

## Socio-Economic Effects of Gold Mining in Mali

A Study of the Sadiola and Morila  
Mining Operations

Eyolf Jul-Larsen  
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**R 2006: 4**



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## List of abbreviations

<i>Abbreviation</i>	<i>Significance in French (if applicable)</i>	<i>Significance in English</i>
Adema	Alliance pour la démocratie au Mali	Alliance for Democracy in Mali
AEL	-	African Explosives Limited
CAP	Centre d'animation pédagogique	Centre for Pedagogic Activities
CDS	Convention démocratique et sociale	Democratic and Social Convention
CFA	Communauté financière africaine	African Financial Community
CFAF	CFA franc	CFA franc
CNID	Congrès national pour l'initiative démocratique	National Congress for Democratic Initiatives
CSR	-	Corporate social responsibility
FCFA	Franc CFA	CFA franc
GDP	-	Gross domestic product
GoM	-	Government of Mali
IFC	-	International Finance Corporation
MPR	Mouvement patriotique pour le renouveau	Patriotic Movement for Renewal
RACE	Recensement de la mairie de la commune	Census at municipality level
RPM	Rassemblement pour le Mali	Rally for Mali
SA	Société anonyme	Limited/incorporated
SEMOS	Société d'exploration des mines d'or de Sadiola	Sadiola Gold Mines Exploration Company
ToR	-	Terms of Reference
UEMOA	Union économique et monétaire ouest africaine	West African Economic and Monetary Union
UNDP	-	United Nations Development Programme
URD	Union pour la république et la démocratie	Republican and Democratic Union
USD	Dollar(s) américain(s)	United States dollar(s)

# Preface

This study was commissioned by the Oil, Gas and Mining Policy Division of the World Bank. The Terms of Reference are given in Annex 1. The findings and opinions expressed in this study are those of the authors and do not necessarily reflect the views of the World Bank.

Fieldwork and preliminary analysis of data for the study were conducted by social anthropologists Eyolf Jul-Larsen, Chr. Michelsen Institute, and Bréhima Kassibo, *Centre national de recherche scientifique et technologique* (National Centre for Scientific and Technological Research), Mali. Social anthropologist Siri Lange and political scientist Ingrid Samset at CMI analysed the data further and did the final write-up of the report.

We wish to thank all the people who so generously gave of their time and attention and provided information for the study. We give special thanks to the mine workers at the Sadiola and Morila mines in Mali who participated in the labour force survey. We also wish to thank AngloGold Ashanti for their careful reading of an earlier draft and for useful comments.

Bergen, April 2006

Eyolf Jul-Larsen  
Siri Lange  
Ingrid Samset



*Figure 1. Map of Mali*



Source: CIA (2005)



# 1. Introduction

This is a study of the economic and social impacts of the gold mining industry in Mali. In this chapter we present the study, the methodology we have used, and the outline of the report.

## 1.1 The study

In recent years there has been a growing demand for the world's non-renewable natural resources. Multinational companies have invested heavily in states that have oil, gas or minerals in their territories, and the states concerned, often in the developing world, have had a welcome increase in revenue as well as new jobs as a result. They have, however, often had to pay a price in terms of social tension, environmental degradation, and corruption – to mention only some of the problems involved in what scholars have come to call the 'resource curse'. Both academics and policy-makers have thus paid increasing attention to the variety of political, social, and economic effects of resource exploitation, and to the question of what responsibilities businesses that exploit these resources should have.<sup>1</sup> Much of this research has been conducted at the macro level, however, and less is known about how foreign companies' resource exploitation turns out to impact on the state and citizens in individual countries. An emerging conclusion is, therefore, that we need more knowledge about how mining interventions affect the regions, countries, and communities concerned.

This study of the economic and social effects of gold mining in Mali is a contribution to this body of knowledge. It follows similar CMI-led research on the social and economic impacts – or 'benefit streams'<sup>2</sup> – of mining in other African countries, namely Tanzania (Lange and Musonda 2005) and Botswana and Namibia (Isaksen, Fuller, and Okatch 2004). A central question raised in both the previous and present studies is: how could the exploitation of valuable natural resources be improved, so that these resources will benefit all stakeholders – state, citizens, resource company and workers, local communities – in a way which is perceived as 'fair' by all, and which also contributes to poverty reduction?

To assess the impact of mining on Mali we focus on gold, which in financial terms is the most important natural resource in the country today. We assess the economic effects of gold mining as a whole at the national level, and the economic and social effects at the local level of two specific mines: Sadiola and Morila. These two are among the gold mines in Mali which have produced the most in recent years, but even so the local social and economic effects of the mining operations in the two areas remain poorly understood. In this study we look at the socio-economic situation in the areas where the two mines are located compared with the situation at the national level, and assess

---

<sup>1</sup>A common theme across the 'resource curse' literature is the paradox that wealth in commercially valuable, non-renewable resources such as oil, minerals, and gems tends to give rise to a number of negative effects. Auty (2001), Gelb (1988), and Sachs and Warner (1995) outline effects of resource bounty on economic development, while the impact of resource wealth on political development, regime type and regime stability are examined by Dunning (2005), Jensen and Wantchekon (2004), Karl (1997), Ross (2001), and Smith (2004). Another debate has concerned the relationship between resource wealth and violent conflict; see, for instance, Bannon and Collier (2003), Collier and Hoeffler (2004), Fearon (2005), and Ross (2004). An important policy response to the resource curse and CSR debate came in the form of the Extractive Industries Review report in 2003 (EIR 2003).

<sup>2</sup> The Terms of Reference (given in Annex 1) define 'benefit streams' as 'the economic and social impacts of a natural resources ... project for the country'. However, such impacts are not necessarily beneficial, and they may be beneficial for some and not for others. Therefore, while we use the term 'benefit streams' as an equivalent to 'economic and social impacts', we will in the report give preference to the latter term, which is more neutral, and therefore in our view more useful for the purposes of analysis.

the local impact of the two mines on employment, infrastructure, development of local businesses, and social and community development.

The report does not provide an exhaustive account of all the social and economic impacts of gold mining in Mali. We do not assess how the gold industry has affected the majority of Malian people who live outside the close vicinity of the mines. Instead, our focus is on the consequences of the set-up and operation of two particular mines for the people living in the area close to those mines. We identify different kinds of impact generated by the presence of the mines, both of a financial (e.g. salaries, compensation) and non-financial character (e.g. education, health services, infrastructural development, and land expropriation). We also investigate how mining activities have had a different impact on different groups in the area. By assessing not only the benefits generated by the establishment and running of the mines but also the problems the mining operations have given rise to, we attempt to discern a comprehensive picture and thus strengthen our understanding of the most salient challenges for improved mining management and how they can be overcome.

## 1.2 Methodology

The study is based on fieldwork in two mining communities in 2004, and on a desk study of documents collected in Mali, in libraries, and online. Data from the field consist of interviews with various stakeholders and a survey among workers at the two mines. We outline below the sequence of fieldwork events, the tools and methods that were used, and the challenges we encountered in the data collection effort and how they were dealt with.

### 1.2.1 Sequence of fieldwork events

The fieldwork in Mali was conducted between May and August 2004. It included meetings with agencies in Mali's capital Bamako and visits to the two sites selected for study, Sadiola and Morila, which are located in the west and the south of Mali respectively (see Figure 1).

The fieldwork was conducted in two phases, in May-June and July-August 2004. In the first phase we aimed at getting an impression of conditions in the two mining areas, an overview of stakeholders, and necessary contacts. Interviews were undertaken in Bamako with representatives of the mining companies Randgold and AngloGold Ashanti, and of government institutions such as the Ministry of Mining. We also paid a short visit to Morila. In the second and main phase of the fieldwork, interviews were conducted at the two mine sites with representatives of the local management of the mining firms, of trade unions, local government authorities, and traditional leaders.<sup>3</sup> We also conducted a survey of a section of the Malian workers at the two mines. During both phases of fieldwork, we obtained relevant documentation from government agencies and mining companies.

### 1.2.2 Tools and methods

Quantitative and qualitative methods were used to collect and analyse information. We combined interviews of individuals and groups with a survey of the mine workers. Our main data collection tools were an interview guide, and a questionnaire for the survey.<sup>4</sup>

---

<sup>3</sup> Unfortunately, our records of the names of the informants are incomplete. We have therefore opted not to append a list of informants to this report.

<sup>4</sup> The questionnaire is provided in Annex 2.

Instead of a set number or fixed questions we used a relatively open-ended interview guide. While we made sure that the same issues were raised with the different parties, we also adapted our approach to the informant in question in order to allow for specific concerns to come through. The guides were used both for the individual and group interviews, and enabled the collection of important data which are likely to have been ignored if only a quantitative method had been adopted. The interviews shed light on complex phenomena such as migration patterns and the influence of political leaders, both of which have been affected by the set-up of the mines. The interviews also revealed divisions within the mine-affected communities, which are important to grasp to assess the impact of the mining operations.

Quantitative data were also needed in order to examine the financial benefits generated by the mines, the volume of these benefits, and how they were distributed and invested. We therefore collected statistics from mining companies and government agencies, and conducted a survey of workers at the two mines. An important function of the survey was to verify the qualitative data obtained from the interviews.

The survey questionnaire included a number of questions about the workers' background, working conditions, spending and investment of earnings, and their attitudes to the management of the mines. When the information from filled-in questionnaires was analysed statistically, it enabled the team to quantify the distribution and directions of the financial flows from the mines, and to double-check what perceptions workers held.<sup>5</sup>

### 1.2.3 Challenges encountered

Both the Morila and Sadiola mines are situated in remote areas of Mali. Logistical obstacles included the unavailability of some informants, and the fact that some important documents proved cumbersome to get hold of. In some cases, the representatives of the mining firms or government agencies were not willing to provide the documents asked for. In other cases, we discovered that some of the documentation did not exist or was not readily available. Initially, mining companies were also reluctant to allow us to enter the mine sites.

