
Republic of Mali



Bellmon Analysis December 2006

**USAID/Mali
Accelerated Economic Growth Team**

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FINAL REPORT

Methodology/Intro

This Bellmon Analysis was conducted and written by Amadou Camara and Jean Harman of the Economic Growth office of USAID Mali during the later half of 2006. Mr. Camara tirelessly and relentlessly asked many of the same questions in different ways, completing the analytical portion of the report in its entirety. Jo Anne Yeager facilitated the completion of the report by editing and finalizing the various components of the report. The Food for Peace Office in Washington, DC requested and the Mission agreed that given the complexity of monetization and food distribution in Mali, an internally conducted Bellmon would yield the most neutral results. Mali, a market driven economy for many years, reaches food sufficiency often, but not always, is a vast and sometimes disjointed country with too many pockets of chronically food insecure communities. The agricultural potential in Mali is significant but in many places unrealized. Methodology included interviewing more than 30 people in both the private and public sectors in key components of each of the three commodities discussed in this report. Concerns about the willingness of the government to monetized commodities from donor countries launched a dialogue between the USAID/Mali mission and the government to ensure that the government is not opposed to monetization: having conducted other donor monetization programs in 2004, 2005, and with USDA commodities plans for 2006/2007, the government detailed its willingness to monetize where advantageous to the food security of the country. Additional components to the methodology included reviewing and analyzing studies completed on wheat and rice: none were found on the food oil sector in Mali.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This report presents the results of market research and analysis for the initiation of a USAID monetization program in Mali, West Africa. The analysis conducted, as called for under the Bellmon Amendment to Public Law 480, sets out the following criteria for approving a food aid program:

- The distribution of commodities in the recipient country will not result in a substantial disincentive or interference with domestic production or marketing in that country; and
- Adequate storage facilities are available in the recipient country at the time of exportation of the commodity to prevent the spoilage or waste of the commodity.

Mali, a market driven economy for many years, has often achieved food sufficiency. However, being a vast and sometimes disjointed country, there are many pockets of chronically food insecure communities. The agricultural potential in Mali is significant but goes unrealized in many places. The Government of the Republic of Mali (GRM) has allowed the monetization of food to alleviate food insecurity in the most vulnerable communities and promote development objectives. The last Bellmon Analysis conducted for Mali was done by Africare in 2003 under USAID programming. This current study, conducted by USAID/Mali technical staff, considered three commodities for monetization: wheat flour, rice, and vegetable oil.

This analysis concludes that refined vegetable oil can be monetized in quantities not to exceed 86,000 MT and would not create any disincentive to local production nor disrupt the local market. An initial monetization target of 22,700 MT of vegetable oil is recommended in order to allow for additional data collection on artisanal oil production and export.

Furthermore, rice can also be monetized during the lean or hungry season when locally produced rice is often unavailable and/or exorbitantly priced.¹ The study concludes that 70,000 MT of rice could be monetized without creating any disincentives. However, given the growth potential for the Malian rice sector, the study recommends an initial monetization of 5,000 MT of rice be monetized and only during the months of May – July, when rice is otherwise scarce or highly priced.

As a landlocked country, Mali is highly dependent on the stability of its neighbors for coastal access. However, alternative ports and transportation routes are available which allow Malian trade to continue without significant interruption and have diversified options for transport and storage.

¹ *Please note: For at least one year (2007) USAID/Mali has placed a moratorium on rice distribution or monetization. The domestic sector continues to grow and not all of the intricacies are understood.*

SECTION 1

INTRODUCTION

SECTION 1: INTRODUCTION

Organization of the Study

The Bellmon Analysis Report is organized into six main sections:

Section 1 introduces the study and summarizes criteria used to assess the feasibility of monetization

Section 2 presents a country overview including Mali's economy and key agricultural and growth sectors.

Section 3 considers the feasibility of monetization and market conditions in Mali.

Section 4 presents disincentive analysis for each of the three commodities considered: wheat, vegetable oil, and rice.

Section 5 highlights the conclusion of the analysis in light of the Usual Marketing Requirements for each commodity and spells out monetization targets.

Section 6 details the relevant port facilities, port storage, and infrastructure available for use during monetization.

Appendices present additional information pertinent to the report and key references.

Purpose of the Study

USAID, through funding provided by Public Law 480 (P.L. 480), Title II, makes commodity donations to Cooperating Sponsors (Private Voluntary Organizations, Cooperatives, and International Organization Agencies) to address the needs of food security in both 5-year development projects and emergency food assistance programs.² Cooperating Sponsors (CSs) may distribute food to targeted vulnerable populations, or monetize commodities to fund development programs. In order to ensure monetization programs will not create disincentives to local production and/or market growth, all requests for Title II funding require a thorough market analysis.

According to USAID's Monetization Field Manual, a successful monetization program should meet the objectives of:

1. Generating the maximum income feasible for the sale of Title II commodities,

² USAID, Office of Food for Peace http://www.usaid.gov/our_work/humanitarian_assistance/ffp/

2. Encouraging the development of competitive food marketing systems, and
3. Enhancing household access to food.

Bellmon Amendment

All P.L. 480 monetization or distribution programs must fulfill the Bellmon Amendment criteria in order to be approved. A Bellmon Analysis must be 1) undertaken in the country where food aid will be distributed or monetized; 2) prepared prior to the implementation of a P.L. 480 program; and, 3) updated each year if a Cooperating Sponsors (CS) is working in that country.

The Bellmon Amendment to P.L. 480 sets out the following criteria for approving a food aid program:

- The distribution of commodities in the recipient country will not result in a substantial disincentive or interference with domestic production or marketing in that country; and
- Adequate storage facilities are available in the recipient country at the time of exportation of the commodity to prevent the spoilage or waste of the commodity.

Commodity Selection

This study considered the monetization of three commodities, selection of which followed the following criteria:

Table 1: Commodity Section Criteria Summary

Commodity	Local Use & Importance	Produced Locally?	Imported?	Available through Title II?	Monetized Previously?
Rice	Rice is a preferred element of the typical Malian diet and is consumed daily in most households	Yes	Yes	Yes	Yes (last in 1991)
Vegetable Oil	Key to local diet and a key ingredient in most dishes.	Yes	Yes	Yes	No
Wheat	Consumed predominantly in urban areas.	Yes	Yes	Yes	Yes (last in 1993)
Wheat Flour					

Study Methodology

This Bellmon Analysis was conducted and written by Amadou Camara and Jean Harman of the Economic Growth office of USAID/Mali during the later half of 2006. Mr. Camara conducted numerous interviews with key informants, tirelessly and relentlessly asked many of the same questions in different ways, completing the analytical portion of the report in its entirety. Jo Anne Yeager Sallah facilitated the completion of the report by editing and finalizing the various components of the report. The Food for Peace Office in Washington, DC requested, and the Mission agreed, that given the complexity of monetization and food distribution in Mali, an internally conducted Bellmon would yield the most neutral results.

Mali, a market driven economy for many years, has often achieved food sufficiency. However, being a vast and sometimes disjointed country, there are many pockets of chronically food insecure communities. The agricultural potential in Mali is significant but goes unrealized in many areas. The study methodology included personal interviews with more than 30 private and public sector representatives in key components of each of the three commodities discussed in this report. Document reviews and internet searches also yielded important data. Several studies were reviewed and analyzed on wheat and rice: no such studies were found on the food oil sector in Mali.

Concerns about the willingness of the Government of the Republic of Mali (GRM) to monetize commodities from donor countries launched a dialogue between the USAID/Mali mission and the GRM to ensure GRM's support of Title II monetization: having conducted other donor monetization programs in 2004, 2005, and with USDA commodities plans for 2006/2007, the GRM detailed its willingness to monetize where advantageous to the food security of the country.

SECTION 2

COUNTRY OVERVIEW

SECTION 2: COUNTRY OVERVIEW

Mali is a landlocked country in West Africa that covers an area of 1,241,238 km² with a population of approximately 13 million inhabitants in 2006.³ Mali shares borders with Mauritania, Algeria, Niger, Burkina Faso, Côte d'Ivoire, Guinea, and Senegal. The capital, Bamako, has about 1.5 million people, with another one million persons estimated to be living outside the limits of Bamako; the other cities, the largest of which are Ségou, Mopti, Sikasso and Gao, have populations around 100,000 – 125,000 people.⁴

Something less than one half of Mali's land mass is part of the Sahara Desert, and about one quarter is arable land. The total area of Mali is comparable to approximately twice the land area of the state of Texas in the United States, and the three northern regions (Timbuktu, Gao, and Kidal) account for 60% of the landmass, and about 1 million, or about 8.5% of the total population of Mali (See Figure 1: Map of Mali).

Climatic conditions vary considerably within the country. Precipitation and the length of the normal growing season decrease from the southwest to the north and east. Crop production patterns follow a similar change. Maize (corn) is the primary crop in the southwest, shifting to sorghum and then millet as average rainfall decreases to the north and east. Herding predominates in the dryer north and east.

The most significant variation to this generalized pattern is due to the Niger River. The river and its interior delta covering the area from north of Segou to Timbuktu provide conditions for relatively high-density agricultural production (crops and livestock) in zones with relatively low rainfall. River water is important for irrigated crop production (particularly rice north of Segou), permits recession agriculture, and animal herding across a wide zone of the country that has relatively low rainfall. See Annex 1: Livelihood Zones of Mali for a graphic of the ten agricultural production zones.

Mali's Growing Economy

USAID classifies the Republic of Mali as a low-income food-deficit (LIFD) country and is eligible for inclusion under the PL 480 Title II food assistance program.⁵ Mali faces numerous health challenges related to poverty, malnutrition, and inadequate hygiene and sanitation. Yet there are several positive economic and social developments, giving cause for optimism. Since 2000, incomes



Figure 1: Map of Mali

³ The World Bank and UNDP estimate 13 million inhabitants in 2006. Thirteen million is used as the basis for consumption and demand analysis.

⁴ National Statistics and Information Directorate (DNSI)

⁵ PL 480 Eligibility List, April 2006.

have been steadily increasing⁶, due in part to the exploitation of Mali's vast gold resources, and a more market-oriented economy and policy environment. Some improvement can be seen in social indicators as the Government of the Republic of Mali (GRM) has made significant investments in education and health services. As a stable, democratic country and a continuation of sound policies favorable to economic growth, there is hope that improvements will be seen for the poorest members of the society.

Forty-five percent of GNP comes from agriculture and the agricultural sector employs 80-90% of the working population. Of the agricultural sector, agricultural production dominates (slightly more than half) livestock is second (about one third), while fishing and forestry make only a modest contribution (less than 20%).

Mali has experienced significant positive changes in general food security conditions in the last decade. The devaluation of the West African Franc in 1994 improved the market opportunities for Malian products, contributed to increases in the production of food and cash crops and livestock exports, and increased income for some segments of the population. Based on a multi-year comparison, rain fed cereals production has increased, as a result of several years of good rainfall and increases in area under cultivation. With the exception of 2002 and 2004 when poor rains and locust infestation led to reduced production. During these two years, Mali was the recipient of limited and regionally targeted emergency food relief.

The economy is highly dependent on regional and international markets: net transfers generally account for over 50% of export earnings, derived mainly from gold, cotton, and livestock products, which are subject to fluctuations in world prices. With increasing dependency on international markets comes increasing vulnerability to external shocks: political instability in Côte d'Ivoire has increased shipping costs for basic goods, world price fluctuations for gold and cotton have resulted in losses, and severe insect infestations have affected staple and cash crops. Illiteracy and poor access to health care have contributed to high infant mortality rates and low average life expectancy. While the statistics highlight significant deficiencies, the potential for improvement in this stable democratic country is promising, as GRM has demonstrated their willingness to implement economic and social reforms.

