	10	421.44
Somadougou	3	186.55
Soufroulaye	10	759.44
Syn	1	72.75
Ténenkou	6	453.62
Tibo	15	658.88
Tiroguel	3	382.43
Toguéré	3	288.98
Tomboka	1	159.25
Tongorongou	1	158.62
Torokoro	3	209.26
Sévaré secteur 2	10	1,716.54
Total	125	10,191.75

Source: USAID-BEST using information from ORM, received December 2014.

Other offices under the MdDR also have available storage, although their capacities vary depending on regional conditions and need. For example, the Niger Rice Office has over 78,000 MT of storage capacity in its coverage area³⁴⁹ compared to 4,750 MT across 31 warehouses under the Ségou Rice Office.³⁵⁰

³⁴⁹ Of the over 78,000 MT of storage capacity the Niger River Rice Office possesses, only 6,350 MT is currently available (as of December 2014). Personal communication with key informant in the agricultural sector, December 2014.

³⁵⁰ All warehouses are located in the areas surrounding Dioro, Farako, Konodimini, Soke and Tamani. Personal communication with key informant in agricultural sector, December 2014.

5.4.4. ENSEMA Dry Port

The product of a bilateral agreement between Senegal and Mali, the ENSEMA dry port was created to facilitate commerce between the two states. Goods can be shipped to this dry port in Mali under bond once unloaded and processed at the Port of Dakar. As with the Malian warehouses located at ports throughout the region, the space within this facility is considered Senegalese soil.

Location. Within the industrial zone of Bamako, ENSEMA is also on the rail line leading from Dakar. Consequently, goods can be unloaded directly into the dry hangars and cold storage from rail cars. Trucks can also access this port.

Capacity. ENSEMA possesses two forklifts of 4 MT capacity, one at 10 MT, one at 3 MT, and one at 2 MT. Additionally, the port contains two electric forklifts for use within the hangars. Management indicated its intention to purchase more forklifts in the near future, but did not provide details.

Specifications. For those goods arriving by truck, this port possesses a weighbridge; all goods intended for storage must be weighed. Facility occupants are required to weigh their goods upon arrival, at costs which vary by time of day. From 7:30 AM-4:00 PM, the cost is XOF 3,600 per truck, plus XOF 500 for each ton in the shipment. From 4:01 PM-7:29 AM, the cost increases to XOF 15,000 per truck, plus the XOF 500 per ton fee.

Storage. This site contains 12 warehouses³⁵¹ of approximately 3,700 MT capacity each, two refrigerated hangars with six 200 MT cold storage rooms,³⁵² and open storage for construction material. These spaces are modern and well-constructed; the dry hangars themselves are bright, well lit, well ventilated, and secure. Backup generators ensure a consistent supply of power to both dry hangars and cold storage facilities.

Warehouses at the ENSEMA facility are available to any interested party and are rented on a 12-month basis, typically starting at the beginning of the calendar year. Contracts can be broken with a three-month advance notice. Cost per space is as follows:

- Warehouse: XOF 1,700,000 /month
- Cold Room (>20 degrees C): XOF 1,200,000 /month
- Cold Room (>-20 degrees C): XOF 1,700,000 /month
- Open land: XOF 1,500 /sq m/month

At the time of the November 2014 field visit, all of the dry hangars and all but one of the cold rooms in the ENSEMA facility were occupied. Management did expect for there to be availability at the start of the new calendar year as some rental spaces were nearing the end of their contracts.

Management indicated they are working with GoM officials to construct another bonded ENSEMA facility to further promote trade between Mali and Senegal, but this new site would not likely come online within the next three to five years.

³⁵¹ Sometimes referred to as *hangars secs* (dry hangars).

³⁵² Five of the cold storage rooms (known as *chambres positives* (i.e.: rooms "above zero")) can be set to temperatures down to 5 degrees Celsius. One room (known as the *chambre négative* (i.e.: room "below zero")) one can be set to temperatures down to -20 degrees Celsius.

5.4.5. Private Sector

In its most recent LCA, WFP notes that large, good quality, commercial storage facilities are available in the Korofina industrial area of Bamako. USAID-BEST team members met with numerous commercial actors offering storage for hire, both companies that specialize in logistical services with spaces purpose-built for rental, as well as importers and wholesalers renting surplus space. All felt security was adequate and space available to respond to current need. Bolloré Africa Logistics has 100,000 sq m of space within Mali.