Unpredicted events also complicated data collection efforts. At both mine sites strikes occurred during the fieldwork period, and were accompanied by negotiations and tensions. We thus had to wait for 'the skies to clear' somewhat before we could start our interviews and conduct the survey.

We also faced dilemmas related to the concern of maintaining our neutrality as researchers, given the need to cooperate with the mining firms to access the sites and speak with residents there. At both sites, a representative of the firm who was in charge of contact with the local population was put at our disposal, which facilitated our getting in touch with the villagers in the first place. However, we soon realised that for reasons of neutrality we should not be seen as being too closely associated with the company. After the contact with local communities had been forged we therefore continued our work on our own, using a World Bank letter of identification to introduce ourselves. This approach enabled us to speak with and get some confidence from local residents, and to get a fairly good understanding of their views. Given that we conducted relatively fewer interviews with representatives of government agencies and of the mining firms, however, it may be that our data are not as elaborate on the views forwarded by these groups as it is with regard to those of the local population and the mine workers.

---

<sup>5</sup> A more detailed presentation of the labour force survey is provided in Annex 3.

### 1.3 Outline of report

The World Bank's template for assessing benefit streams from mining (World Bank 2005) is used as a point of departure to structure this report. We have attempted to provide the types of information and analysis identified in this template as far as possible. Nevertheless, since the template became available to the team only after most of the data collection had been completed, we could not generate all the assessments that the template suggests. We do not, for instance, have disaggregated data on the economy of the mines and on payment of various revenues; we have little data on the mines' impact on training and on the procurement of goods and services, and only incomplete statistics on employment and social development. On the other hand, our evidence is rich on some of the dimensions that are not emphasised in the template but that matter in understanding the socio-economic impact of gold mining. We have fairly good information, for instance, on how employment has affected group dynamics in the mining areas, as well as spending and investment.

In addition to this introductory chapter and a conclusion, the study has five chapters. Chapter 2 outlines a brief history of Mali and describes the country's economy and its gold sector. Chapter 3 looks at the impact of the mining industry on the national economy. We then start looking at the cases of Sadiola and Morila: chapter 4 presents the areas where the two mines are located, the history and current characteristics of the mines, each mine's financial input to society, and socio-economic conditions in the two mining areas compared with the national situation. Chapter 5 analyses how the two operations have impacted on employment, and in Chapter 6 we assess how the Sadiola and Morila gold mines have impacted on local infrastructure and businesses, and on social and community development.

## 2. Mali and its gold

In this chapter we provide a brief overview of Mali's geography, its recent political history, and the gold-mining sector in the past and the present.

### 2.1 Mali at a glance

#### 2.1.1 Geography and population

The Republic of Mali is a landlocked West African country, located in the Sahel belt. More than half of Mali's territory, mainly in the north, is desert. The large majority of the around 13 million inhabitants<sup>6</sup> thus live in the south of the country, roughly one third of them in towns.

Some 80-90 percent of Malian people are Muslim. Ethnically, the country is diverse. The Mande group makes up roughly half the population, and includes the Bambara, Malinké, and Soninké peoples (CIA 2005). Other ethnicities are the Fulani (Peul or Peul-Fulbé, some 17 percent of the population), Voltaic (12 percent), Songhai (six percent), Tuareg and Moor (ten percent), Marka, and Somono. In politics however, clan and family ties have often proved to be more salient than ethnicity (EIU 2004; CIA 2005).

#### 2.1.2 Post-colonial political history

Mali gained its independence from France in 1960. The first post-colonial government aligned itself with the Soviet bloc and launched a form of 'African socialism'. The Soviet link was also maintained after 1968, when Mali's first president, Modibbo Keita, was overthrown in a military coup and Lieutenant Moussa Traoré took over.

President Traoré stayed in power for more than two decades, until demands for democracy started emerging towards the end of the 1980s. In 1991 Traoré was arrested and a transitional government was put in place by Amadou Toumani Touré, who served as president during the transition. A coalition of opposition parties called Adema (*Alliance pour la démocratie au Mali*) gained ground and the head of this coalition, Alpha Oumar Konaré, became the country's first elected president in 1992. A new constitution was enacted the same year. In spite of a number of internal splits, Adema has remained Mali's largest political party.

Konaré won the second elections in 1997 as well, but only by a small margin: an electoral re-run was required by the Constitutional Court, which annulled the first run due to irregularities. In 2002 Konaré's era came to an end, however, as the constitution prevented him from seeking a third term. Former president Amadou Toumani Touré, a popular figure due to his role in the democratisation process, ran for president as an independent candidate and won close to 30 percent of the votes in the first round and 65 percent in the second. In an attempt to reduce conflict in what was then a fragmented political situation, Touré set up a cabinet with members from all the groups that had won seats in parliament, and appointed technocrats to head key ministries such as security, finance and mining (EIU 2004: 4-7).

---

<sup>6</sup> Estimates of the population of Mali range from 12.2 million (CIA 2005) to 13.4 million (EIU 2004).

Mali has been relatively peaceful since independence. Members of the nomadic Tuareg group took up arms in the early 1990s, but arms were laid down in 1996 with the establishment of a new administrative region in the north-east. Today Mali consists of eight regions as well as the district of Bamako, the capital. Each region has a number of circles (*cercles*), which in turn comprise a number of municipalities (*communes*) (République du Mali, ODHD, and PNUD 2003). Two such municipalities are Sadiola and Sanso, where the Sadiola and Morila mines are located.

### 2.1.3 Economy

Mali is one of the world's poorest countries. On the UNDP's Human Development Index<sup>7</sup> it ranks fourth from the bottom on a 177-country listing (UNDP 2004). If we measure poverty by using only the indicator of GDP per capita instead, however, Mali fares slightly better. With a GDP per capita of USD 930 in 2002, it is no longer among the bottom ten on the same list. Still, almost three in four Malians live below the income poverty line (*ibid.*).

Economic activity in Mali has traditionally been confined to the area irrigated by the river Niger in the south. In 2001 it was estimated that some 80 percent of the Malian population made a living from farming or fishing (CIA 2005). Until the advent of large-scale industrial gold production in recent years, agriculture and livestock provided the bulk of Mali's export revenue. Cotton remains the most important agricultural export commodity. Another salient, but often disregarded, aspect of the Malian economy is migration. It is estimated that around one third of Malians live abroad, and remittances from these migrants constitute an important part of the economy (Daum 1998; Manchuelle 1997).

Liberalisation of Mali's economy started in the early 1980s, and was consolidated in the 1990s under the influence of the World Bank and the IMF. In recent years macroeconomic performance has improved, with the average growth rate reaching almost five percent during the 1999-2003 period (EIU 2004: 22). As noted, however, GDP per head is still very low and Mali remains one of the most aid-dependent countries in the world (EIU 2004).

## 2.2 Gold extraction in Mali

### 2.2.1 Artisanal production of gold

Gold exploitation and trade have long traditions in West Africa. Historians argue that it is impossible to understand the economic and political development of the region without taking the role of gold into account. Mali is no exception: its strategic position in medieval times close to both the prosperous sites for the extraction of gold and salt and the main trade routes through the Sahara gave commodities like gold, salt, and slaves a crucial role in the economy of the ancient Mali kingdom. King Mansa Mussa's famous entry into Cairo in 1324 is often cited. According to traditional accounts, he was preceded by 500 slaves, each carrying a staff of gold weighing more than 1.7 kilos (Bowill 1958).

However, over time gold became less pronounced as a key commodity in the economy of the Sahel. This was in large part due to colonial policies. France did not consider gold extraction a priority;

---

<sup>7</sup> The human development index measures a country's achievements in three aspects of human development: longevity, knowledge, and a decent standard of living. Longevity is measured by life expectancy at birth; knowledge by a combination of the adult literacy rate and the combined primary, secondary, and tertiary gross enrolment ratio; and standard of living by GDP per capita.



instead it developed irrigated cotton agriculture in the Niger valley. Gold extraction never ceased completely, however: throughout the colonial and post-colonial period, local farmers used gold extracted from rivers, streams and pits as a source of supplementary revenue. Gold remained important in the local economy as it was used not only for ceremonial purposes, but also as a means of saving.

Since the end of the 1980s, an increasing number of people have engaged in so-called artisanal gold mining activities, not only in Mali but also in Benin (Grätz 2002; 2003a; 2003b), Burkina Faso (Werthmann 2000; 2003), Ghana, Niger, and Guinea (Keita 2001). Artisanal miners often migrate long distances and across national borders, but maintain close ties with their home areas. In spite of the expansion of artisanal mining activities, however, it seems that the total volume of manually extracted gold in Mali has decreased from some 4.5 tonnes per year in the mid-1980s to around 2.5 tonnes annually in recent years (Keita 2001).

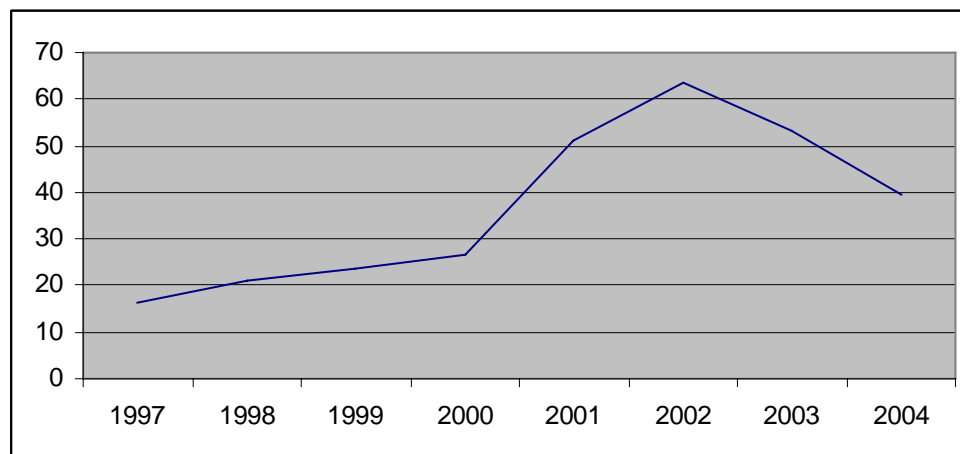
### 2.2.2 Industrial production of gold

While the volume of gold that is mined manually in Mali has gone down in recent years, this drop is clearly outweighed by the rise of the country's gold mining industry.