This improved food security situation is attributed to an increase in commercial agricultural crops, predominantly rice. Devaluation, privatization of rice production infrastructure, market liberalization

⁶ Despite various adverse shocks, real GDP growth has averaged over 5.0% per annum since 1994, enabling the growth national income per capita GNI to rise from US\$240 in 1994 to US\$380 in 2005, a 4.0% average annual increase. (World Bank, Mali Country Brief)

and considerable pent-up demand all contributed to a dramatic increase in rice production from 427,600 MT of paddy in 1993/94 to 727,140 MT in 1999/2000. The increased supply of rice has apparently shifted typical consumption away from traditional dry land cereals (maize, millet and sorghum) to rice. As rice production is relatively less vulnerable to seasonal variations in rainfall, the increased production and change in consumption habits have improved the national-level food security in Mali. Prospects are that the level of net rice production can continue to increase in Mali, although the direct benefits of increasing rice supplies may be limited to producers and buyers with greater purchasing power and not directly impact poor, isolated rural populations. Changes in the production systems, such as the increase in rice production in the Nioro (north of Segou) area, can impact local food security, or create significant differences in food security over small distances.

With a growing cash economy, urbanization is an increasing phenomenon in Mali. The proportion of the population living in cities increased from 14% in 1970 to 27% in 1995, and in 2006 the figure is closer to one third of the population.⁷ As a result of growing urban population and low employment in the formal sector, a sizable informal sector is developing in Mali. The contribution of the informal sector to the economy is currently about 40% of GDP.⁸

Cotton (Textiles, Oil, Soap)

Cotton production remains the cornerstone of agricultural trade, as well as the manufacturing sector. Of the cotton produced in Mali, approximately 40% of production is processed for fibers, of which 90% is slotted for the export market. Fifty percent of cotton produced is grown for cottonseed, of which 90% is processed into cottonseed oil, meal, and soap.⁹ The cotton sub sector is still dominated by the Mali Textile Development Company (CMDT), in which the GRM remains the largest shareholder (60%). The CMDT has a legal monopoly on the ginning and marketing of cotton fiber in the cotton-growing areas (approximately 95% of domestic output). On-going cotton sector reforms aim to promote the emergence of new operators and privatization of the CMDT by 2008 (originally slated for 2006). Mali is one of the so-called “C-4” countries, a sponsor of the sectoral initiative in favor of cotton in the World Trade Organization (WTO). The West African Cotton Improvement Program, under USAID/West Africa will launch a multifaceted program in 2007, helping to diversify the cotton sector, supporting growers and the development of Mali-based textile production.

⁷ FAO and National Statistics and Information Directorate (DNSI)

⁸ Doing Business 2006, World Bank Group/IFC www.doingbusiness.org

⁹ UNCTAD Secretariat

Gold Mining

Mali is the third largest producer of gold in Africa (after South Africa and Ghana) and gold exports have become the primary source of export revenue for the country. Following the start-up of new goldmines (Sadiola (1997), Morila (2000), and Yatéla (2001)), mining's contribution to the formation of real GDP has increased considerably since the first review, from 6% in 1998 to 14 % in 2002. New goldmines with a potential of 500 tons have been identified but their exploitation depends on trends in global prices and the Euro/US dollar exchange rate (since the CFA franc is anchored to the Euro). Parallel for commercial mines, small-scale mining operations involve around 150,000 workers. Mining prospecting has benefited from the incentives provided under the 1991 Mining Code, which was revised in 1999 in order to increase the GRM's revenue while at the same time maintaining the incentives for exploration, prospecting, and operation of mines.

Industry

The manufacturing sector contribution to Mali's economic activity is estimated at approximately 10%. Efforts are underway to expand and diversify Mali's manufacturing base. Activities are focused on sectors related to the processing of raw materials, particularly ginning of seed cotton and husking of paddy rice. The agro-food industry is the second pillar of industrial activity (sugar, flour, biscuits, pasta, confectionery, dairy products, beer and other beverages), followed by the tobacco industry. Mali also has industries producing consumer goods (publishing, cardboard packaging, soap, beauty products containing shea butter, footwear, batteries, metal articles, and medicines). Many small enterprises are engaged in semi-industrial or small-scale manufacturing (for example, bakeries, manufacture of traditional beverages, clothing workshops) and many of these are in the informal sector. In the Bamako area, for example, the informal sector employs 80% of the working population (all activities combined).

SECTION 3

MARKET CONDITIONS

SECTION 3: MARKET CONDITIONS

Agriculture Sector Overview

Most Malians are engaged in one form of agriculture or another. Many are reliant on their own production to cover a large part of their food and other basic needs. At the same time, commercial agriculture at the small farmer level is important in much of the south and west-center of the country, where cotton and rice production are significant sources of income. Market gardening, particularly in the dry season, and raising small livestock are also significant ways in which resources for food and other basic needs are secured.

Food Consumption Patterns

Table 2: Foods Consumed, Produced, Imported and Programmed in Mali

Foods Consumed Locally	Produced Locally	Imported	Programmed
Millet	X		
Sorghum	X		
Mais (corn)	X		
Fonio	X		
Rice	X	X	X
Wheat (barley)	X	X	X (WFP)
Vegetable Oil (clear)	X	X	X (WFP)

Source: DNSI, WFP

Cereals (millet, sorghum, maize, rice, and fonio, variable by region) provide 72% of total caloric intake in Mali (daily per capita kilocalorie requirement reported at 2,800¹⁰). The typical diet however is considered to be deficient in fats, vitamins and minerals. Actual diets vary considerably due to regional differences in climate and food production systems, such that more animal products are consumed in northern (herding) areas while more root crops, pulses, and fruits are consumed in the southwest. Food crops grown locally in Mali include millet, rice, sorghum, fonio, maize, and small amounts of wheat (see Table 2: Foods Consumed, Produced, Imported and Programmed in Mali). Table 3 provides a summary of the average quantities of cereals consumed in Mali per year. Data confirms a growing trend towards rice and wheat, while grains such as millet, sorghum, and fonio are decreasing as Malians migrate to urban centers and more rice is available. With only 20% of the cereal crop exported, cereals are grown mainly for domestic consumption. However the expansion of commercial rice production is likely to result in increased food exports in the future.

Table 3: Estimated Average Cereal Consumption Per Person (kg/person/year)

Year	Rice	Wheat	Coarse Grains (millet, sorghum, fonio)	Total
1999/2000	47.95	4.97	166.36	219.28
2000/2001	49.04	3.87	132.89	185.80
2001/2002	71.80	8.22	142.85	222.88
2002/2003	53.62	5.65	144.48	203.75
2002/2004	63.81	6.88	148.26	218.95
5-Year Average	57.24	5.92	146.97	210.13

Source: Food Balance Sheet, DNSI

¹⁰ Togolo, personal communication

Twice since 2000, the cereal crop has been negatively affected by drought and/or insect infestation (see Table 4), leading to both imports and food aid being brought into the country to alleviate the shortages. The poor yield during the 2002-2003 season led to sizeable imports from regional countries (Burkina Faso and Côte d'Ivoire).¹¹ This situation contrasts with the 2003-2004 season, where an estimated 1 million ton surplus of cereals was calculated.¹² Again in 2004-05, owing to the shortened growing season and the presence of locust damage in parts of Mali, harvests dipped down again. This fragility of rain-fed crops supports the GRM and donor promotion of expanded rice production in the riverine and delta systems of the Niger and Senegal Rivers.

Table 4. Summary of Cereal Production, 1998-2006 (MT)¹³

Year	Millet	Sorghum	Corn	Fonio ¹⁴	Rice	Wheat ¹⁵	TOTAL
1996-97	738,857	540,645	294,183	14,992	627,405	3,086	2,219,168
1997-98	641,088	559,583	343,357	15,116	575,745	2,714	2,137,603
1998-99	813,615	600,389	392,972	16,393	717,856	6,681	2,547,906
1999-00	818,905	688,830	619,896	31,244	727,140	7,585	2,893,600
2000-01	759,114	564,661	214,548	22,738	742,808	6,208	2,310,077
2001-02	792,548	517,748	301,931	21,398	965,726	9,253	2,608,604
2002-03	795,146	641,695	363,629	16,321	710,446	4,621	2,531,858
2003-04	1,260,498	727,632	454,758	22,437	938,217	5,700	3,409,242
2004-05	974,673	664,083	459,463	19,655	718,086	8,942	2,844,902
2005-06	1,157,810	629,127	634,464	26,598	945,824	4,805	3,398,628

Source: Malian authorities (CPSI/CMDT annual compilation) *Enquête Agricole de Conjoncture*

Imports are generally important in supplying Mali's needs for the following: wheat (91.3%) tea (100%), palm oil (100%) and sugar (75%).

¹¹ "Rapport mensuel sur la Sécurité alimentaire du Mali", Famine Early Warning Network Systems, 26 February 2003 [on line]. Available at <http://www.fews.net/> [19 January 2004].

¹² "Rapport mensuel sur la Sécurité alimentaire du Mali", Famine Early Warning Network Systems, Available at <http://www.fews.net/> [19 January 2004].

¹³ Rice shown in this table is coarse rice that must be converted to paddy rice equivalents of 0.65; wheat shown is coarse wheat and must be converted using 0.75.

¹⁴ Fonio is the most important of a diverse group of wild and domesticated *Digitaria* species that are harvested in the savannas of West Africa. Fonio is the smallest of all species of [millet](#).

¹⁵ Wheat production includes a small amount of barley.

Agricultural Production

While the majority of Malians have traditionally relied on self-produced food supplies, the economy is gradually becoming a cash transfer system with a few crops (cotton and rice) generating income to meet food security requirements. In the past, food security was a function of good rainfall – good rains were synonymous with food security. However, as commercial agricultural production systems develop, for rice and cotton in particular, and as incomes rise, a new definition and model for assessing food security must also evolve.

Livestock remains one of the key sectors in the rural economy and about 50% of the surface area in Mali is devoted to rearing livestock at some point during the year. This provides a major source of income for 30% of the population. Mali has a large animal herd, estimated to be 26 million head in 2001, and composed chiefly of bovine animals (27%), sheep (28%) and goats (40%). The number of poultry is estimated to be 22 million.

Mali exports food products, mainly to countries in the sub region: Burkina Faso and Senegal (cereals, fruit, and vegetables); and Côte d'Ivoire (cattle). Mali exports only live animals because of the limited infrastructure for processing, transport, and conservation and social norms regarding red meat purchase. Although Côte d'Ivoire is still the main destination for agricultural exports, the authorities indicate that the crisis in Côte d'Ivoire has had a noticeable impact on exports to Côte d'Ivoire since mid-2002, particularly exports of cotton fiber, which have been re-routed through other ports in the sub region, especially Tema (Ghana), Cotonou (Benin), and Dakar (Senegal).

Government Macroeconomic and Agriculture Policies Affecting the Food Sector

Mali has made efforts to liberalize key sectors of the economy in order to achieve the objectives set out in the Poverty Reduction Strategy Paper (PRSP) while simultaneously promoting economic growth. The GRM continues to withdraw from some economic activities (especially manufacturing), retaining a minority holding in many key enterprises and sometimes commands a *de facto* or legal monopoly.