5.5. Implications for Title II Programming

5.5.1. Ports

Future awardees can choose from numerous ports to import transoceanic Title II in-kind food aid. USAID-BEST finds that the appropriate port depends on the final destination for shipments of food aid.

Informants generally agree that future awardees should treat shipments to northern Mali separately from those intended for the south. Factors influencing their port of choice for each region included: timeliness of delivery, cost of shipment, security, and available vehicles based on the geographic area of the final destination point.

Deliveries to the Mopti (northern) region. To service the Mopti region and further north, transporters should use the ports of Lomé, Cotonou, and Abidjan; however, during the November 2014 field visit, key informants held differing viewpoints on the efficiency of these three options.

Timeliness of delivery. Cotonou requires escorts for all transit cargo through Beninian territory; Lomé and Burkina Faso require escorts for non-containerized cargo.

Cost of shipment. Generally, informants agreed that Lomé and Cotonou offer lower cost alternatives although notably ICRC disagreed, stating the opposite was the case.

Security. Although some informants noted the secure conditions of facilities at the Port of Abidjan, one did raise concerns about the Port of Lomé due to corruption and strong union interests.

Availability of vehicles. Management at CRS noted that the fleet at Lomé was not always sufficient to handle the entirety of Title II food aid shipments. As noted above however, WFP felt very confident that availability of fleet was not a problem provided that sufficient planning had been invested into a shipment.

Deliveries to the Bamako (southern) region. If future awardees intend to move goods to Bamako, then they should consider Abidjan and Dakar as these ports appear the most appropriate for this route after weighing the following issues.

Timeliness of delivery. Across organizations, the general consensus was that Dakar offered faster deliveries than the port of Abidjan. However, management at CRS reports that Dakar suffers from excessive delays, and so they would only choose it after the ports of Abidjan and Lomé.

Cost of shipment. As discussed above, WFP and a number of key informants in the freight forwarding sector consider Abidjan more expensive compared to Dakar. Port and handling fees for Abidjan are estimated to be two to three times the same fees at the Port of Dakar. These high costs have dissuaded traffic and transit cargo to the landlocked countries in the north.

Security. Generally, the Port of Abidjan appears bigger, more structured, and more modern compared to the Port of Dakar. Some informants expressed concerns about unfair billing practices at the Port of Abidjan, but they did not point to this same issue occurring at the Port of Dakar. Even so, informants did report some possible problems at the Port of Dakar, including limited availability of fuel and unfair market practices that force customers to use Senegalese trucking companies for their deliveries.

Availability of vehicles. CRS management expressed concern in November 2014 during the field visit that the fleet of vehicles in Dakar cannot sufficiently handle its delivery volumes. However, WFP did not indicate any problems with trucking capacity.

General considerations. No matter the region of Mali, awardees should consider some factors that pertain to all shipments, such as shipping format, B/L type, and experience at the port of choice.

Shipping format. Future awardees should consider whether to ship transoceanic in-kind food aid via containers or as general cargo. Containerized cargo is typically considered to be more secure than general cargo, but it is also frequently more expensive, which affects operation cost. Further, containerized goods are frequently destuffed at many ports in the region, which can add to time and expense of delivery as well. For some, Lomé is the clear port of choice for containerized cargo but not break bulk.

B/L type. Informants generally felt that a "through B/L," which contracts delivery to the final destination for the goods, is most appropriate for all shipments to Mali. However, CRS believes that a simple B/L - to the port of arrival, from where they would have to coordinate port handling, fees, inland shipping, etc. - is more appropriate because this kind of B/L allows for greater control over the arrival of goods even if such a scheme leaves the organization much more exposed to risk when coordinating shipments.

Experience at the port. Ultimately, considering the differences in opinion over the most appropriate port, the deciding factor for NGOs and donors may be familiarity. For example, WFP has its regional office for West Africa in Dakar and also stores prepositioned goods in Lomé, which would make these two places more attractive ports of call. Alternatively, both CRS and ICRC have regional operations in Abidjan which may make the Ivorian port more attractive for CRS and ICRC.

Timing of deliveries. Organizations should be careful when delivering goods during the rainy season, as travel conditions, and storage in remote areas, may prove challenging.

Frequency of transoceanic shipments. Depending on its supply chain, an organization may prefer to make multiple calls forward throughout the year. Additionally, CRS reported difficulties finding sufficient transportation to transport facilities with a single, large call forward; WFP did not cite this problem.