It was the Soviet Union that took the first initiative to explore the potential for the industrial production of gold in Mali, back in the 1980s when it was closely associated with the regime of Moussa Traoré. But with the end of the Cold War, of Traoré's regime, and of the apartheid system in South Africa, Soviet support became history and South African mining corporations started investing in the country. Much of the extraordinary growth in gold production in Mali since the mid-1990s can thus be ascribed to the inflow of South African capital.

Figure 2 illustrates the growth of industrial gold production in Mali since the mid-1990s.

**Figure 2. Industrial gold production in Mali, 1997-2003 (in tonnes)**



Source: WGC (2005)

As the figure shows, gold production skyrocketed from 2000 to 2002, when it reached a peak of more than 60 tonnes. This constituted a tenfold increase from the production level in 1994 (WGC 2005). While annual production went down from 2002 to reach a level of just below 40 tonnes in 2004, prospects for future gold production still seem bright. Since 2003, two new mines have been put into operation, several others are in planning, and 500 tonnes of reserves of exploitable gold have been identified.

By 2003 Mali had thus become Africa's third largest gold producer – and the ninth largest in the world. What explains this spectacular rise of one of the world's poorest countries to the ranks of the world's top ten gold producers, over a period of only a few years?

The fact that industrial exploitation of Mali's gold started at this particular time in history relates to international and historical conditions, such as the end of the Cold War, the liberalisation of the world economy, the increased mobility of investment capital, and the continued demand for precious natural resources such as gold. A reason more specific to the Malian situation is the very low operating costs relative to output. All the mines in operation at present are open pit mines; which means relatively low operating costs. At the Morila mine, for instance, operating costs are around 108 USD per ounce,<sup>8</sup> while the world average is reported to lie between 230 and 250 USD/oz (EIU 2004: 28; Hatcher 2004).

The growth of Mali's gold mining industry has been intertwined with investments from specialised foreign mining companies. The three key players have been South African AngloGold, which in 2003 merged with a Ghanaian company to form AngloGold Ashanti; South African Randgold Resources; and Canadian Iamgold. These three firms all hold shares in one or several of the four main gold mines in Mali at present: Sadiola, Morila, Yatela, and Syama. Table 1 provides an overview of the four main mines, indicating their production levels, ownership, and reserves. As the table shows, the Sadiola and Morila mines selected for this study have in recent years been the foremost contributors to Mali's gold production.

**Table 1. Mali's gold mines: Owners, production, and reserves**

Mine	Ownership		Start-up year	Production per 2003, accumulated (in tonnes)	Production costs (in USD per ounce)	Proven reserves as of 2004 (in tonnes)
	Shareholder	Share (in percent)				
Sadiola	Anglogold	38	1996	114.7	131-210	157
	Iamgold	38				
	International Finance Corp.	6				
	Government of Mali	18				
Morila	Anglogold	40	2000	97.1	108	150
	Randgold	40				
	GoM	20				
Yatela	Anglogold	40	2001	21.3	235	1.2
	Iamgold	40				
	GoM	20				
Syama	Resolute Mining	75	1990	22.8	250	141.7
	IFC	5				
	GoM	20				

Sources: AIRD and ENA (2002) and EIU (2004)

<sup>8</sup> One ounce equals 28.35 grams. 108 USD/oz thus corresponds to 3.8 USD/g or 3800 USD/kg.

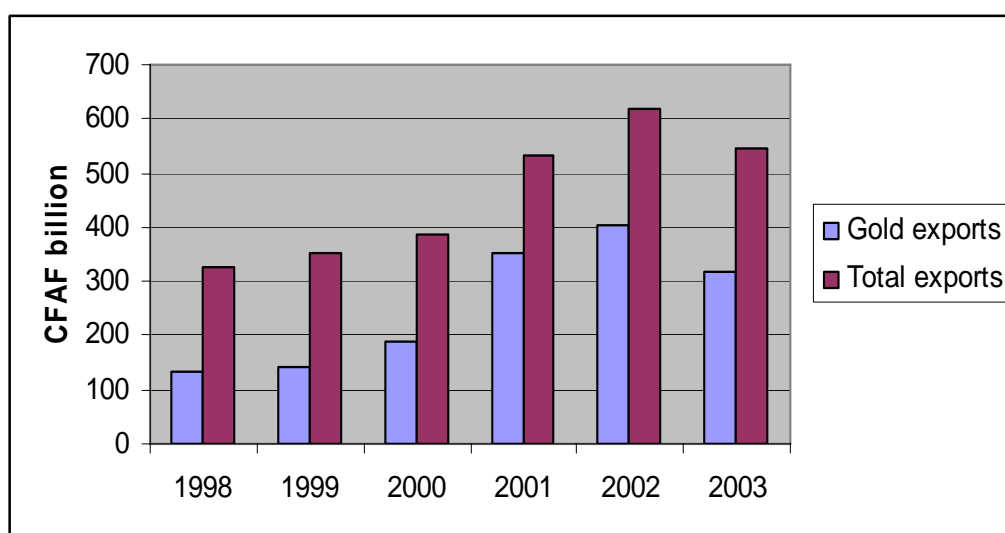
### 3. Impact of mining on the national economy

In this chapter we outline how much the gold mining industry in Mali contributes to the country's export income, GDP, and government revenue.<sup>9</sup>

#### 3.1 Mining's contribution to exports

Drawing on data from the Economist Intelligence Unit (EIU 2005a: 51), which in turn draws on reports from the Central Bank of France,<sup>10</sup> we summarise our findings as to how much of Mali's export income has come from gold in recent years in Figure 3.

**Figure 3. Gold mining's contribution to Mali's export income, 1998-2003**



Source: EIU (2005a, 2004).

Gold mining contributed between 40 and 67 percent of Mali's export income during the six-year period from 1998-2003. The contribution of gold exports increased from 1999-2001 and fell a little from 2001-2003, yet still accounted, in 2003, for more than half of the export revenue. From a historical perspective this is extraordinary: 2001 was the first year ever in Mali that gold contributed more than half of the country's export revenue (EIU 2004; WGC 2005).

<sup>9</sup> To measure the economic impact of gold mining in Mali we will in this and the following chapters convert values given in Mali's own currency, the CFA franc (CFAF or FCFA), into US dollars. A note on our conversion approach is thus in order. As a rule we will use the average exchange rate for the year or period in question when providing figures. As an example, the annual average of the exchange rate has decreased steadily from 2001, when it was 733 CFAF/USD, to 2004, when one USD would buy 528 CFAF (EIU 2005a). The CFA franc has in other words strengthened its position vis-à-vis the US dollar in recent years.

<sup>10</sup> Sources differ only slightly on the level of Mali's gold exports. For the year 2003, the EIU estimates that Mali exported gold worth CFAF 316 billion (EIU 2005a). Using the annual average exchange rate for 2003, which was 581 CFAF/USD (EIU 2005a), this amount would correspond to USD 544 million. The World Gold Council, on the other hand, provides an estimate of the export revenue of USD 549 million (WGC 2005). The five million deviation between the estimates is likely to derive from exchange rate differences.

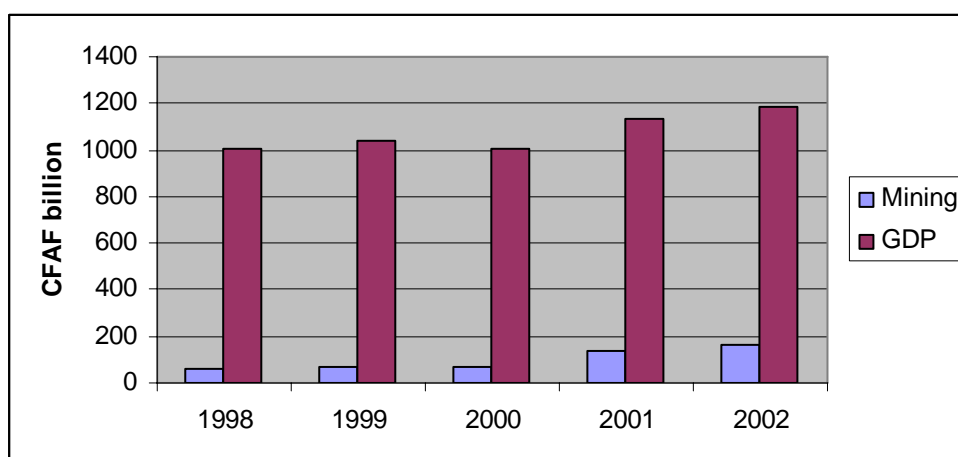
In absolute terms, between 1998 and 2003 Mali exported gold worth CFAF 256 billion or USD 383 million every year, on average. During the peak years from 2001 through 2003 the annual average export income from gold was CFAF 358 billion, or USD 536 million.<sup>11</sup>

Today Mali ranks as one of the most gold-dependent countries in the world. Among the 'highly indebted poor countries' that are also gold producers, no other country derived a higher share of its export income from gold in 2003 than Mali (WGC 2005).

### 3.2 Mining's contribution to GDP

In spite of the spectacular growth in export income from gold mining in Mali, the mining sector, in which gold is by far the most important product, has in recent years only contributed between five and fifteen percent of the country's GDP. Figure 4 outlines recent trends.