Agricultural Policies

Government of Mali Agricultural Policy

The GRM Master Plan for Rural Development (SDDR) was first introduced in 1992 and outlines the GRM's agricultural policy. The main achievements of the SDDR during the period 1992-2000 included:

- Restructuring of the Ministry of Rural Development (MDR);
- GRM gradual withdrawal from agricultural parastatals and transfer of competence, management, and ownership to private sector entities;
- The adoption of an environmental policy; modernization of the regulatory texts (codes on forests, water, the environment, land ownership, and grazing, and the law on cooperatives);
- Creation of the Permanent Association of Malian Chambers of Agriculture (APCAM); and,
- Building the capacity of agriculturalists, increasing their professionalism and including them in dialogue with GRM.

Based on a thorough review in 2000, the SDDR was then updated and expanded. For the period of 2000-2010, SDDR seeks to increase the rural sector's contribution to development of the economy, enhance agricultural food security, raise incomes and improve living conditions in rural areas, and protect the environment. Specific SDDR activity targets include:

- Decentralization of the GRM's role in agricultural policy;
- Development of the Poverty Reduction Strategy Paper (PRSP) that is complementary and coordinated with the SDDR;
- A policy to develop agricultural sub-sectors;
- Articulation of sustainable development objectives including rehabilitation of the soil and maintaining its fertility;
- Liberalization of trade within the West African Economic Monetary Union (WAEMU), allowing the development of certain agricultural exports (cereals, fruit and vegetables, meat, hides and skins)¹⁶; and,
- Promotion of rural credit.

The SDDR incorporates the cereal market restructuring program (PRMC) and the agricultural sector adjustment program (PASA). The SDDR provides for government support to cereal, vegetable, and tree crop producers. Specifically, the SDDR outlines infrastructure development in rural areas such as feeder roads, irrigation, water points/wells, and storage infrastructure.

As called for in the SDDR, the GRM has continued to shift from government control of the sector to private sector ownership and management of key agricultural enterprises. Starting in 1998, a number of government enterprises were privatized: SONATAM

¹⁶ "Rapport mensuel sur la Sécurité alimentaire du Mali", Famine Early Warning Network Systems, 26 February 2003 [on line]. Available at <http://www.fews.net/> [19 January 2004]. <http://www.bmmali.org/partenariat/dev-rural.html> [19 January 2006].

(tobacco and matches), SIMANA (sale of agricultural machinery), SEPAV (poultry products), SOCAM (tomato concentrate), and SOMACO (canning). While FRUITEMA (fruit and vegetable exports) was privatized earlier, its success has been hampered by a lack of cold storage. The cold storage facility at the Bamako airport is currently not in use and severely run down. Discussions between donors, the Dutch in particular, and the GRM may lead to its refurbishment or the creation of a new cold storage space at the airport.

While GRM has made significant moves to privatize its agricultural sector assets, the cotton sector remains tightly controlled by GRM. The Government controlled Cotton Marketing Board (CMDT) handles virtually all seed cotton (95%) produced in Mali. In 2004, CMDT was co-owned by the GRM (60% of the shares) and a French company DAGRIS (40% of the shares). GRM withdrawal from CMDT is envisioned, and producers are currently allowed to buy into CMDT capital. The cotton farmers' union, the *Syndicat des Producteurs Cotonniers et Vivriers du Mali* (SYCOV) has become a full partner with the CMDT and the GRM in negotiations over setting input and cotton prices.

Cotton ginning is the main agro-industry, as the majority of cotton is utilized as fiber. Cottonseed is also used, with a small amount used for seed (10%) and the balance used for oil, meal, and soap (90% of cotton seeds). The cottonseed is not fully exploited due to several reasons: high electricity costs for manufacturing, high taxes and other duties, and a lack of adequate foreign investment. To address the high cost of electricity, Mali initiated an in-depth reform program of the electricity sector in 1998. While transmission in Bamako is excellent, it is the highest costing electricity in the region. An Investment Promotion Agency was decreed in January 2006 and will begin functioning in January 2007. The Investment Promotion Agency is responsible for encouraging more direct foreign investment in the cotton sector through the provision of incentives. The Mali Government's application of common external tariff (CET) duties, other taxes, and non-tariff measures significantly reduces competition from cotton imports.

In 2005 the oil processing branch of CMDT was sold and now functions as a private entity (*Huilerie Cotonnière du Mali – HUICOMA*). GRM retains operations of the Mali Chemicals Company (SMPC), which packages and markets phytosanitary products and agricultural fertilizer. HUICOMA has been undergoing restructuring as it takes control of the oil production business in Mali.

United States Government Agricultural Policy in Mali

As a central component of its Accelerated Growth objective, USAID/Mali provides bi-lateral support to the GRM to strengthen agricultural sector growth by targeting commodities for which Mali has a comparative advantage. The USAID programs work to support the private sector by improving the management of agribusinesses and strengthening micro-finance institutions. The program supports the objectives of, and participates in, the President's Initiatives to End Hunger in Africa and the Global Climate Change Initiative. USAID focuses on increasing small farmers' incomes and stimulating growth by producing specific commodities more efficiently. This includes provision of improved water management and irrigation infrastructure to support increased rice yields for an estimated 3,200 farm families; improvements to the livestock sector through improved feed rations and private investment; community based natural resource management approaches to land use management; and implementation of a national food security strategy.¹⁷

Up until 1993, USAID was a major food aid donor in Mali. Following the successful liberalization of cereals/food markets and prices, agricultural productivity and production significantly increased to the point that Mali had become food self-sufficient in most years. Donors, including USAID/Mali, felt it was at cross-purposes to continue food aid to Mali after 1993 given their success. Mali's newly elected President Amadou Toumani Touré, raised food security to the top of the political agenda and focused attention on the needs of the poorest segments of Malian society. This emphasis on food security was reinforced by a series of cereals stock shortfalls due to poor rains and the locust invasion in 2004/05. Donors therefore started sending food aid again in an effort to re-stock the GRM national food security cereal reserves and to reconstitute the productive assets in the drought and locust stricken zones. In 2006, GRM negotiated a USDA Title I food aid program (4,500 MT of wheat flour and 7,750 MT of coarse wheat) targeted for monetization. Title II vegetable oil and beans are provided via World Food Program (WFP) and are used in Food-for-Work (FFW) programs in the country. Title II USDA vegetable oil was also monetized in Mali during 2001 for Africare/Senegal. Several PVOs (CARE, World Vision, and Africare) have successfully monetized food in Mali, as does Mali's Grain Board (OPAM). OPAM managed monetization for USAID/Mali between 1982 and 1993 (see Table 5).

Table 5: Previous USAID/Mali Monetization Programs*

FY	Type	Quantity, MT
1993	Wheat	9,200
1992	Wheat	6,839
1991	Rice	10,379
1990	Wheat	5,985
1989	Rice	5,837
1988	Rice	10,000

* Monetization managed/
conducted by OPAM

Source: USAID/Mali

Other Donor Support

France is Mali's largest bilateral partner (but not the largest food aid donor), followed by the United States. Others include: Canada,

¹⁷ USAID/Mali Data Sheet, Accelerated Economic Growth Program.

Germany, and Japan. Mali also receives support from the Netherlands, Sweden, Switzerland, South Africa, Saudi Arabia, Libya, and Algeria. Multilateral assistance programs include the World Bank, United Nations, European Union, the African Development Bank, and West African Development Bank.

The WFP works in the areas of education, health, nutrition, and agriculture. WFP provided approximately 10,247 MT of food aid through projects in Mali in 2001. Most cereals for these programs (9,185 MT) are procured locally or within the region. Vegetable oil and pulses are (generally) Title II commodities.

Private Voluntary Organizations (PVO) have an active role in distributing either imported or locally purchased food aid.

The Donor community works closely with the GRM particularly in the management of food security. This is discussed in the context of Mali's Food Security system in the following section.

Mali's Formal Food Security System

The food crisis in the mid-'70s and donor efforts to extract the state from the commercial cereal market resulted in the establishment of structures to monitor and respond to food insecurity in the northern parts of Mali.¹⁸ Collectively, these structures are referred to as the "PRMC" (*Programme de Restructuration du Marche Cerealier*) and are a joint GRM-Donor¹⁹ undertaking started in late 1981. The PRMC is responsible for both emergency food relief (negotiation and management of commodity donations), as well as improving structural food security through improved data and planning. The PRMC is composed of three units:

- 1) Early Warning System Office (*System d'Alerte Precoce*– SAP) dealing with early warning needs for food aid;
- 2) The Office of Agricultural Products, or Grain Marketing Board dealing with security stock management (*l'Office des Produits Agricoles du Mali* - OPAM); and,
- 3) Office of Market Information (*l'Observatoire des Marches Agricoles* - OMA) conducting reconnaissance on market prices and shortages.

Since the completion of the liberalization of the cereals sub sector in the late 80's, the PRMC has focused on preventing and managing specific food crises and increasing cereal production through several measures to support the sub sector. The PRMC

¹⁸ The early warning and response systems do not cover areas of the southwest of Mali, which are not considered to be subject to food shortages.

¹⁹ Belgium, Canada, European Union, France, Germany, the Netherlands, United Kingdom, United States and WFP.

oversees the action taken by the Malian Agricultural Products Board (OPAM), which is responsible for managing the national buffer stock (SNS) (51,855 tons as of 1 November 2003) and food aid programs. It also provides other forms of support for the cereals sub sector, such as modernization of cereal markets, and the development of trade in cereals.

The two financial arms of the PRMC are the Common Counterpart Fund and the Food Security Fund (in cases of emergency). These two funds are funded by contributions from Mali's development partners (WFP and bilateral donations) as well as a state budget subvention. The PRMC's resources represented an average of CFA Francs 2 billion (US\$3.3 million) each year from 1981 to 1999. The PMRC annual budget has been declining since 2000.

The PRMC has been headed by the Minister of Finance and Economics (until 2002 when the Food Security Commissioner became the head), with the WFP Mali serving as "coordinator for the donors." The GRM and donors work through a set of coordinating committees covering food aid allocations, finance, and technical issues. Allocations of food from the security stock are made based on the SAP assessment of needs and delivered by OPAM to local authorities, which oversee food distribution.

OPAM maintains 35,000 MT of cereals in stock for immediate needs. A third of this tonnage is rotated each year, either by distribution to food insecure areas or as sales. A similar quantity is also purchased locally from the market to replenish the stock each year. In addition, the donors and the GRM have established a food procurement fund (the Food Security Fund) mentioned above) for use when the security stock (35,000 MT) is inadequate. Owing to no major food crisis²⁰ over the past decade, OPAM has focused their efforts on improving the efficiency of maintaining the food reserves. In this capacity, OPAM has been used in government-to-government monetization operations and most recently completed a monetization operation for WFP (2000 MT of wheat flour), and the USDA Title I Program.

Following the locust invasion and the drought of 2004/2005, the GRM decided to establish a buffer stock (known as "the *Stock d'intervention*") of 10,000 MT of rice plus 24,000 MT of coarse grains. This brings the current total allowable food security stock of Mali to 69,000 MT. The traditional PRMC food aid donors are not contributing to the constitution of the buffer stock.

Pricing Policies

In general, the GRM has been emphasizing market liberalization over protection of Malian production. However, tensions do exist

²⁰ Cereal shortfalls in 2002/03 and 2004/05 were significant but are not considered major food crises.

between the liberal market approach and politically powerful sectors (e.g., cotton) and companies, which prefer a degree of market protection.