Documents required for shipments of food aid to Mali. Regardless of which regional port is used, for awardees to import goods into Mali on a tax- and duty-free basis, they must provide the following:³⁵³

- Title of Exoneration (Signed and stamped confirmation of exoneration for shipment)
- B/L
- Bill of Purchase confirming value of goods
- Certificate of Donation

³⁵³ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

- Certificate of Origin
- Phytosanitary Certification (for consumable goods)

Food assistance receives a total exoneration on duties and taxes in Mali.³⁵⁴ However, since permanent exonerations, which would apply to all imports of a certain organization, do not exist in Mali, NGOs need to apply for tax- and duty-free status for each shipment of imported food aid.³⁵⁵ The TRIE agreement previously mentioned also covers goods in transit to Mali.

5.5.2. Inland Transport

In spite of the inconsistent quality of the road network in Mali, key informants across multiple sectors generally express confidence that transporters will be able to deliver goods to their final destination regardless of road conditions and can draw from a sufficient supply of transport options. Even during the 2014 emergency lean season, the availability of trucks sufficiently met needs so that implementing partners and the GoM could reach about 1.56 million beneficiaries.

If shipping goods to insecure areas, awardees may need to contract transporters with personal connections to those areas because they often are the only ones who can ensure delivery while minimizing risk to their own personal safety. At the same time, transporters who put themselves in this situation realize the scarcity of willing drivers, and thus may try to extract higher payment for their services than they would otherwise charge.

5.5.3. Storage

Based on the USAID-BEST field visit in November 2014 and interviews with different actors across sectors, it appears that Mali possesses adequate storage capacity for food assistance at current volumes. Some actors report that the presence of a large UN force is squeezing the availability of storage in Bamako and elsewhere in the country, but even so at current food aid volumes the storage capacity should continue to suffice moving forward.

Space for storage may be available in or even outside of main cities or towns. Bamako, along with other major cities and towns, generally offers ample available storage. In locations where the private sector does not offer sufficient storage to meet demand, government-owned facilities such as OPAM or ORM are typically available. However, brick and mortar facilities are not always available and UN agencies like WFP and organizations like the ICRC have rented land and set up rubb halls for storage which, through the present, have proven adequate for warehousing needs.³⁵⁶

Even more remote final distribution points may contain sufficient facilities, or the communities they serve have shown themselves willing and able to support their development. As mentioned above, organizations like CRS have worked with communities to build and maintain small warehouses for community-level storage.

³⁵⁴ While food aid receives a total exoneration on taxes and duties in Mali, goods imported for development programming that is not related to food assistance are subject to taxes of 2.5 percent. Personal communication with the GoM Office of Exonerations and Malians Living Overseas, December 2014

³⁵⁵ Personal communication with the GoM Office of Exonerations and Malians Living Overseas, December 2014; and WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014. The WFP LCA is very instructive on the application procedure for duty free status in Mali. Also, in the event that goods imported do not benefit from duty exoneration, organizations will need to have goods inspected prior to departure by BIVAC, although the inspection can be done on arrival. Delmas and Del, 2014, Mali Regulations. <http://www.delmas.com/static/eCommerce/Attachments/Mali030914b.pdf>, accessed December 2014.

³⁵⁶ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014. ; Personal communication with ICRC, November 2014. Personal communication with ICRC, November 2014.

If awardees cannot find satisfactory brick and mortar storage facilities for their needs, informants note several available options:

- Rent land and set up rubb halls for regional storage purposes
- Search alternative towns within a specific region
- Utilize a central storage facility in Bamako for delivering goods within the region
- Seek government and private sector assistance
- Work with local communities to ensure existing facilities are of adequate size and quality

Regarding potential challenges that awardees may face with storage, WFP notes that certain facilities may require generators which would necessitate the provision of fuel; subsequently, awardees would have to absorb this cost.³⁵⁷ Additionally, RVO in 4 L metal tins has been susceptible to breaking or cracking during transport/handling. To avoid this loss in future programming, awardees should consider shipments of RVO in plastic containers.

³⁵⁷ WFP, 2014, Logistics Capacity Assessment: Mali. <http://dlca.logcluster.org/display/public/DLCA/Mali>, accessed October 2014.

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USAID-BEST ANALYSIS

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