**Figure 4. Mining's contribution to Mali's GDP, 1998-2002**



Source: EIU (2005a: 50).

Mining's proportion of GDP increased steadily throughout the period in question, from six percent in 1998 to 14 percent in 2002.

If this may appear little, in a comparative perspective gold mining's contribution to GDP is greater in Mali than in e.g. Tanzania. There, mining has made up only three percent of GDP in recent years. Compared to Botswana, which has a longer history of mining and where mining today constitutes around 60 percent of GDP (Isaksen, Fuller, and Okatch 2004; Lange and Musonda 2005; President's Office 2002), Mali's gold still contributes a relatively small share of the country's economy.

<sup>11</sup> For both calculations we used the average exchange rate for the period from 1999-2003, namely 667.8 CFAF/USD.

### 3.3 Mining's contribution to government revenue

The parts of the gold revenue that reach the Government of Mali flow via two routes. One is the profits or dividends that government realises as a shareholder in the mines (see Table 1). The other route is the taxes, customs and royalties the government extracts from the mining firms. Below we outline the legal framework of this fiscal regime, and give a rough idea of how much the companies have paid in taxes to Mali's government in recent years.

#### 3.3.1 Legal framework

The contribution of the mining industry to the Malian state is regulated by the mining code. The code, introduced in 1991, aimed at encouraging foreign investment, and exempted mining firms from corporate income tax and import duties during the first three years of production. Eight years later, in 1999, the mining code was revised and tax holidays were removed. But the new code only took effect in 2003, four years after it was enacted (EIU 2004: 27). Given the higher tax burden imposed on the companies under the new fiscal regime, companies had an incentive to increase production levels during the years prior to 2003.

Table 2 gives an overview of the current fiscal regime in Mali under the new mining code. The code has been criticised by mining companies for placing a 'heavy burden' on mining and for not providing 'reasonable incentives' to attract new investment (Phillips 2004).

**Table 2. The fiscal regime of Mali's mining sector**

<i>Type of tax</i>	Specification
Income tax	35 %
Dividend tax	12.5-18 %
Royalty	3 % special tax on mineral products
Import duty	5-10 % in line with UEMOA* common external tariff
Export duty	None
Value added tax	Exemption for the first three years of production
Tax holiday	None
Exchange control	None
External account	Allowed
Tax stability	Yes, but length is not specified
Government equity	Up to 20 %

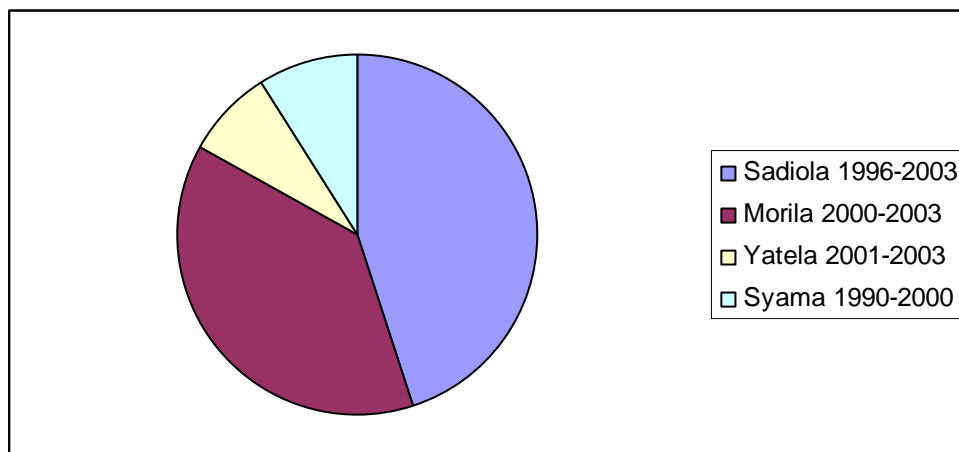
Source: EIU (2004: 27); Hatcher (2004: 47).

\*The West African Economic and Monetary Union (*Union économique et monétaire ouest africaine*).

#### 3.3.2 Mining firms' financial contribution to the Government of Mali

During the first one and a half decades of industrial gold mining in Mali, four mines came into operation: Sadiola, Morila, Yatela, and Syama. As noted in Table 1, most of the gold produced during this period came from Sadiola and Morila. Figure 5 illustrates the relative share of each mine of total gold production in Mali during the period in question.

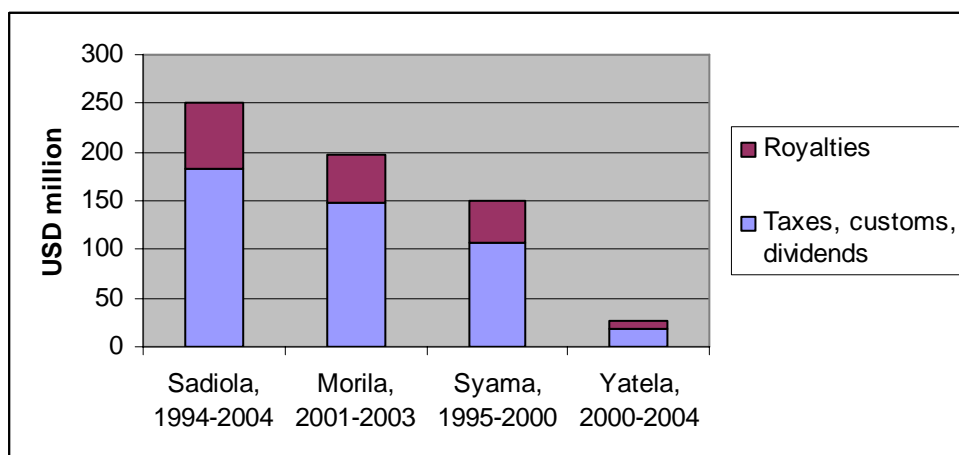
**Figure 5. The contribution of Mali’s four gold mines to total gold production, 1990-2003**



Sources: AIRD and ENA (2002), Chihota (2005), EIU (2004), Iamgold and AngloGold (2004), Morila Gold Mine (2004), Oxfam and FDS (2004), Phillips (2004), and Touré (2004)

Sadiola and Morila mines account for the bulk of production: 83 percent of the gold that was produced in Mali during the first 14 years of industrial gold mining came from these two mines. But how much have the Malian authorities obtained from each mine – in the form of taxes, customs, royalties, and dividends? Figure 6 provides details about this.

**Figure 6. Taxes from mining operations to the Government of Mali, 1994-2004**



Sources: AIRD and ENA (2002), Chihota (2005), EIU (2004), Iamgold and AngloGold (2004), Morila Gold Mine (2004), Oxfam and FDS (2004), Phillips (2004), and Touré (2004)

Note 1: For currency conversion we used the average exchange rate for the period from 1999-2003; 667.8 CFAF/USD (EIU 2004).

Note 2: Royalty figures were not obtained for Yatela and Syama; estimates for these were therefore calculated on the basis of the royalties’ size in proportion to the tax, customs, and dividend contribution for Sadiola and Morila (36.2 and 44.76 percent respectively, giving an average of 40.5 percent).

Between 1994 and 2004 the Government of Mali derived around USD 624.5 million in total in royalties, taxes, customs and dividends from the gold mines. 72 percent of the funds came from the Sadiola and Morila mines, which accounted for 83 percent of production. Sadiola contributed roughly USD 250 million in total, Morila around USD 200 million.

Is the USD 625 million amount bigger or smaller than, or as sizeable as, could be expected? Compared to the total value of the gold that was produced in Mali during the period it is not very impressive. As noted earlier, from 2001-2003 gold production alone was worth on average USD 536 million per year – hence one year's production was only some 20 percent smaller than the total 11-year contribution from the mining operations to the government. Even if production peaked between 2001 and 2003, it still seems that a rather small part of the total income from gold mining reached the Government of Mali.

Moreover, the USD 625 million is an aggregate of royalties, taxes and customs on the one hand, i.e. amounts paid directly by the companies to the state authorities of Mali, and dividends on the other, which the GoM receives as a shareholder in the mining operations. For Syama and Yatela we do not have dividend figures, but for Sadiola and Morila we do. Out of the USD 250 million contribution from Sadiola, USD 22.7 million, or nine percent, were dividends. Of the USD 200 million input from Morila, the dividends made up USD 67.8 million, or 34 percent. The direct input from the Sadiola and Morila mine owners to Mali's government, i.e. their contribution in the form of taxes, customs and royalties, was hence, respectively, around USD 228 million and USD 132 million. Assuming that the average dividend share of the total contribution was 21.5 percent, the total direct contribution from the four mines during the 11 years – in taxes, customs, and royalties – becomes USD 490 million.

From a comparative perspective, the level of total tax, customs, and dividend revenues is still quite substantial. Mali received more from the mining firms than for instance Tanzania, where the government gained USD 89 million from the country's major mines over the five-year period from 1998-2002 (Lange and Musonda 2005:16). This gives an average of approximately USD 18 million per year, while in Mali the corresponding average of tax, customs, and dividend income for the 11-year period from 1994-2004 was USD 41.5 million. Moreover, given the upsurge in production after 2000 and the tighter mining code from 2003 onwards, it is probable that the annual average tax, customs, and dividend income of the GoM has been considerably higher than USD 41.5 million in recent years.

In relative terms, data for two of the mines, Sadiola and Yatela, suggest that the companies' share of gross gold sales that went to the Government of Mali represented 24 percent. Out of the remaining three quarters of the income, 65 percent covered operating costs, while 11 percent was the companies' own profit (Iamgold and AngloGold 2004; Phillips 2004).