Since initiating the market liberalization program, the GRM has had a relatively light hand on the food market. Most commercial-level market operations take place without direct GRM involvement. Exceptions include a consultative price setting process for bread and a similar consultative price setting process for setting base-rate transport costs. Changes in the cost of transport directly affect the cost and availability of food commodities and production inputs (e.g., fertilizer). Increases in bread prices are considered to be politically risky, particularly in urban areas.

For cotton, the CMDT is responsible for ensuring prices to producers through its procurement operations. Within the framework of cotton- and food-producers' unions (GSCVM), producers' organizations are charged with ensuring an adequate supply of the inputs used in cotton and cereals production.

The introduction of the West African Economic Monetary Union's (WAEMU's) Common External Tariff (CET) significantly lowered the simple average of duties and taxes applicable to agricultural products, which decreased from 29.2 to 17.5% between 1997 and 2003.²¹ This reduction in duties and taxes has improved the trade environment, improving farmer access to inputs and foods. On some products, measures of a restrictive nature (reference values, supplementary taxes, high domestic taxes) are imposed in order to protect or create more favorable terms of trade. These include support to domestic products such as sugar, meat, tobacco, and cigarettes.

Marketing System

The cereals market is liberalized and operates through layers of petty traders, farmer associations, and private business entities. For food security purposes GRM may purchase cereals from farmers and/or associations, with the price being negotiated individually. Livestock is similarly liberalized and government does not intervene in the marketing of livestock, only to ensure health standards.

Since GRM has the major share in the cotton sector through CMDT, the marketing system for cotton is more regulated and structured, although privatization of input distribution has been considered. Producers' organizations are closely involved with

²¹ <http://www.uemoa.int/actes/2002/TarifExterieurCommun.htm>

CMDT in setting the prices and organizing the marketing of cotton from the farm level to the ginnery.²²

Regional Trade

The main policies restricting competition at the border are the application of the WAEMU's CET to goods imported from third countries and supplementary duties (statistical fee and community solidarity levy), whereas industrial goods from enterprises of WAEMU origin approved under the TPC regime enjoy duty-free entry. The simple average of duties applied on imports of non-agricultural products (excluding petroleum) is 14.3%. Analysis of the Malian tariff applied highlights the escalation of the tariff regime according to the level of processing and the relatively high level of protection granted for finished products.

In addition to tariff measures, there are also non-tariff protection measures, including reference values. These apply, for example, to imported fabrics, which compete with those made by COMATEX, in which the GRM retains a 20% holding. COMATEX supplies 20% of the domestic market, but has faced competition problems and, as a result, has been given three support measures: exemption from duties and taxes on inputs, exemption from tax on industrial and commercial profits (BIC), and from the business tax; as well as a price for the sale of cotton fiber to CMDT that is below the global the amount of which is fixed annually.

The Role of Food Aid

The traditional food aid donors of Mali have been providing financial contributions to the GRM for food security related activities over the past ten years. This has been the preferred mechanism as Mali has been close to self-sufficiency in main staples (grains) for more than ten years now, and normal commercial imports fill the gaps. It is only in exceptionally bad rainfall years that imported food aid from donor countries is provided. Table 6 illustrates that over the past five years, food aid has been targeted to meet critical areas during exceptional circumstances. Traditional food aid coming from Germany and Japan are used to purchase grains locally or regionally to provide food directly to those in need and/or to cereal banks. Magrehb countries (Egypt, Algeria, Tunisia) provide foodstuffs during the holy month of Ramadan, usually in the form of packaged processed foods (dates, sugar, biscuits, couscous, pasta, etc.). In 2005 they also supported Mali during the bad rainfall years.

²² UNCTAD.

Table 6. Summary of Food Aid Received by OPAM during 2004-2005 Period (MT)

Country/Commodity	Implementing Agency	2002	2003	2004	2005	2006
European Union						
Rice	NGO	300 MT				
World Food Program						
Wheat						2,000 MT
Vegetable Oil						
United States						
Wheat ²³	OPAM/CSA					7,700 MT
Wheat flour						4,500 MT
Rice	NGO					7,000 MT
Germany						
Sorghum	GTZ/GRM	370 MT	2,165 MT			
Millet	GTZ/GRM	370 MT	400 MT			
Pulses	GTZ/GRM	70 MT				
Edible Oil	GTZ/GRM	40 MT				
Millet/Sorghum	Deutsche Welthun	5,799	785 MT			
Rice	GTZ/GRM		676 MT			
Japan						
Cereals/Millet			402 MT	85,052 MT	24 MT	
Rice				5,905 MT	4 MT	5,316 MT plan
Egypt						
Wheat Flour				54,325 MT		
Rice				19,500 MT		
Vegetable Oil				1,200 litres		
Algeria						
Wheat Flour				10,000 MT		
Semolina				11,750 MT		
Rice				2,400 MT		
Couscous				50 cartons		
Vegetable Oil				400 liters		
Sugar				1,000 MT		
Milk (powder)				2,375 MT		
Tea				80 cases		
Coffee				19 cartons		
Pasta (macaroni)				150 cartons		
Biscuits				299 cartons		
Tunisia						
Wheat				167,226 MT		
Tomato (paste)				10,271 cartons		
Milk (liquid)				20,294 loads		
Sudan						
Dates			6,179 cartn	6,167 cartons		
Food products				2,500 cartons		

Table 7. Summary of Major Food Donations (both imported and purchased locally)

	Wheat	Rice	Oil	Cereals	Pulses	Cous	Sugar	Milk	Tea	Coffee	Other
Egypt	X	X	X								
Algeria	X	X		X		X	X	X	X	X	X
Tunisia	X										X
Germany		X	X	X	X						
Japan		X		X							
U.S. ²⁴											X
Sudan											X

²³ Title I US wheat flour and grain were all sold to the GMM in closed bidding.

²⁴ The US is no longer a major donor, however in 2005 \$1,000 was donated to help restore grain levels for the security stock.

SECTION 4

DISINCENTIVE ANALYSIS

SECTION 4: DISINCENTIVE ANALYSIS FOR SPECIFIC COMMODITIES

Commodity monetization can serve as an effective mechanism for funding development assistance programs. However, if monetization creates a disincentive for local production, the rationale for such monetization cannot be justified. In this section, three commodities are analyzed: wheat, vegetable oil, and rice.

The demand for the three commodities considered (wheat, rice, and vegetable oil) is estimated using the per capita consumption norm derived from the “Malian Survey for the Assessment of Poverty” conducted by the National Statistics and Information Directorate (DNSI). The results of the DNSI survey were validated in 2004 and included budget-consumption figures and estimates of caloric value of consumed foodstuffs. The results indicate that cereal products contribute 72% of the total caloric intake of Malians. This represents a consumption norm of 214 kilograms per person per year, including 57 kilograms of rice, 5.92 kilograms of wheat and 10 kilograms of vegetable oil. These norms were endorsed during a national workshop on the permanent monitoring of food vulnerability in the Sahel, organized by CILSS in April 2005. Total consumption demand is hence estimated by multiplying the consumption norm by the population figure of 13 million.²⁵

ANALYSIS OF WHEAT

Mali produces a small amount of wheat in the northern areas of Mali. The majority of wheat consumed in the country is used for bread and pastries, and are consumed predominantly in urban areas. This section reviews issues and opportunities associated with monetizing wheat in Mali.

Wheat Supply

The supply of wheat in Mali is determined by local wheat production, commercial imports, and donor food aid. Wheat is produced in Mali in the northern region of Timbuktu, about 800 miles north of Bamako. Wheat production programs in the Diré area of Timbuktu have received support from a variety of donors (USAID in the 1980's and Canada since the late 1990's) through a variety of PVOs and NGOs. The average annual domestic wheat production from 2000 to 2004 is about 8,000 tons, representing less than 10% of the country's total annual consumption. Potential production capacity under the existing production zones is

²⁵ The population figure for 2006 was obtained by applying the World Bank and UNDP estimates. This figure uses a higher growth rate than used in the 2001 Demographic and Health Survey (DHS), which results in a 2006 projected population of 12 million. For the purposes of this analysis, 13 million is used to calculate potential demand for a commodity.

approximately 12,000 MT, though additional production areas could be developed. One feasible option would be the *Office du Niger* zone in the Ségou region where the expansion of wheat production appears likely to be more efficient than in the isolated production and low population density locale of Diré. The feasibility of large-scale commercial wheat production in the Office du Niger remains to be determined. Production tests on approximately 500 hectares were pursued in 2005/06. USAID is working with the Institute of Rural Economy (IER) Research Office of the Ministry of Agriculture and the *Grands Moulins du Mali* (GMM), a wheat miller who initiated the wheat production project in the Office du Niger. Wheat production trials, as a diversification crop during the cool off-season, are also planned under the Millennium Challenge Account (MCA)-Mali project in the Office du Niger. If these tests are positive, up to 20,000 hectares could be put under wheat production in the Office du Niger in the upcoming 3 to 5 years.

Wheat Consumption Demand

Domestic production of wheat is characteristically consumed locally while the imported wheat primarily serves urban consumers elsewhere in Mali. Approximately 75% of the wheat produced around Diré is consumed in the Timbuktu region. The wheat itself is said to be of a “hard” variety, and not particularly useful for bread production alone. Part of the wheat harvest is sold to the GMM for use in blending with other flour varieties. This wheat is likely used as a substitute for imported hard wheat varieties. Wheat consumption in the form of bread and pastries is typically an urban phenomenon, though growing in rural areas.

While there is a significant substitution of sorghum and millet for rice, the substitution effects of wheat on other starches produced locally is limited and is not expected to increase significantly in the short to medium run. Imported wheat flour comes from Europe, primarily France. Some re-exports of flour from Algeria and Mauritania enter the Malian market.

Projections of Wheat Supply and Demand

No recent long-term projection of wheat supply and demand in Mali exists currently. However, a study on the competitiveness of Malian wheat published in 2004 indicates that short and medium term world production and market factors are favorable to wheat imports, while in the long run the domestic wheat production in Mali is expected to increase.²⁶ Short-term factors favorable to imports of wheat and flour are: 1) wheat prices are on a downward trend as a consequence of the record world harvest of wheat in

²⁶ Lucien Rossignol, Francis Duprat, “*Etude sur la compétitivité du Blé Malien*», November 2004, PACCEM/ACDI

2004 (though U.S. and Canadian wheat prices remain high due to the impact of poor climate on the quality of the products); 2) the depreciation of the dollar relative to the euro (and therefore to the CFA franc) make imports in dollar terms more attractive. However, given the high volatility of currencies and world market prices, this short-term scenario does not merit too much attention. In the long run, wheat imports are expected to decrease due to the following factors: 1) the production and export subsidies are expected to be eliminated, 2) transportation costs would likely increase due to an anticipated increase in the price of petroleum, and 3) world demand for cereals would be increasing due to the population growth and the increased use of cereals as animal feed. All these factors would lead to an increased investment in wheat production close to the consumption zones. Hence, investments in domestic wheat production would become more attractive. In Mali, the GMM has already taken the step to invest in local production of wheat. The GRM and some donors support investment in diversification crops, particularly in the Office du Niger zone where the MCA will invest.