During the 11-year period from 1994-2004, the Government of Mali thus earned on average USD 57 million per year from the gold sector, and its earnings have increased over time. The more than fifty million dollar contribution per year from gold mining is substantial, but in comparison with, for instance, the development assistance that Mali receives, it is less impressive. From 1999-2003 the grants Mali got from donors averaged USD 364 million per year (EIU 2005: 52), i.e. more than six times the income from gold mining. An issue that also would need further exploration and that we are not able to fully address here is, moreover, how much of a burden the 50 million-plus contribution to government authorities in fact places on the mining firms. How big is this contribution compared to, for instance, the profits each company makes every year from the gold mines in operation – and how big should it be?

## 4. The Sadiola and Morila mines

Having looked at the macro-level picture of Mali's mining and its impact on the national economy, we now shift to the local level and introduce the two mines selected for study. Sadiola and Morila have, since industrial mining started in Mali in the early 1990s, been the two most important contributors to Mali's gold production.

The chapter has four parts. We first describe the local context of the two mines, and then outline their history and current characteristics. In the third part we identify how much the mines have contributed to the Malian state, and, finally, the socio-economic situation in the two mining areas is compared to the situation at the national level.

### 4.1 Local context of the mines

The Sadiola mine is located in the far west of Mali, close to the border with Senegal and roughly 500 km by road northwest of the capital Bamako. The Morila mine is found in the southern part of the country, nearly 300 km southwest of the capital. Below, we outline geographic, demographic, social, economic, and political characteristics of the two areas.

#### 4.1.1 Sadiola

*Geographic, demographic, and social situation.* The Sadiola mine is located in the First Region of Mali, also identified as the Kayes region. It lies in a municipality which carries the same name as the mine. Sadiola municipality, which comprises 46 villages, had more than 20,000 inhabitants in 2002 (République du Mali, ODHD, and PNUD 2003). In Sadiola town the number of inhabitants rose from a few hundred in the late 1980s to approximately 7,000 in 2000. The population is mainly Malinké but also includes some Soninké, Fulani (Peul), and Bamanan people. The different groups have maintained cordial relations, including after the establishment of the mine. Young people make up more than half of the population, but the level of school enrolment remains low. Less than three percent of adults have attended school, and not even one percent have completed four years of schooling. Yet most of the men have attended Koranic schools.

*Economy.* The majority of Sadiola's people are subsistence farmers and grow commodities such as millet, maize, groundnuts, and rice. Groundnuts, which make up some 40 percent of production, are also sold at the market. Most of the households own cattle. Nonetheless, the community is not self-sufficient and food crises are quite frequent. Before the mines were set up, artisanal extraction of gold from rivers, streams and pits provided a supplementary source of income for some people. Sadiola is also known for an exceptionally high degree of emigration and remittances from relatives abroad are the most important source of income for many families (IOM 2003).

*Politics.* The political situation in Sadiola has been quite stable since a new municipal council took office after the 1999 local elections. In 2004, the incumbent mayor, representing Adema, was re-elected for a second term. His deputies represent three opposition parties (URD, RPM, and CNID). Collaboration between the municipal administration on the one hand and the council and the mining management on the other was quite weak in the past, but with the arrival of a new head of administration, relations have improved.



#### 4.1.2 Morila

*Geographic, demographic, and social situation.* The Morila mine is situated in Mali's Third Region, also known as the Sikasso region. The mine is located in the municipality of Sanso, which comprises 16 villages, one of them Morila. Approximately 11,000 people live in the municipality (République du Mali, ODHD, and PNUD 2003). Most of them are Bamanan, yet the establishment of the mine diversified the ethnic makeup as many immigrated. Education services have been inadequate, and both enrolment and literacy rates remain low.

*Economy.* Subsistence farming has been the main economic activity of the population of Sanso, with millet and sorghum being the most important crops and cattle-rearing supplementing this. In contrast to Sadiola, however, commercialised cotton production is important in Sanso. The population is thus likely to have more experience with fluctuating world market prices and foreign investors from the period before the set-up of the mine.

*Politics.* In contrast to the more amicable relations in Sadiola, the political climate in Sanso was tense at the time of our fieldwork.<sup>12</sup> One reason was that the municipal council had recently voted the mayor out of office, by a four-party coalition headed by the mayor's cousin. The new mayor represents the opposition party CDS, and his deputies Adema, CDS, and MPR.

The municipal administration had also been affected by the turmoil. There was suspicion between the administration on the one hand and the municipal council and the mining management on the other; in large part due to disagreements on the distribution of benefits from the mine. As we elaborate on in Chapter 6, the municipal administration used to be part of the 'local development committee' which took decisions about the benefits from the mine, but it was excluded from the committee in 2001 by the governor of the region. At the time of our fieldwork a new head of administration had been put in place in Sanso, but he did not seem to have been able to resolve the conflicts.

## 4.2 History of the mines and current characteristics

### 4.2.1 Sadiola

The Sadiola mine was opened in 1996 and is one of the oldest operating mines in Mali. As Table 1 indicates, two international companies own 38 percent each of the shares of the operating company: the Canadian firm Iamgold, and South African AngloGold (after 2003 AngloGold Ashanti). The Government of Mali owns 18 percent and the International Finance Corporation of the World Bank the remaining 6 percent of the shares.

The operating company at Sadiola is called Semos SA. Semos is in charge of the management of the mine and of planning and surveying activities. The operation of the mine itself, including drilling, moving of redundant earth, and transport of the gold product, is contracted to a South Africa-based company called LTA or Moolman (Phillips 2004).<sup>13</sup>

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<sup>12</sup> The tense political climate was the main reason why the team was unable to obtain official documents in Sanso.

<sup>13</sup> This company is part of Grinaker-LTA, a company formed in 2000 as a merger between Grinaker and LTA, and now constituting South Africa's largest construction company. One of Grinaker-LTA's operating groups is called Moolman mining, and this group runs operations in a number of African countries, including Mali (source: [www.grinaker-lta.com](http://www.grinaker-lta.com)). In Sadiola where this company works it is known by the name of both LTA and Moolman. For reasons of simplicity we will in the following adopt the name of LTA.

The history of the Sadiola mine dates back to 1990, when Iamgold was granted the concession to prospect for gold in this western area of Mali. In 1992 a find of three million ounces was made, and Iamgold invited AngloGold to join the venture. A mining permit was issued in 1993, and production started three years later. The investment of USD 280 million which made the Sadiola mine a reality was the largest ever in Mali up to that point. Even so, commercial production soon exceeded expectations. The initial plan was to run the mine for nine years, but that period has now been extended by another three years. It is thus likely that the mine will run until at least 2008 (Phillips 2004).

#### 4.2.2 Morila

At the Morila mine, production was initiated in 2000. Construction of the mine started in 1999, and it was officially opened in early 2001 (Mining Review Africa 2003; Mining Weekly 2003:1; Walker 2001). The mine is owned by two South African companies, Randgold and AngloGold, which hold a 40 percent share each. The Government of Mali owns the remaining 20 percent.

Randgold and AngloGold have set up Morila SA, which is the operating company at the mine site. Like Semos in Sadiola, Morila is responsible for planning, surveying, and management, while the mining itself has been outsourced to the French company Somadex (Gillot 2004: 2). Other contractors are in charge of providing explosives (AEL), laboratory analysis (Analab Exploration Laboratories), and security services (AMM).

Morila is, in fact, said to be one of the most productive and profitable mines in the world today (Mining Review Africa 2003). Its history also goes back to the early 1990s when BHP, an Australian company, prospected for gold in the Sanso area but did not find anything worth exploiting. Randgold was more successful when it took over in 1996. Drilling in a different orientation, it found rich ores, and Morila was termed 'the gold find of the decade' (Walker 1999). Before this discovery, Randgold had spent most of its capital in Mali at the Syama mine, which failed to meet expectations; it sold half of its 80 percent shares in the Morila mine to AngloGold in 2000. Mali's government kept the remaining 20 percent (Gillot 2004: 2; Randgold and AngloGold 2004; Walker 2001).

In 2002, Morila produced more than a quarter of Mali's entire annual production in just three weeks (Baxter 2003). On top of such exceptionally high production rates, Morila was one of the lowest-cost gold producers in the world. In 2003, the cost of producing one ounce of gold at Morila was only USD 74 (Gillot 2004; Minesite 2003: 1). Low costs have implied major gains for the shareholders: in 2002 net profits from the mine amounted to some USD 220 million, and in 2003 it maintained the quite astronomical level of USD 150 million.

Even though 2002 was a boom year, future prospects are far from dim. Morila is expected to have a mine life of at least ten years, which means that it will run until 2010 or longer. The Government of Mali has, however, expressed concern that 'increase in output must not be done at the expense of the life of the mine' (Mining Review Africa 2003).

### 4.3 Contribution of the mines to the Malian state

With the extraordinarily rich harvest from both Sadiola and Morila in recent years, how much have the two mines contributed to Malian authorities – at the central and local level?

### 4.3.1 Contributions to central-level authorities

As Figure 6 illustrates, from 1994-2004 the Government of Mali earned approximately USD 624.5 million in royalties, taxes, customs, and dividends from the gold mining industry. Around 43 percent of this, USD 249.9 million, came from the Sadiola mine and another 33 percent, USD 192.1 million, from Morila.

But the timing of the two mines' contributions was different. Sadiola's input covered the period from 1994-2003, while Morila's was only from 2000-2003. The Government of Mali has earned more in total from the Sadiola mine, but the contribution per year has thus been higher from Morila during the years it has been in operation.

In total, almost three quarters of the income that Mali's central government generated from the gold mines between 1994 and 2004 thus came from the Sadiola and Morila mines.

### 4.3.2 Contributions to local-level authorities: The case of Sadiola

In addition to the contributions made to the Government of Mali at the central level, the mining firms have channelled some money directly into local-level government agencies. Due to the political tensions in Sanso municipality at the time of our fieldwork, we were unable to quantify such contributions from the Morila mining actors.

In Sadiola, however, we found that Semos, the operating company, had contributed CFAF 1.22 billion or approx. USD 1.7 million<sup>14</sup> from 2000-2002 to the municipal authorities.<sup>15</sup> Less than two million USD is a small amount compared with the total tax, customs, and dividend contribution from Sadiola to the Government of Mali – which, as noted above, reached almost two hundred million USD from 1994-2003. However, the contribution from the Sadiola mine locally seemed to have generated positive local spin-off effects. By 2004, Sadiola municipality had invested an amount corresponding to roughly half of the 2000-2002 income from Semos, i.e. 588 million CFAF, in classrooms, accommodation for teachers, health centres, and municipal buildings. We elaborate on the mines' impact on local development in Chapter 6.

## 4.4 Socio-economic situation in mining areas compared to the national level

We will now assess the social and economic situation in the Sadiola and Morila mining areas compared to the national situation in Mali. Before we present our findings, a note on approach, data and method is in order.

### 4.4.1 Method and data

In line with the World Bank template for assessing benefit streams from mining (World Bank 2005), we sought data from the municipalities of Sadiola and Sanso on education, economic performance, water and sanitation, health, and gender. Socio-economic data at the municipality level is, however, often difficult to find in developing countries, and Mali is no exception. Nevertheless, two types of source were identified: a report authored by the Government of Mali and the UNDP with municipal-level information (République du Mali, ODHD, and PNUD 2003), and information from the mining firms on the two municipalities of interest.

<sup>14</sup> The calculation is based on the average exchange rate between 2000 and 2002 of 1 USD = 714 CFAF.

<sup>15</sup> We are not aware of what status this contribution had compared to the other taxes, customs, and royalties paid by Semos to Malian authorities.

The first source provides data for all municipalities in Mali on various socio-economic issues, with related indicators. Of relevance in this context is the report's data on:

- Water, one indicator: number of outdoor places where drinking water is available (e.g. fountains and wells); and
- Health, with two indicators: number of community health centres, and of pharmacies.

The report does not provide data on economic performance and gender. On the other hand, it contains a poverty index that we have used to compare the situation in Sadiola and Morila with the national situation. Since the report was produced in 2003, moreover, we can use it to make a meaningful assessment of the impact of the two mines, which were set up in, respectively, 1996 and 2000.

Finally, the report does provide information about education, but the indicator used, namely 'number of secondary relative to primary schools', did not seem adequate since it cannot differentiate between municipalities with a low and high number of schools. We therefore chose not to include this indicator in our analysis, but compensate for this by analysing the education sector in the two municipalities in more depth in Chapter 6.

The second source of information on the situation in the two areas compared to the national situation is the mining firms, from which information was provided both in documentary form and as comments conveyed to the team. There is, however, some lack of consistency between the two sources, which we account for below.

#### 4.4.2 Findings

Table 3 lists our findings on the health, water, and poverty situation in the two areas compared with the average for Mali's rural municipalities, based on the GoM/UNDP report.<sup>16</sup>

**Table 3. Socio-economic situation in Sadiola and Sanso municipalities**

Area	Indicator	Municipality (mine)		Average for rural municipalities in Mali
		Sadiola (Sadiola)	Sanso (Morila)	
Demography	Size of population	20,061	10,986	10,772
Health	No. of community health centres	0	1	0.25
	No. of pharmacies	1	1	1.12
Drinking water	No. of outdoor places with drinking water	9	19	20.66
Poverty rating	Poverty index*	.41	.16	.00
	Poverty group**	5	5	Not applicable

Source: République du Mali, ODHD, and PNUD (2003)

\*: The poverty index is composed of the main socio-economic indicators on which the source provides data at municipal level. The national average is zero; and the more affluent municipalities figure on the positive and the less affluent on the negative side of the equation.

\*\* : The poverty groups were worked out as follows. The totality of rural municipalities were ranked on the poverty index, and then divided into five groups with an equal number of municipalities in each. The top fifth was categorised as group no. 5 and defined as 'not poor', while the 20 percent of municipalities with the lowest rating on the index were put in group no. 1 and defined as 'very poor'.

<sup>16</sup> Since living conditions in rural versus urban areas in the country appear to be vastly different, we compare the Sadiola and Sanso figures with the average for rural Mali, and not with all Malian municipalities.

The main inconsistency between this source and information conveyed from the mining firms concerns the issue of health.

In Sadiola, where the report suggests that no community health centres existed, according to AngloGold Ashanti there are ‘at least four health facilities in the village surrounding the mine’. A clinic and government health facilities are also said to be available in Sadiola. The discrepancies can be explained in two ways. First, the definition of ‘community health centre’ on the one hand and ‘health facility’ and ‘clinic’ on the other may differ. This could imply that even though a community health centre as defined by the 2003 report did not exist in the municipality, there could be a clinic and/or health facilities, defined otherwise. Another possible reason for the mismatch between the two sources is that health services may have been improved in Sadiola between the publication of the 2003 report and the statements from the company two years later.

With regard to Morila, too, health data from the report differ from that given by mining firms. A factor which is not reflected in the report is that mining firms reportedly have supported a campaign in Sanso municipality to reduce the incidence of malaria (Koropchuk 2004). As a result of this, incidence rates among the population around the mine are said to have decreased markedly – from 16 percent in 2000 to less than one percent in 2005.

Although there may be few community health centres and pharmacies in the two areas, other health trends seem more positive.

The situation with regard to drinking water is not so bright, however. Even though a single indicator does not absorb the various dimensions of the situation, the fact that Sadiola, for instance, which has twice as many inhabitants as the average Malian rural municipality, as well as one of the country’s most lucrative gold mines, had less than half the average number of outdoor drinking water spots does give reason for concern.

Sadiola and Sanso still figure among the 20 percent of Malian municipalities that are considered to be ‘not poor’. Even though our data are scant, we can thus tentatively conclude that the two municipalities have a slightly better socio-economic situation than the average rural municipality in Mali. However, given that Sadiola and Sanso host the two main generators of Mali’s export income, it would be surprising if some of this revenue did not trickle down locally and thus improve the situation there. It can be questioned why more has not reached the two local communities, given that the bulk of the more than half a billion USD that Mali’s annual gold production has been worth in recent years has come from these two mines. On the other hand, a more fundamental question is: how much of the income from the gold mines should benefit the local communities, and how much should benefit the country as a whole? How ‘fair’ is it that the communities surrounding the mines benefit as a result of their hosting of the mines, compared to other rural and urban communities in Mali?

We return to discussions of these questions in the concluding Chapter 7, after we have had a closer look at how the mining operations have in fact affected the local people and relations in the Sadiola and Morila areas. In Chapter 5 we outline how the two mines have impacted on patterns of employment and on what the earnings from the mines have been used for; while Chapter 6 examines the mines’ impact on infrastructure, social and community development, and local business development.

## 5. Impact of Sadiola and Morila mines on employment

In this chapter we examine how the introduction of gold mining in Sadiola and Morila affected the employment situation in the two areas. Firstly, we estimate the number of employees and dependants at the two sites; secondly, we identify the average salary levels of the mine workers. In the third section we look at how the jobs have been distributed and how job dynamics have affected inter-group relations, and finally, we present the findings from our labour force survey on how the workers choose to spend their earnings from the mine.

### 5.1 Number of employees and dependants

In this section we estimate the total number of employees at the Sadiola and Morila mines as well as the direct and indirect employment at each mine; we account for types of job – and the number of jobs, as far as our data permit – created as a result of mine-related investment and spending; give an idea of job trends over time; and finally, we estimate the number of people at each site who are likely to depend financially on the mines' wage-earners.

#### 5.1.1 Total number of employees

Sources are slightly inconsistent on the total number of employees at the Sadiola and Morila mine sites. Variation between estimates is likely to derive from the fact that the number of employees has shifted over time, and that different estimates reflect different points in time. In addition, the definition of a 'mine job' may vary. Some may count only those employed by a firm directly involved in the mining operations, while other sources may also include jobs that are generated close to the mine as a result of activities by the companies and their employees.

At the Sadiola mine site the two main employers at the time of our fieldwork were the operating company Semos and its main contractor LTA. Semos employed 680 and LTA 331 Malian people; 1,011 in total. The total number of employees at Sadiola is higher, however, since the workforce includes non-Malians as well as Malians working for companies and businesses other than Semos and LTA. The data we obtained in the field suggests that the total number of mine workers in Sadiola is approximately 1,300. This corresponds to information provided by one of the companies that own the mine, Iamgold, which states that 1,302 people work at the mine (Iamgold and AngloGold 2004).<sup>17</sup>

At the Morila mine site, at the time of our fieldwork the two main employers were Morila, the operating company, and Somadex, the main contractor. Morila employed 481 and Somadex 492 people, 973 in total. Another 317 persons were employed by three additional contracting companies, AEL, ANALAB, and AMM, making a total of 1,290 employees. This corresponds to the figure given by the companies that own the mine (Randgold and AngloGold 2004), and it includes both expatriate and Malian staff.<sup>18</sup>

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<sup>17</sup> Another source suggests, however, that the total number of people working at the Sadiola mine is 'more than 1,500' (Phillips). The difference is likely to be for the reasons given in the introductory paragraph. We choose to keep the estimate of approximately 1,300 employees, which is based on several sources.

<sup>18</sup> Other sources, however, informed us of a slightly higher total number of employees, namely 1,375. We choose to keep the estimate of 1,290, for which we have two sources.