In order to estimate the demand for flour in Mali, one has to add commercial wheat imports, local wheat production, and illicit wheat imports. Using a per capita consumption rate of 5.92 (see Table 3), a population growth rate of 2.7 per annum, the total demand for flour is estimated at 77,000 MT in 2006. Demand could reach 95,000 MT by 2010 given current population growth and urbanization. Knowledgeable sources in the flour market confirm that Mali has seen a significant increase in per capita bread consumption in the last decade.²⁷ The increase in per capita bread consumption is directly linked to the increased urbanization in Mali, and particularly the growth of Bamako. Bread consumption in rural areas has also increased in response to increased disposable income, improved access, and past market liberalization that has allowed small and medium sized enterprises to develop. The higher cost of local cereals supports the increased consumption of the relatively less expensive (wheat) bread, though the per-unit production of bread has been dropping for individual bakeries as more, smaller bakeries open in Mali.

Wheat Market Structure

The market for wheat flour is functionally divided into three tiers:

- The dominant wheat flour market is targeted to the consumer-level product, the French-style “baguette”. This tier is composed of large-volume flour suppliers (importers and GMM). The demand for the wheat flour tends towards regular (in time and tonnage) imports and with established commercial relationships with suppliers, including credit and payment terms.

²⁷ Personal communication with the President of the Bakers’ Association of Mali.

- The second market tier is mainly composed of bakeries who may import directly from suppliers sometimes selling flour to other bakeries or consumers. These buyers also have established relationships with external suppliers (or the GMM). In 2005, 77 bakeries were formally registered in Bamako and more than ten of the Bamako bakeries reported wheat flour imports from the European market. One company had been importing 500 MT per month, recently increased to 1,000 MT per month to meet the increased demand of his own bakeries and clients.
- The third tier is composed entirely of bakeries that purchase flour from importers or the GMM. These bakeries usually purchase limited stocks and operate more-or-less on a cash-and-carry basis.

The market for whole wheat is an oligopsony, with only two buyers, one, the GMM, having the clear dominant market position. The second one, the Minoterie Tiédiè Koné MTK, is a relatively small mill. The GMM is located near Koulikoro not far from Bamako, while MTK is in Ségou. However, the MTK has not been operational since 2004. During a recent visit of USAID to Ségou in March 2006, the owner of MTK reported that he was planning to re-open the mill which has a theoretical annual production capacity of 4,000 MT (3,080 MT of flour output) but only produced 800 MT of flour in 2002 due to difficulties in sourcing and buying wheat. As of the end of August 2006, the MTK mill had not re-opened.

GMM began operations in 1982 with a reported annual capacity of 55,000 to 60,000 MT of wheat (42,300 to 46,200 MT of flour output). The mill can also process corn, sorghum and produce animal feed. GMM's own data indicate that annual wheat flour production between 2001 and 2005 averaged 37,200. In response to increased flour demand, the GMM recently added a second flour mill and hence increased its milling capacity to 120,000 MT of flour per year (12,900 MT of coarse wheat per month). The mill has 4,000 MT of storage capacity in silos and 7,000 to 8,000 MT of storage space in sheds. The mill has a 90 to 120 day planning horizon on wheat orders and any offers for sale need to take this scheduling into account. The GMM has fourteen distribution/sales points throughout the eight administrative regions of Mali.

Food Aid Wheat

In the late 80's and the 90's, Canada, USA, France, and WFP monetized wheat and wheat flour to support cereals market liberalization and food security projects. Egypt, Algeria, and Tunisia sent wheat flour to buffer affected communities from the bad harvest of 2005. In 2006 WFP monetized 2000 MT of wheat flour through OPAM. The provision of food aid wheat flour is typically supported by the Malian Bakers' Association and the

GRM, but is often opposed to by the GMM, which prefers whole wheat.

Wheat Quality

Most of the EU wheat is grown in France and is designated as “type 55”. The reported appropriateness of different flours on the market for baguette production varies. Some flours are reported to be of “high quality”, while other flours require additives (such as gluten) to produce an acceptable loaf. The general explanation is that additives are needed when flour does not contain sufficient protein. The “bread” type Title II flour would not need these additives. It is likely that “AP” (All Purpose) type Title II flour would need little in the way of additives to produce an acceptable baguette. Conversations with one baker indicated that preference was for the “bread” type flour. This flour is slightly more expensive than the “AP” flour, which may serve just as well under baking conditions found in Mali.

Wheat Usual Marketing Requirement (UMR)

In order to determine the Usual Marketing Requirement (UMR), one must first determine the five-year average for wheat availability by capturing production, imports and food aid data. Table 8 provides a summary of the five previous years’ figures for wheat.

Table 8: Wheat Balance Sheet for Production, Imports and Food Aid

The data in this table is presented in terms of flour equivalent (TMT).

Production & Imports	2000/01	2001/02	2002/03	2003/04	2004/05	5-year avg
Wheat Grain Production	6.2	9.3	4.6	5.7	8.9	6.9
Equivalent Flour	4.7	7.0	3.5	4.3	6.7	5.2
Wheat Flour Imports	55.4	34.8	56.3	321.7	113.7	116.4
Commercial	52.7	34.8	56.3	78.5	113.7	67.9
Concessional	2.7	0	0	243.2	0	49.2
Total Availability	60.1	41.8	59.8	326.0	120.4	121.6

A calculation of the UMR for wheat based on the USDA/USAID methodology is provided in Table 9, below. The UMR estimates an import requirement of maximum 71,800 MT (and most observers agree that it is at minimum 50,000 MT). Given the traditional wheat imports, both concessional and commercial, it is estimated that for the 2001-2005 period there was a net flour surplus (-45.6 MTM), implying that food aid flour is not justified at this time.

Table 9: UMR for Wheat (TMT)

Factors	Quantity (MT)	Notes
Population	13.0	2006 estimate, millions
Per capita consumption	5.92	Kg. Estimate
Consumption needs	77.0	MT
Stock changes	0.0	
Total	77.0	MT
Wheat production 2005/06	5.2	MT 5 year average note table above
Import requirement	71.8	MT total minus production.
Imports		
Commercial imports	67.9	5 year average, see table above
Concessional imports	49.2	past 5 year average, see table above
Total	117.1	
Maximum US programming	- 45.6	Import requirement minus average imports (This is a surplus of 45.1 MT of wheat flour, indicating that monetization of wheat is not justified).

Sources: 1. *Statistiques du Commerce Extérieur, DNSI 1999-2005*

2. *Annual Food Balance Sheets, Food Security Commission, 1999-2005*

3. *Demographic and Health Survey, Ministry of Health, CPS, 2002*

Recommendation for Monetization

The monetization of both wheat and wheat flour is not recommended at this time. More in-depth studies and analyses are needed to determine the true consumption needs and the actual import statistics (including whole wheat imports by the GMM). The locust invasion of 2004/2005 resulted in a large influx of food aid including wheat for populations effected by locust damage. The market, currently characterized in equilibrium, will remain a commercially supplied market.

The reliability of data in Mali, as in many developing countries, leads to the use of various data sources instead of single one across the board for production, imports, exports and consumption needs. For example, the table above does not take into account any re-export of flour imported or produced locally.

Impact on Food Security

The monetization of wheat flour or wheat can be expected to have a positive impact on food security in Mali, as both products will be consumed primarily by urban populations, where the relatively poorer population is more reliant on bread to meet daily food needs. Diversifying the supply of raw material for bread production will reduce the vulnerability of this food security sub-system to supply problems and thus improve general food security.

ANALYSIS OF THE VEGETABLE OIL MARKET

The typical diet consists of a grain, either millet/sorghum or rice and a sauce, which typically includes some sort of oil. As a basic component of the Malian food basket, vegetable oil is in high demand, and therefore is an obvious consideration for monetization.

Vegetable Oil Supply

Mali grows a number of products that can be used for vegetable oil production, the most important of which are cottonseed, peanuts, and the shea nut (*karité*). Sesame and soybeans could also be processed for oil but are not produced in significant quantities and are therefore of lesser importance. Demand for vegetable oil is met through both local production and imports.

At one time, peanuts were commercially produced and used to make peanut oil as well as other products. With the advent of commercial cotton production, and a growing problem with peanut aflatoxin, commercial production of vegetable oil shifted to cottonseed oil. Peanuts remain a regionally significant crop, with production in 2005 at 194,423 MT. It is estimated that peanut oil production could reach up to 41,000 MT for local consumption, pressed exclusively at the village or household level and not through commercial enterprises.

Estimates of shea nut production are subject to considerable debate. Shea nut trees are not cultivated, but occur naturally in the vast eco shea parklands. Between the months of May and July women traditionally harvest shea nuts. The degree to which shea nut is transformed into an edible product at the household or village level is likewise unclear. Peanut or purchased oil are typically preferred over shea nut because of the high opportunity cost associated with processing the shea nut. Sesame and soybeans are also grown in Mali and can be used to produce vegetable oils at the household or community level. Sesame and soybean production however are insignificant at the national level.

Cottonseed represents the majority of industrial oil production in Mali. Official statistics from the National Statistics and Information Directorate (DNSI) indicate that industrial cottonseed oil production averaged 25,022 MT between 2000 and 2005. The average artisanal oil production for the same period was 5,950 MT. The overall average oil production in Mali between 2000 and 2005 was 30,900 MT. These figures however may underestimate the total domestic oil supply in Mali as most of the artisanal oil production is consumed at the local level and is therefore not captured by official statistics.

Commercial vegetable oil processing in Mali is dominated by HUICOMA, formerly owned by the cotton parastatal, the *Compagnie Malienne de Développement des Textiles* (CMDT). The GRM sold HUICOMA to a private company in June 2005. HUICOMA has three pressing plants (located in Koulikoro, Kita, and Koutiala), two of which formerly processed peanuts. Cottonseed is now the primary raw material used for pressing, and is supplied by the CMDT. Approximately 200,000 MT of raw cottonseed are supplied by CMDT, which exceeds the quantity needed by HUICOMA for oil production. Therefore, some of the crop is typically sold to neighboring countries (Burkina-Faso and Côte-d'Ivoire) instead of processing the surplus into vegetable oil. HUICOMA is undertaking a restructuring program, which includes upgrading the processing equipment, the financial systems, and streamlining management functions.

When HUICOMA was a part of the cotton parastatal, the price of cottonseed was kept artificially low to promote oil production. In theory, the low price of cottonseed allowed HUICOMA to provide inexpensive vegetable oil to Malian consumers. However, in a liberalized market, cottonseed prices have been on the increase, apparently in response to calculations that cottonseed has a higher market value and could be more profitably exported than processed in Mali. Part of this calculation is based on the value added of the cotton seed cake by-product of the oil production, which can be sold for animal feed. During the 2006 negotiations, the management of the privatized HUICOMA was in disagreement with the CMDT regarding the price proposed for the seed. While CMDT was proposing a floor price of 25,000 CFA/MT, HUICOMA was requesting a price of 15,000 CFA/MT. Discussions between USAID/Mali and HUICOMA in March 2006 revealed that HUICOMA would not oppose monetization of crude oil food aid, but that production tests are required to confirm whether crude oil processing could be conducted on a large scale by HUICOMA.

Vegetable Oil Consumption Demand

Oil demand has been estimated by multiplying the estimate of the per capita consumption norm (10 kg) by the estimated population provided by the same data sources as for wheat. Hence total estimated consumption demand in 2006 reaches 130,000 MT. Consumers of oil are reported to be price selective in purchasing vegetable oil, and have a preference for cotton seed oil over other processed supplies (likely palm and peanut oil). Palm oil can have a problem with solidification in cold weather, and may be more marketable during warmer times of the year. However, the major importer of the *Dinor* brand palm oil from Côte-d'Ivoire, did not report any problem with selling *Dinor* as long as the price was competitive. Most vegetable oil is sold in 208 liter barrels to wholesalers, who retail in liter quantities to consumers who provide their own containers.