### 5.1.2 Direct and indirect employment

The World Bank's template for assessing benefit streams from mining (World Bank 2005) distinguishes between direct and indirect employment in relation to a mining operation. According to the definition, persons working for the operating company at the mine are direct employees, while persons working for firms to which the operating company has contracted out certain tasks are indirectly employed. Applying the definition to the Sadiola and Morila mine sites, we find that direct employment will include the jobs for the operating companies Semos and Morila respectively, while the indirect jobs are those paid for by the contracting companies of LTA in Sadiola, and Somadex, AEL, ANALAB, and AMM in Morila.<sup>19</sup>

How was the workforce at each site distributed across these two categories? In Sadiola, the operating company Semos employed 680 Malians and the subcontractor roughly half that number, 331. Direct employment was thus much more important than indirect employment. In contrast, a far greater proportion of the Morila workforce were 'indirect employees' – for the contracting companies. The operating company Morila SA employed 481 persons and the contractors 809.<sup>20</sup> Hence, in Sadiola roughly one third of the labour force worked for the contractor and two thirds for the operator, while in Morila it was the opposite.

### 5.1.3 Employment generated as a result of mine-related investment and spending

In addition to direct and indirect employment by the mining companies, the Sadiola and Morila mines have also generated a number of jobs as a result of investments by the companies in the surrounding areas when the mines were built, and during the operational phase. The running of the two mines has also stimulated jobs induced from ways in which employees spend their earnings (called induced employment in the World Bank template).

In Sadiola, some 800 people were employed to construct the mine and surrounding infrastructure (IFC 2002). The corresponding number in Morila was 1,200 (Randgold and AngloGold 2004).

The two mines have also spurred investments in education, health, infrastructure and community development, which in turn have created some jobs, teacher positions, for instance. We have, however, not been able to quantify the exact number of such investment-generated employment in Sadiola or Morila.

With regard to jobs created as a result of spending by the employees at the mines in e.g. shops, transport, or services, our quantitative evidence is limited. Yet interviews with workers and other residents in the two areas enabled us to identify some common types of induced employment. These were primarily positions (a) within petty trade, e.g. as street vendors of food and other basic commodities; (b) as housemaids; and (c) as sex workers.

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<sup>19</sup> Company officials disagreed with the definition of employment at e.g. Somadex as 'indirect', since it is Somadex which does the mining in Morila. Given that mining is the core activity it may sound awkward to call that work 'indirect'. Even though the mining job is done by contractors in both Sadiola and Morila (LTA and Somadex respectively), we still adopt the definition provided in the World Bank template (a) for purposes of comparability with other mining benefit streams assessments, and (b) to be able to distinguish between the jobs generated by the operating company (direct employment) and the jobs that the operator chooses to outsource to other corporations (indirect employment).

<sup>20</sup> The figures were obtained during fieldwork. Documentary evidence seen in the aftermath suggests a slightly different distribution: (Randgold Resources and AngloGold 2004) state that 780 persons work for 'contractors and subcontractors' and the rest, i.e. 510 persons, assumedly for the operator Morila SA.

#### 5.1.4 Changes over time

As noted above, in the construction phase some 800 persons were employed in Sadiola and 1,200 in Morila. When mine activities went into the phase of operation and production, the number of jobs does not seem to have dropped – on the contrary, it appears to have risen to approximately 1,300 jobs at each site (plus those jobs created as a result of new investments and workers' spending). The types of job required in the two phases were different, though: the construction efforts required mostly unskilled workers, while during the phase of production the need for skilled labour has been far greater.

#### 5.1.5 Number of dependants

As well as the living they are able to make from the jobs created by the establishment of the mines, the miners also cater for their families and others who depend on them financially.

We can calculate an estimate of the number of such dependants by combining the number of jobs with the average family size in the area. The average can be worked out by assessing data from our labour force survey, which was conducted among workers of the operator and main contractor company in Sadiola and Morila.

The survey finds that virtually all of the workers are male (106 of the 108 persons from whom filled-in questionnaires were received).<sup>21</sup> 80 percent of the workers are married, and 15 percent of them have more than one spouse. The majority of the workers – 55.6 percent – have one, two, three, or four children, 25 percent have no children, 15.7 percent have five to nine, and 2.8 percent have ten children or more.

These data do not, however, make it an entirely straightforward task to estimate the average size of a core family. Moreover, those who depend on a breadwinner's wage in a country like Mali are likely not to include spouse and children only; members of the extended family, e.g. parents and siblings, or even neighbours and friends may count among the dependants.

Nonetheless, on the basis of the above, we may assume that an average core family at the mine site would be made up of husband and wife and, say, four children. Assuming further that one person outside of the core family also, on average, counts as a dependant and that the wife (if the mine worker is a man) does not provide significant income to the family; the average number of dependants will be six.

To calculate the total number of dependants at each mine site we multiply this estimate for the average number of dependants per mine worker by the number of mine workers at each site. Using the approximation of 1,300 workers per site, this would indicate that the number of dependants in each mining area is almost 8,000.

## 5.2 Salary levels

The survey we conducted among a selection of the around 2,600 workers at the two mines included a mapping of how much the workers earned. This was necessary in order to understand why the distribution of jobs between different groups in the two areas stirred quite strong reactions.

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<sup>21</sup> Background information about the labour force survey is provided in Annex 4.



Salary categories at the mines range from A to E, and among our survey respondents a majority had a salary in category C, i.e. the middle one of the five categories used. This category included monthly salaries ranging between CFAF 159,000 and 228,000, which gives an average of CFAF 193,500 per month or CFAF 2.32 million per year. Using the average exchange rate for the period from 1999-2003 of 668 CFAF/USD (EIU 2004: 52), we find that the miners' average salary per year amounted to USD 3477. This salary level is likely to be quite extraordinary in the eyes of an ordinary Malian citizen: it corresponds to almost four times the GDP per capita in Mali, which was estimated at USD 930 in 2002 (UNDP 2004).

We do not have data on the income levels of the persons who obtained employment as a result of the setting-up of the mines (e.g. petty traders, housemaids, taxi drivers, and sex workers). Nonetheless, it is clear that the introduction of gold mining into the two areas caused dramatic changes in the local labour market. The more than one thousand relatively well-paid jobs available for Malians at each site was probably the most dramatic change, but in the wake of this a number of other jobs were also created – at the same time as other ways of making a living were rendered more difficult, as we elaborate on in Chapter 6. Whether the net effect of gold mining was an increase of total income levels for the population in the area is not a straightforward question, therefore. And even if the answer to this question were in the affirmative, the impact of this possible aggregate growth in salary income on people's daily lives will in turn depend on the distribution of this income across different social groups.

### 5.3 Social distribution of employment

Having looked at the numbers of jobs and dependants in Sadiola and Morila, we now turn to who the workers actually were. Where did they come from? What groups did they belong to?

In this section we look at the distribution of jobs at the two mines. We account for how jobs were distributed between expatriates and nationals, locals and non-locals, youths and adults, men and women, and between different ethnic, cultural, linguistic, and religious groups. In each sub-section we provide, to the extent that our data permit, an estimate of the number of employees belonging to the different groups. We also assess how employment dynamics seem to have affected the different groups and the relations between them.

#### 5.3.1 Distribution of jobs between expatriates and nationals

Approximately 90 percent of those employed at the two mines are Malians. This is remarkable, not only because it is a substantial share, but also because it implies that the Malian staff members are not restricted to the manual and lower administrative work. A considerable number occupy qualified positions in engineering and management. The top positions, are, however all occupied by foreigners.

In spite of the high number of Malians in the workforce, relationships between the expatriate workers and the nationals – both community residents and the Malian workers – were strained. In Sadiola, the comfort that the expatriates enjoyed in Western-style and ghetto-like residential areas had caused some resentment. The fact that the foreigners lived in a secluded area of Sadiola was partly the result of attitudes among those local residents who had been resettled when the mine was constructed. As it happened, the traditional leaders of a village which had been displaced in the Sadiola area had refused to allow the houses of the foreign workers to be built close to their own new settlement.

The local population was also frustrated about the fact that few of them had obtained jobs at the mine. One Sadiola resident put it quite strongly:

‘The strangers (*étrangers*) are privileged compared with the locals. They don’t want to employ us because of discrimination.’

The ‘strangers’ alluded to here include, however, not only persons from abroad but anyone who does not come from the local area, i.e. also people from other parts of Mali. The quote is thus an indication of two kinds of tension: between the local population and the foreigners on the one hand, and between the locals and the ‘non-locals’ on the other.

A sentiment of hostility towards expatriate workers was also signalled by the Malian mine workers. In Sadiola, representatives of the trade union at Semos said that the expatriates ‘benefit from too many privileges’. They also argued that the reason why many Malians were employed was not primarily Semos’s preoccupation with capacity-building or development – rather, the policy of ‘Malianisation’ was in their view driven mainly by economic concerns:

‘Malianisation is very advantageous for the company. If an expatriate who is paid four million CFAF is replaced by a Malian the enterprise gains enormously ... because the Malian managers get much less. That’s good business for Semos.’

The managers of the company, however, defend Malianisation, which, in their opinion, stimulates the building of capacity among Malians. They still say that Mali cannot yet provide all the skills that the mine requires, and that some expatriates therefore are needed. In recent years the actual number of expatriate workers has gone down: in Morila, for instance, it decreased from 47 in the beginning in 2000 to 33 in 2004 (Touré 2004).

### 5.3.2 Distribution of jobs between locals and non-locals

The survey we conducted among workers at the Sadiola and Morila mines shows that roughly two thirds of the workers came from the region where the mine is located, and the remaining one third from Mali’s capital, Bamako. We do not have clear indications of where in the area the regional residents came from: the local municipality or area or elsewhere in the region. Our qualitative data suggest that the local residents in the two municipalities felt that they had too small a share of the jobs created by the mine, but we cannot reach a conclusion on that basis about the share of jobs provided to locals versus non-locals.

What is clear, however, is that the local residents in the two areas were equally frustrated about the fact that workers from Bamako – referred to as ‘the strangers’ – enjoyed higher salaries than the employees recruited locally.