Projections of Vegetable Oil Supply and Demand

The HUICOMA production competes with imported oil estimated at 12,600 MT in 2005. Given the small quantity of these imports and the domestic supply, domestic demand significantly exceeds the total supply. Hence, there is ample room for food aid vegetable oil. WFP food aid vegetable oil is used primarily for FFW activities. No oil monetization program has been conducted in Mali during the 2000-2005 period.

Oil is imported from some neighboring countries such as Côte-d'Ivoire (one liter-packaging of refined oil), Guinea (palm oil primarily), Sénégal (one-liter packaging of refined oil). In addition to oil produced locally by HUICOMA, there are several oil importers operating in Mali (See Table 10: List of Oil Importers). Data from the Commerce Directorate (DNCC) indicate the two importers, Coulibaly Mody and Sté Djigué SA, intend to import edible oil in a quantity worth more than a billion CFA (about \$2 million). The value of imports for the next three importers is between 500 million to 1 billion CFA. The value for the others is between 100 and 200 million CFA.

**Table 10:
LIST OF OIL IMPORTERS**

- Coulibaly Mody
- Sté Djigué SA
- Sté de Distribution Industrielle du Mali sarl
- Sté Yeyea Koutoum et Fils, sarl
- SODIMA
- SOBATO
- Dembele Drissa
- SOMAKOFF
- HUICOMA
- Bathily Soya
- Traore Assetou
- Ets FT2
- Mamadou Baba Gngadou

Source: Commerce Directorate (DNCC)

Vegetable Oil Marketing System

The marketing system of vegetable oil produced by HUICOMA is composed of wholesalers, semi-wholesalers, and retailers. HUICOMA sells only to wholesalers who take delivery of the oil at the mill gate. As the imported oil, domestically produced oil is also sold in 208 liter barrels. The wholesalers, who buy truckloads of barrels, sell directly to semi-wholesalers small quantities of barrels. The retail system for vegetable oil is made up of numerous traders in both urban and rural areas. No studies on the marketing costs and margins at the various market segments were found during the data collection and interview process.

Vegetable Oil Usual Marketing Requirement (UMR)

Table 11 summarizes vegetable oil data on production and imports over the 2000-2005 period. Table 12 shows the calculation for the UMR for vegetable oil. The UMR compares the five-year average for commercial imports with last year's consumption requirements based on 10 kgs per capita per annum.

Table 11: Vegetable Oil Balance Sheet for Production, Imports, and Consumption (TMT)

Production & Imports	2000/01	2001/02	2002/03	2003/04	2004/05	5-year avg
Production (cotton & artisanal)	34.9	31.1	28.7	29.6	30.6	31.0
Imports						
Commercial	5.2	16.0	12.4	15.0	14.5	12.6
Concessional	0	0	0	1.4	0	.3
Total	40.1	47.1	41.1	46.0	45.1	43.9

Sources: Production and Commercial imports/exports (DNSI; Comptes Economiques, Statistiques Du Commerce Exterieur). Food Aid World Food Program (WFP).

Table 12: Vegetable Oil UMR (TMT)

Factor	Quantity	Notes
Population – 2006	13.0	estimate for 2006
Per capita consumption	10.0	Kg. estimate
Consumption needs	130.0	TMT
Stock changes	0.0	
Total	130.0	MT
Production	31.0	MT 5 year average note Table 10
Import requirement	99.0	MT total minus production.
Imports		
Commercial imports	12.6	5 year average, see table 1
Concessional imports	.3	
Total	12.9	
Maximum US Programming	86.1	UMR - Import requirement minus average commercial and concessional imports.

Calculation of the UMR reveals that there is a deficit in vegetable oil in Mali and vegetable oil food aid could be introduced without creating a significant disincentive to local vegetable oil production or to vegetable oil imports.

Impact on Food Security

If effective demand (the ability to pay for more vegetable oil) is the major constraint to adequate consumption, then a targeted sales program may be more appropriate. This type of sales program would allow sales to those who have less access to sufficient vegetable oil on the commercial market, thereby increasing their vegetable oil intake.

ANALYSIS OF THE RICE MARKET

With a growing urban population, and taste preferences shifting to rice, the demand for rice in Mali is reportedly high. A disincentive analysis for rice is conducted as a part of the Bellmon Analysis.

Rice Supply

The rice sector in Mali is a market liberalization success story. Freed of an overvalued currency (which prior to devaluation favored imports) and state management, the local rice industry responded with dramatic increases in rice productivity and production. Demand and increased production have resulted in a significant shift in the proportion of rice in the Malian diet.

**Table 13:
DONORS SUPPORTING
RICE EXPANSION**

- US Govt - MCC
- Dutch Govt
- World Bank
- European Union
- Germany (GTZ/KFW)
- France
- AfDB
- IDB (Islamic Development Bank)
- Kuwait Funds
- WFP (FFW programs)

Over the past five years, the domestic production of milled rice reached 545,500 Mt or 82% of the total consumption needs. Rice production occurs in four cultivation systems in Mali, in order of area under cultivation: (1) rainfed rice plains and low lands, generally in southern Mali, (2) fully water controlled irrigation systems (e.g., *Office du Niger* north of Ségou, Baguineda near Bamako, Manantali) supplied by the Niger or Senegal rivers, (3) partially controlled irrigation (generally in small project sites near major rivers), and flood plains in non- controlled systems (See Annex 1: Livelihood Map). Mali has the potential to increase rice production, particularly in large-scale controlled irrigation systems. The Millennium Challenge Account will invest in the irrigation of 16,000 new hectares of land in the fully controlled area of the Office du Niger within five years. Other major donors supporting the expansion of rice production in Mali include World Bank (US \$53 million), the Dutch (€8.2 million per year), the European Commission, and the French (See Table 13: list of Donors Supporting Rice Expansion in Mali).

Rice Demand

Table 15 below provides rice supply and demand data and theoretical per capita availability for the period from 2000 to 2005. Table 3 indicates that rice consumption has been increasing in Mali. The per capita consumption figure used in this analysis is 57.0 kg per capita and was derived from the most recent budget-consumption survey conducted by the Government of Mali and used in preparing the food balance sheet. This consumption norm represents a 30.9% increase over the figure (43.55 kg) used in 2000/01 by the GRM and FEWS Net. Taking into account the commercial imports and food aid, the data and calculations in the table below indicate that rice supply exceeds demand for the last three years.

At first glance, it might seem that there is a surplus of rice available in Mali. However, closer investigation indicates that

Malian rice is being exported at a higher rate than officially reported. FEWS Net, in their monthly reports,²⁸ and CILSS/FAO in their annual food balance sheet estimates for Mali, have reported rice exports averaging 50,000 MT. Yet, official reports from the market information system (*l'Observatoire du Marché Agricole* - OMA) indicate the export of Malian-produced rice to neighboring countries of Mauritania and Senegal is insignificant. While the OMA's data collection system does not include all markets, it is noteworthy that routine (and largely unreported) exports possibly on the order of 50,000 MT per year may not be counted in the official rice export figures. As such, the overall supply inside Mali would be overstated.

Formal and informal data sources corroborate this trend of increasing rice consumption in Mali, and strong demand for imported rice when locally produced rice is not available (during the rainy season March – June). Unfortunately, the lack of sufficient data on confirmed exports makes determination of the extent of unmet demand, and any growth in this unmet demand, difficult. *For at least one year (2007) USAID/Mali has placed a moratorium on rice distribution or monetization. The domestic sector continues to grow and not all of the intricacies are understood.*

Projections of Rice Supply and Demand

Projections for rice demand are based on the hypothesis that as consumer incomes increase, Malians will increase their rice consumption while reducing consumption of coarse grains such as millet and sorghum. In addition, the rapidly growing urbanization in Mali, coupled with the overall population growth will lead to a significant increase in the demand for rice. The GRM plan is to develop 120,000 new hectares for irrigated rice production by the 2020 horizon. The first phase of this plan was to put 50,000 new hectares under irrigation during the 2002-2007 period and to date about 40,000 new hectares have been developed, which represents an average of 10,000 hectares per year.

The improvement of irrigated rice production is one component of the current USAID/Mali economic growth strategy. The Millennium Challenge Corporation (MCC), at the request of the Government of Mali, will invest in the development of 16,000 new hectares of irrigated rice production in the Office du Niger. Other key donors supporting the development and/or expansion of rice production are the World Bank, the Dutch, the European Commission and the French.

²⁸ See FEWS Net website, www.FEWSNet.org. FEWS uses routine market surveys to track grain sales across all Sahelian countries.

During the 2004/05 growing season, 288,033 hectares were under irrigated rice production. The planned figure for 2005/06 was 517,315 hectares.²⁹ Projections of demand and supply of rice done by French Development Agency (AFD) in 2005 indicate that by 2010, 26,746 new hectares of irrigated land would have to be developed in the Office du Niger zone in order to meet the domestic demand. Knowing that the MCA-Mali project will develop 16,000 new hectares in that same zone in the next five years, and given the other donors' projects in the Office du Niger, one can expect that the 26,746 hectares would be achieved.

Rice Marketing System

Table 14: List of Major Rice Importers/Retailers*

- Mr. Bakoré Sylla, President (PDG) of the "Grand Grenier du Bonheur-GGB": 30,000 MT
- Mr. Madio Keita, President of "Grand Distributeur de Céréales du Mali-GDCM":
- Mr. Amadou Djigué, President of Djigué SA
- Mr. Abdoulaye Niang
- Mme Kouma of « Société Madala Kouma et Frères et Fils-SOMAKOFF »

* These rice importers were selected to GRM to receive the tax exoneration

In addition to the list above, the following businesses/traders import or retail rice

- Kouma Assistan
- Sté Bassaro Diagana et Fils
- SAFCOM sarl
- SIMPARA Mali
- GMM
- Alimata Fofana
- Hady Sow Import-Export
- Diallo Mamadou Baylo
- ITS Mali

Commercial management of local rice appears to be highly fragmented. Most post-harvest processing is done through small threshing and de-hulling machines rather than large rice mills. Purchasing of rice and bringing the rice to market is the domain of numerous small traders, who go to markets or to specific growers on a regular basis. Small traders will join together to hire one large truck to move their purchased rice to Bamako for retailing. There is also likely some degree of price harmonization at the producer, wholesale, and retail levels.

A few large Malian trading companies, with established ties to international commodity trading companies, are responsible for rice imports in Mali (See Table 14: List of Rice Importers). Over the past five years, commercial imports of rice from the world market averaged 135,000 MT. One trader reported his own imports to be on the order of 38,000 MT per year. Origins of imported rice include India (43% of total volume), Vietnam (25%), Thailand (10%), and others such as China and Pakistan. Myanmar, delivered as 20% to 100% broken grains. Broken rice accounted for 54.7% of imported rice.³⁰ Malian consumers are said to not prefer broken rice, with the exception of the region near the border with Senegal.

It is significant that locally-produced Malian rice is a preferred commodity by consumers and sells at a premium over or equal to most imported rice. According to several sources, imported rice serves as a less expensive alternative to the locally produced rice.

Most demand for imported rice is during the three to four months when Malian rice is not widely available (and thus presumably too expensive for most consumers). The volume of imports is dependent upon the financial resources of importers, the facilitation measures provided by the GRM (in the form of tax exemption) and the volume of domestic production (which

²⁹ Bulletin du Réseau Riz No.04 of July 2005.

³⁰ *La filière Riz au Mali : compétitivité et perspectives de marché*, Agence Française de Développement (AFD), September 2005 Bulletin « Réseau Riz No.04 », July 2005

fluctuates primarily due to the fluctuation in the production in the flood controlled rice production systems

As overall demand for rice increases in Mali, demand for imported rice during the June to September period will also increase. But this will only happen to the extent that changes in production systems in Mali do not result in more Malian rice being available during the traditional shortage period.

Food Aid Rice

In the late 1990's to early 2000, donors working with the Cereals Market Restructuring Program (PRMC), including USAID/Mali, opposed rice monetization. Donors feared that rice food aid would create a disincentive for local rice producers.

However, in the past five years, rice demand has continued to increase with growing urban populations and changing consumers' tastes and preferences. Since 2000, local rice production has continued to increase, even with introduction of imported broken rice. A 2004 study conducted by Chemonics International, confirmed that Mali is not a net exporter of rice indicating that the internal demand for rice is undeniable and growing.³¹ In an effort to protect low-income consumers, GRM has offered rebates on rice imports during the lean season, whereby discouraging price gouging when supplies of locally produced rice is low or unavailable.

Usual Marketing Requirements for Rice

Table 15 : Rice Balance Sheet for Production, Imports and Consumption (in TMT)

Production & Imports	2000/01	2001/02	2002/03	2003/04	2004/05	5-year avg
Production	428.8	627.7	461.8	609.8	466.8	519.0
Imports						
Commercial	52.0	82.8	202.8	186.7	197.2	144.3
Concessional	0	0.3	0.7	27.8	6.0	7.0
Total	480.8	710.8	655.3	824.3	670.0	670.3

Sources: Production and commercial imports/exports (DNSI; Comptes Economiques, Statistiques du Commerce Extérieur). Food aid (World Food Program).

³¹ "Analyse des déterminants de la compétitivité du riz de l'Office du Niger sur les marchés nationaux et sous-régionaux » Daouda Diarra, Chemonics International. December 2004

Table 16: Rice UMR (TMT unless otherwise noted.)

Factors	Quantities	Notes
Population – 2006	13.0	Estimate for 2006
Per capita consumption	57.0	Kg. Estimate
Consumption needs	741.0	
Stock changes	0.0	
Total	741.0	
Production	519.0	5 year average note table below
Import requirement	222.0	Total minus production.
Imports		
Commercial imports	144.3	5 year average, see table 1
Concessional imports	7.0	5 year average
Total	151.3	
Maximum US programming	70.7	Up to 70.7 TMT of milled rice could be monetized

The results of the data analysis (see Tables 15 and 16) indicate rice could be monetized, currently at a level of no more than 70 MT per year. However imports should be limited to the period of May 1 through July 31 during the lean season (June-September) when domestically produced rice is in shortage on the local markets and market prices of rice significantly increase. To mitigate this price increase, the GRM provides a tax rebate on commercial imports each year (May-June) to enable traders to import more rice from the world market than they would otherwise. In 2005, the GRM authorized the import of up to 100,000 MT of rice free of value-added tax. The World Bank and IMF have criticized this tax rebate as it constitutes a loss to the state budget.

Malian traders may export very small quantities of locally produced rice to regional markets if prices are very attractive at very selective times of the year. However, by all indications it is necessary to import rice to cover the deficit created by what may have been exported in reaction to these temporary regional price incentives. With the advent of significant investments in the Malian rice sector planned for 2007, there should be ample quantity to meet the demand both locally and regionally in the near future. Continuous monitoring of the rice market should be carried to confirm that supply (local production, commercial, and duty free imports) has kept up with demand.

SECTION 5

MONETIZATION TARGETS

SECTION 5: MONETIZATION TARGETS

Based on the disincentive analysis, wheat is not recommended for monetization at this time. Rice can be monetized but limited to a window of three months when local varieties are not available. Vegetable oil is also considered a viable commodity for monetization for 2007. Recommended target levels and conditions for vegetable oil and rice monetization are presented below.

Monetization Targets

The market analysis shows that there is room in the market for monetizing vegetable oil. The process of determining the appropriate monetization level must take into account several factors:

- Unreliability of Data: As recognized throughout the region, data is limited and misleading in many cases. Due the limitations faced by official data collection offices, in many cases, alternative sources, such as FewsNet or FAO provide a different picture, particularly regarding exports. As such, the official statistics do not necessarily reflect the situation with both supply and demand. For example, it is widely believed that artisanal peanut oil and shea nut oil production is underreported. As such the overall import requirement for vegetable oil could be inflated. Monetization targets must take such issues into account.
- The UMR calculates the theoretical gap between the 5-year average of production and imports (supply) and consumption requirements (demand). However, the consumption requirement is not necessarily demand; demand may be affected by several factors (purchasing power, taste preference, etc.) that are not incorporated into the UMR analysis. As such, the Maximum US Programming can significantly over estimate actual demand and hence, lead to inappropriate quantities of commodities to be monetized.

Figure 2: Decision Matrix

Determinants for recommended maximum levels of monetization tonnage equals the average of:

- 20% of the Maximum Programming Amount (UMR), or
- 10% of the previous year's commercial imports, or
- 50% of the five year average deficit

In an attempt to employ an “objective and robust decision and avoid possible subjectivity”, use of a three way assessment tool can shed light on arriving at an appropriate monetization target for each commodity (See Figure 2).³² Table 17 presents the data as it is applied to the decision matrix.

³² CRS, The Gambia's 2006 Bellmon Determination and Commodity Market Analysis

Table 17. Monetization Target Decision Matrix

Commodity	20% of the Maximum Programming Amount (UMR),	10% of the previous year's commercial imports	50% of the five year average deficit	Average (TMT)
Vegetable Oil	$86.1 \times .2 = 17.22$	$14.5 \times .1 = 1.45$	$99.0 \times .5 = 49.5$	22.7 TMT
Rice	$70.0 \times .2 = 14.0$	$197.2 \times .1 = 19.7$	$222.0 \times .5 = 111$	48.2 TMT

Using this conservative methodology, an average of the three factors, the following recommendation levels are considered appropriate:

Commodity	UMR	Maximum	Initial
Vegetable Oil	86,000 MT	40,000 MT	22,700 MT
Rice	70,000 MT	48,200 MT	5,000 MT*

*(hungry season only)

Vegetable Oil Monetization

Data presented above suggests that an estimated 86,100 MT of vegetable oil per year could be sold in Mali without displacing current oil imports. However, actual demand will vary year-to-year and changes in economic conditions will affect consumption. Furthermore, production figures may underestimate the total domestic supply as most of local/home based oil production (e.g. peanut and shea nut) escape official statistics. Given the dominance of HUICOMA in the oil market, and their recent privatization and restructuring, for the initial year, 22,700 MT are recommended. Sales should be monitored and then reassessed the following year, at which time target levels may rise to a maximum of 40,000 MT. Therefore, based on the information collected for this analysis, 22,700 MT of vegetable oil could be monetized in Mali in 2007 without any significant impact on domestic production and normal commercial imports.

Given HUICOMA's long-running, and strong position in Mali's vegetable oil market, any monetization of Title II vegetable oil would need to include HUICOMA as a partner, whether direct or indirect. Given their sole reliance on cottonseed oil, their potential interest in securing a second source of vegetable oil seems logical. As a private business, HUICOMA may no longer get preferential treatment from CMDT (as it did as a parastatal) on the sales price of seed. HUICOMA may hence be interested in securing other sources of raw material.

Rice Monetization

The analysis of the rice sector in Mali illustrated that well timed, quantities of donor imports could help meet existing unsatisfied food demand, the timing of the imports chosen to coincide with the period when domestic rice is no longer available waiting for the

current year's harvest (approximately June through August/September). The cost of rice reaches the year's peak (domestic and imported) at this time and during this time monetization or distribution potentially would be higher and no disincentive effects will be created on local production, consumption, and markets. Given the analysis conducted under the Bellmon framework we conclude well timed imports of rice (May 1 through July 31) would neither be a disincentive on local production and marketing and will not hamper or prevent rice production to grow, and that rice imports have no disincentive effects on local production and marketing. For this reason, USAID/Mali believes a moderate amount (3,000-5,000 MT) of food aid rice to be sold to local traders during the lean season would be well accepted by both producers and the GRM as it will virtually have no negative impact on domestic producers who would have sold their marketable surplus by that time.

SECTION 6

PORT FACILITIES, STORAGE, AND TRANSPORT

SECTION 6: PORT FACILITIES, STORAGE, AND TRANSPORT

Transport, Storage, and Handling Capacities

Political unrest in Côte d'Ivoire since 2000 and in particular for the past three years has been problematic for Mali's traditional import trade. As a landlocked country, Mali is highly dependent on the stability of its neighbors for coastal access. However, alternative ports and transportation routes are available which allow Malian trade to continue without significant interruption and have diversified options. Table 18 summarizes key ports for Mali.

Table 18: Major Port Capacity

Location	Distance to Bamako	Storage Capacity	Share of goods in transit to Mali
Abidjan, Côte d'Ivoire	1,255 km	EMACI	2000 - 76.7 % 2002 - 57.2 % 2004 - 26.0 %
Dakar, Senegal	1,471 km – road 1,228 km rail	30,000+ MT (EMASE)	2004 - 34.0 %
Lome, Togo	1,967 km	40	2004 - 18.0 %
Cotonou, Benin			2004 - 12.0 %
Nouakshott, Mauritania			2004 - 1.0%
Conakry, Guinea	980 km	20,000 MT	2004 - 3.0%

Source:

Abidjan

The Bamako-Abidjan road through Sikasso is 1,225 kilometers long, including 471 kilometers on the Malian territory. Until recent years this was the dominant and preferred route for goods imported to Mali. This paved road has been degraded over time, though maintenance of the road on the Mali side is underway. The share of the port of Abidjan as a transit point for goods entering Mali dropped from 76.7 % in 2000 to 57.2 % in 2002 and 26% in 2004 due to the political unrest started in 2000 escalating in October 2002 in Côte d'Ivoire. In 2004, the share of the ports of Dakar, Lomé (Togo) and Cotonou (Benin) was estimated at 34%, 18% and 12% respectively. Should conditions improve in Côte d'Ivoire, Abidjan likely would again become the port of choice for the transport of food commodities to Mali. This port has the largest storage capacity for Mali in the region as indicated in the table below. The storage facilities are owned and managed by Mali's EMACI (*Entrepôts Maliens en Côte-d'Ivoire*).

Dakar

Dakar traditionally was the second port most used for Mali becoming the major port after 2002. It handles a substantial

quantity of goods to and from Mali both by railroad and by land. The EMASE in Dakar has over 30,000 MT storage capacity, not included the not improved open space of 12,000 square meters. The EMASE also have a 400 square meters edible oil pipeline space in Dakar, which in 2006 was not being used. Bamako to Dakar road via Kayes is 1,471 kilometers long (795 km in Mali, of which 180 km are not yet paved in 2005) while the railroad via Kayes is 1,228 kilometers long (585 km in Mali). The operation of the rail system, composed of two national rail companies and a common structure for management of international traffic, was privatized in 2003. Current (planned) one-way movement capacity is reported to be approximately 35,000 MT per month, with 25% of this capacity filled by container traffic. One-way transit time is reported to be five to seven days, including loading and unloading. During a USAID/Mali visit to Dakar in August 2006, the procedures for shipment of goods from Dakar to Bamako were explained by the EMASE. The forwarding agent gets in touch with the EMASE and expresses the desire to use the services of the EMASE. Then the following information has to be given to the EMASE: the name of the vessel and the date planned for its arrival in Dakar, the tonnage and the type of the product, and the name and address of the recipient in Mali. The choice of the rail or road transportation system remains with the owner of the goods and his forwarding agent being. The transportation tariffs of the railroad company depend on the type of good, the type of packaging and other factors. A commission composed of the EMASE, Trans-rail, the customs service and the forwarding agent does the planning of the shipments to Mali, often giving the priority to some products being imported to Mali over others (for example food products get priority over other products during the lean season, while fertilizer gets priority over other products at the beginning of the growing season...). Handling, port taxes and other charges at the port of Dakar are established by the Senegalese authorities. Preferential rates have been negotiated between Mali and Senegal. The importer can get the bills submitted to him by his forwarding agent verified by the EMASE. The EMASE charge the following rates per day for the storage costs of goods at its warehouses in Dakar: a) no charges for the first twenty days, b) 20 CFA/day/MT for donations to the GRM, c) 60 CFA for cereals, d) 80 CFA for all other types of goods, e) 40 CFA/m²/day for vehicles. The rate in the zone outside the EMASE's warehouses is 273 CFA/m²/day. In addition, a 500 CFA/MT service-fee is paid to the EMASE, except for products that are donations to the government of Mali.

The demand for the use of the rail system is very high. In 2003, when TRANSRAIL took over the rail system, a total of 750 wagons (average capacity of 38 MT), 12 operational locomotives out of 21 and 210 container carriers (average capacity 15 MT) were available. In 2004, TRANSRAIL transported 464,000 MT of goods or less than the fourth of its capacity (one rotation per week

for an available capacity of over 2 millions MT per year). Limited traction equipment (locomotives) and high maintenance requirements are the some of the main constraints the private management of TRANSRAIL is expected to eliminate.

The use of the road system and trucks for shipping goods from Dakar to Mali is done under the provisions of the 1993 Road Transport Protocol between Mali and Senegal. For goods transiting through Senegal, Malian truckers are authorized up to two-thirds of the quantity to be transported, but for goods bought in Senegal the total quantity is equally divided between the truckers of the two countries (50% each). Transportation tariffs are determined by the market, and range between 25,000 and 45,000 CFA/MT/Km depending on the season and the type of goods.

Other ports

Mali also is served from ports in Togo, Benin, Ghana, Guinea and Mauritania. Quantities of goods transiting from each of these ports to Mali total approximately 40% of port activity (18%, 12%, 6%, 3% and, 1% respectively in 2004). Mali has dedicated storage facilities (some needing improvement) in all these ports (see table), except Cotonou (Benin) where there is a plan to establish facilities in the near future for the transit of goods to Gao, one of the northern regions in Mali. Interest in these alternate ports has increased over the past three years as the Malian government has initiated a vast program of road construction and improvement to link Mali (Bamako) to these ports. Guinea is the closest port for Mali as the road distance from Bamako to Conakry via Kourémale is only 980 kilometers, of which only about 40 of the 127 kilometers on the Mali side of the border are unpaved. The ports of Téma/Ghana, Lomé/Togo and Cotonou/Benin are all accessible via paved road, but they have slightly longer than normal transit times from Abidjan. The road distance from Bamako to Téma and Lome are respectively 1,973 km, 1,967 km, while Gao-Cotonou via Niamey is 1,476 kilometers long. In the past the reported problem with Téma was the lack of trucks heading for Mali, which resulted in up to two weeks to load commodities and road transit times of up to two weeks, with an average port discharge to Mali delivery of 3 weeks. The situation is reportedly much better currently.

Mauritania is a potential port of entry for Malian goods as the road to this port is currently under construction.

Storage Facilities in Mali

The Bellmon determination requirement for adequate storage is met in Mali. Table 19 summarizes port storage options available for a monetization program. OPAM is the government agency responsible for the reception, storage and sale of all government-

to-government food aid. OPAM has a network of quality warehouses across the country with a total storage capacity of 133,130 MT. A capacity of 58,500 metric tons is devoted to the national food security stock with a current utilization level of 35,000 metric tons. OPAM has a total storage capacity of 20,000 metric tons in Bamako, the main delivery point of food aid. The Bamako capacity includes 10,000 metric tons reserved for the national security stock, thus 10,000 metric tons of space are available for storage. If necessary, OPAM can also use its storage space of 2,350 tons in Koulikoro, a town located 30 miles from Bamako, or rent the 5,000 metric tons silo of the private wheat mill, the *Grands Moulins du Mali*, also located in Koulikoro. Rental storage areas are also available on the private market. One freight transport company has between 6,000 and 8,000 MT of covered storage space, and a total of 20,000 m² of open space storage for containers or pallet/tarp storage. Thus, ample and good quality storage capacity exists in Mali to receive and store food aid.

Table 19: Summary of Port Storage Facilities

Ports and Facility	Covered warehouse	Open Space (developed/hard surface)	Open Space (non-developed)
1. Abidjan <i>Entrepôts Maliens en Côte d'Ivoire (EMACI)</i>	22,000 m ²	17,000 m ²	0
2. Dakar <i>Entrepôts Maliens au Sénégal (EMASE)</i>	9,300 m ²	41,050 m ²	12,000 m ²
3. Lome <i>Entrepôts Maliens au Togo (EMATO)</i>	5,000 m ²	4,000 m ²	0
4. Guinée <i>Entrepôts Maliens en Guinée (EMAGUI)</i>	5,000 m ²	4,000 m ²	50,000 m ²
5. Nouakchott <i>Entrepôts Maliens en Mauritanie (EMAMAU)</i>	0	2,500 m ²	9,500 m ²
6. Tema <i>Entrepôts Maliens au Ghana (EMAGHA)</i>	0	0	0

Source : *Direction Nationale des Transports Terrestres, Maritimes et fluviaux, Ministère de l'Équipement et des Transports ; June 2006.*

WFP has its own warehouses in Bamako, Mopti, Gao and Timbuktu. The PVOs typically rent available space locally through private storage facilities or through OPAM.

Internal Transport Capacities

Internal transport capacity in Mali was estimated in 2004 at 28,123 units, of which 18,238 trucks (65%) and 9,885 tractors. This truck fleet is old as 84% of them are at least 10 years old. The active truck fleet was 8,757 (31% of total). For international and domestic transport of goods, 51% of the active fleet or 4,484 trucks were assigned to. Of the 4,484 trucks, the 25-30 MT trucks represented 2,402 for a total capacity of 48,280 MT, while the 0.5-24 MT trucks used for urban and local transportation of goods represented a number of 2,082 for a total capacity of 9,765 MT. Although there is

likely some shifting of trucks between external and internal transport, it appears that internal transport supply is adequate for normal recurrent needs. Foreign registered trucks cannot participate in internal transport without special permission, but it is estimated that one-third of the international transportation of goods in 2004 was conducted by them.

The demand for the use of the rail system is very high. In 2003, when TRANSRAIL took over the rail system, a total of 750 wagons (average capacity of 38 MT), 12 operational locomotives out of 21 and 210 container carriers (average capacity 15 MT) were available. In 2004, TRANSRAIL transported 464,000 MT of goods or less than the fourth of its capacity (one rotation per week for an available capacity of over 2 millions MT per year). Limited traction equipment (locomotives) and high maintenance requirements are the some of the main constraints the private management of TRANSRAIL is expected to eliminate.

The use of the road system and trucks for shipping goods from Dakar to Mali is done under the provisions of the 1993 Road Transport Protocol between Mali and Senegal. For goods transiting through Senegal, Malian truckers are authorized up to two-thirds of the quantity to be transported, but for goods bought in Senegal the total quantity is equally divided between the truckers of the two countries (50% each). Transportation tariffs are determined by the market, but they range between 25,000 and 45,000 CFA/MT/Km depending on the season and the type of goods.

ACRONYMS

AFD	French Development Agency/ <i>Agence Française de Développement</i>
AP	All Purpose (Flour)
APCAM	Permanent Association of Malian Chambers of Agriculture/ <i>Assemble permanenté des Chamber d'Agriculture du Mali</i>
BIC	Tax on profits from commercial and industrial activities/ <i>Bureau d'industrie et commerce</i>
CET	Common External Tariff/ West African Monetary and Economic Union
CFA	Communauté des Francs Afrique/ African Financial Community Currency
CFAF	CFA Franc
CMDT	Mali Textile Development Company/ <i>Compagnie Malienne de Developpement des Textiles</i>
COMATEX	<i>Commerce Malien des Textiles</i> /Malian Textile Company
DNSI	National Statistics and Information Directorate/ <i>Direction Nationale des statistique et information</i>
EMACI	<i>Entrepôts Maliens en Cote-d'Ivoire</i> (storage facility in Abidjan)
EMASE	<i>Entrepôts Maliens en Senegal</i> (storage facility in Dakar)
FFP	Food for Peace
FFW	Food for Work
FRUITEMA	<i>Frabique les jus fruits au Mali</i> /Fruit Juice Manufacturer of Mali
GMM	<i>Grands Moulins du Mali</i> /Grand Mill of Mali
GNI	Growth National Income
GRM	Government of the Republic of Mali/ <i>le Gouvernement du République du Mali</i>
IER	<i>Institut d'Economie Rurale</i> /Institute of Rural Economy
Km	kilometer
LIFD	Low-Income Food-Deficit
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MDR	Ministry of Rural Development/ <i>Ministere du Developpement Rurale</i>
MT	Metric Ton
MTK	Minoterie Tiédiè Koné MTK (Flour Mill in Segou)
NGO	Non Governmental Organization
OMA	Market Information Office/ <i>l'Observatoire des Marches Agricoles</i>
OPAM	Malian Office of Agricultural Products/ <i>Office des Produits Agricoles du Mali</i>
PAPA	Agricultural Sector Adjustment Program/ <i>Projet d'Appui du programme Agricoles</i>
PRMC	Cereal Market Restructuring Program/ <i>Programme pour Restructuration du marche Céréalièr</i>
PVO	Private Voluntary Organization
SAP	Early Warning System/ <i>System d'Alerte Precoce</i>
SDRR	Master Plan for Rural Development/ <i>Société developpement Rural des Regions</i>
SEPAV	Poultry cooperative/ <i>Société d'élevage program aviculture</i>
SIMANA	Sale of agricultural machinery/ <i>Société industriel des Machine Agriculture</i>
SMPC	Mali Chemicals Company/ <i>Societet Malienne des Produits chimiques</i>
SOCAM	Tomato concentrate Cooperative/ <i>Société de Conserves Alimentaire du Mali</i>
SOMACO	Canning Cooperative/ <i>Société Malienne des conserves</i>
SONATAM	Tobacco and matches/ <i>Société Nationale des Tabac du Mali</i>
SYCOV	Cotton Producers Union of Mali/ <i>Syndicat des Prodcuteurs Contoniers et Vivriers du Mali</i>
TMT	Thousand Metric Tons
UNDP	United Nations Development Program/ <i>Programme de développement des nations Unis</i>
USAID	United States Agency for International Development/ <i>Agence d'international au developpement Etats Unis</i>
WAEMU's	West Africa Economic Monetary Union/ <i>UEMAO - Union Economique Monetaire de l'Afrique de l'Ouest</i>
WFP	World Food Programme/ <i>PAM - Progamme Alimentaires Mondiale</i>
WTO	World Trade Organization / <i>Organisation des commerce Mondiale</i>

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ANNEX: LIVELIHOOD ZONES