In Sadiola, the management of the mine explained the policy of employing some people from outside the region with reference to two main factors. The first was skills: certain skills that were required to run the mining operation were simply not in supply locally and therefore had to be sought elsewhere. Most of the skilled workers came from Bamako, which in turn explained their higher salary level. The other factor mentioned was motivation. A person who would come all the way from Bamako to seek work would be more motivated than a local applicant, the mining management argued. By contrast, it was held, local inhabitants who sought work at the mine would do so primarily to make money to go abroad, mostly to Europe.

The mayor of Sadiola, on the other hand, argued that the mining company should give priority to residents of the municipality when recruiting employees. Yet he did concede that the local

communities needed to realise that the construction phase, when more locals were involved, required a different set of skills from the production phase.

To this the management of the mine responded that for them the priority was to employ Malians ‘from the region and from the entire country’ – ‘Malianisation’, in other words, instead of a local-level recruitment policy.

Local frustration regarding jobs not only derived from the fact that a number of non-locals or foreigners were hired, but also from the nature of the process of hiring them. In local communities in Mali the traditional village authorities remain important. The chief of the village has, for instance, normally played a role in authorising or accepting who should get important positions in the community. From a village point of view, it would therefore be expected that the chief would be consulted when jobs at the mine, which became very important in the local setting, were being distributed. But as it happened, the mining firms did not consult with the chiefs on who should be employed and who should not – neither in the phase of establishment of the mines, nor in the phase of operation. As a result, it was felt locally that the traditional authority of the chiefs had been reduced; and the process upset not only the chiefs themselves but also many people in the communities. It is therefore likely that if the village leaders were given a chance to rubber-stamp decisions by the companies on whom to hire and not to hire, local reactions would be less severe – even if a large part of the workforce still came from outside.

### 5.3.3 Distribution of jobs between adults and youth

Another and at least as contentious issue as the distribution of labour between locals and non-locals was how jobs were spread across generations. Frustration prevailed among many residents at both mine sites about the fact that few young people from the area had got jobs at the mines. According to Sadiola inhabitants ‘the mine had promised’ to provide jobs for the young people, including after the initial construction phase, when many young people were hired on short-term contracts. In the eyes of a village chief in Sadiola:

‘They refer to the pretext of illiteracy for not recruiting our youth, but for more than half a century our young people have gone to France and have been doing well there.’

Local residents at both sites accused not only the companies of not meeting their pledges but also, in fact, the workers at the mines, who, they claim, ‘recruit, instead of our youth, their own parents’ (i.e. family). Residents of the Madina village in Sadiola put it starkly:

‘In Sadiola, the workers and the management are all the same’.

A feeling of betrayal was thus common among local residents. We provide some background to reasons why this feeling seems to have become prevalent in Chapter 6, when we outline the process of establishing the mines. It suffices to note here that from the perspective of the management of the mines, one reason why few young people had been hired was not only their relative lack of the required skills, but also the motivation and migration factor referred to above. For the management, the young people come to work at the mine ‘to seek their transport for Europe. Once they’ve got it they leave. Later when that doesn’t work they come back to get reemployed’.

### 5.3.4 Distribution of jobs between men and women

Almost all the workers directly or indirectly employed by the mines – i.e. by operators and contractors – are men (98 percent of the respondents in our survey). Women got jobs from the spending power of workers, however, mainly as petty traders, housemaids, and sex workers.

### 5.3.5 Distribution of jobs across ethnic, religious, linguistic, or cultural groups

We have no quantitative data on how jobs have been distributed across ethnic, religious, linguistic, or cultural groups. It seems, however, that employment dynamics have not generated resentment with an ethnic, cultural, or religious tone. The different ethnic groups appear to continue to coexist peacefully, and there is no evidence that the influx of some expatriate non-Muslims has caused resentment expressed along religious lines.

## 5.4 Labour force survey

### 5.4.1 Introduction

Before we turn to the issue of how the mines impacted on broader developments in the Sadiola and Morila areas, we round off this discussion of employment dynamics by reporting on findings from our survey of mine workers. As noted in the introductory chapter of this report, we surveyed approximately five percent of the workforce at the operator and main subcontractor companies at the two sites; that is, in total 108 workers. They were asked around 75 questions related to their background, professional experience, attitudes towards the state, the mining laws, and the company they worked for, and not least about what they did with their earnings. It is this latter aspect that we will account for here. Annexes 3 and 4 provide more details on the survey, including the methodological approach, questions, and variables.

One main reason why we sought to find out how the gold miners use their earnings is that the livelihood strategies of the miners are likely to differ from those of other groups of the population. As we saw above, relatively few of the miners came from the local communities close to the two mines. Most of them can thus be considered work migrants, and among migrants it is common to send some of the salary to members of the core and extended family. Furthermore, salaries are comparably high in a type of work that everyone knows will not last for very long. It is therefore interesting to check to what extent part of the gold mine salary is used for savings, consumption, or for various types of investment to be pursued after the work in the mine ends. In addition, we know that changing patterns regarding people's remittances, savings and investments can be good indicators of structural changes taking place in the local economy. By studying these aspects we can therefore get an idea of possible long-term economic changes in rural Mali caused by the 'benefit streams' of the mining industry.

### 5.4.2 Findings

When we asked local people about how earnings were used during our field visits, it seemed that investments in the ordinary meaning of the word were rare among mine workers. Given that the labourers are fully occupied in the mines one can hardly expect that they would invest in enterprises that would require much of their time. It is possible, of course, to appoint someone to look after one's business, but the delegation of responsibilities may be a very risky venture. In spite of social and familial bonds between the investor and his or her trustee, the investment initiative risks failure for a number of reasons, including mismanagement and cheating.

However, there are certain practices that are less time-consuming and considered feasible even when the investor is not present on a regular basis. These were mentioned as realistic options by people we met. The most frequently mentioned strategies were: the buying of land, the construction of houses for rent, an investment in animals, and the buying of cars to be used as taxis.

To verify these impressions we asked the workers in our survey about their spending and investment practices. We found that almost half of the workers (46 percent) had invested in land and/or a house, and that 80 percent of the investors had invested in their home village. Nearly half (45 percent) of the real-estate investors had used their own money to invest. Far fewer of the workers had bought a car (only 18 percent), while more than half of them (54 percent) had got themselves a motorbike. Approximately one in four (23 percent) had bought cattle; and the majority of the cattle-owners (68 percent) said that the purchase of the animals was a form of saving. A slightly higher proportion than those who had bought cattle, roughly one third of workers (32 percent), had acquired a savings account in a bank.

By far the most common way of using the income was, however, to send it to members of the family. More than nine out of ten workers (92 percent) said they had done so, and more than half of those (55 percent) sent money every month. The large majority also reported that the remittances were used by their families for the purposes of consumption, either of basic commodities such as food and clothing, or in relation to major family events such as weddings and funerals.

### 5.4.3 Analysis

What do these findings tell us about how the financial benefits of mining in Mali have ‘streamed’ into Malian people’s lives and affected their opportunities and constraints?

First of all, our survey does not suggest that gold mining stimulates the mine workers to invest in order to establish their own businesses. It may be that some of the money workers set aside or the cattle they buy could be used at later stages to set up a small enterprise, but while they are employed at the mine this is not done. In addition, only some 25-40 percent of the workers reported that they saved at all. Remittances could in theory function as a form of saving, but apparently it does not work this way in this case, given that the remittances are reported to have been consumed in their entirety. Investing in land or housing also seems to be an act oriented towards safeguarding one’s own family and livelihood and not to be aimed at making more money or generating additional jobs in the future. The relatively small number of people to have bought a car also suggests that few miners use the opportunity to launch the extra business of taxi driving, or to let others do it for them.

It should be noted, though, that in the type of economy one finds in rural Mali it is often difficult to distinguish between investments, savings and consumption. The buying of land or construction of houses may be both a mode of saving and a mode of investment. The same applies to animals. As for the buying of private cars, it may be an investment, but it may also simply be a form of consumption.

Nevertheless, we can discern from our survey the following pattern: mine workers spend their salaries first and foremost with the aim of securing the livelihood of their close and extended family. Spending patterns are thus quite traditional, and clearly suggest a relative risk aversion among mine workers: they avoid the risk of losing the money that an investment in a potentially failing business venture could entail; instead, they ‘invest’ in their own future by saving and strengthening their family. The financial ‘streams’ from the mine that go via the workers therefore seem to consolidate existing patterns of spending and investment, rather than to create radically new structures.

We will now broaden our focus beyond the issue of employment, and look at the variety of 'streams' that flow between the mine and the mining firms on the one hand and the local communities on the other, workers and non-workers, in the Sadiola and Sanso municipalities.

## 6. Impact of Sadiola and Morila mines on development

In this chapter we analyse the impact of the Sadiola and Morila mining operations on local development processes. We look at the effects on the areas surrounding the mines of the establishment and running of the mines – on social development, the development of infrastructure and local businesses, and community development.

The chapter has three parts. First we assess the ways in which the local situation changed as a result of the establishment of the two mines. Secondly we examine the development projects that the mining companies have supported in the two areas, and in the third section we explore why and how the firms and their partners decided to support these particular projects.

### 6.1 Socio-economic impact of the establishment of the mines

The introduction of industrial gold mining in Sadiola and Morila contributed towards changing the social and economic situation in the two areas quite dramatically. While some of the effects of the establishment of the mines were seen as positive by the population, in particular the prospects for jobs, the setting-up of the mines also had a number of consequences that were experienced as negative by most local residents. The mining firms' subsequent support to local development projects can be interpreted as an effort to compensate the communities concerned for any harm done as a result of the establishment of the mines. Before we present the projects that the mining firms have supported, we will therefore elaborate on how the establishment of the mines impacted on the Sadiola and Morila communities in the first place.

The launch of industrial gold mining had the following main types of effect: the expropriation of land and displacement of villages; a reduction in agricultural and pastoral activities; environmental hazards; housing bottlenecks; social changes; and unemployment and inflation.

#### 6.1.1 Expropriation of land and displacement of villages

The territory where the mines were set up was not a 'no man's land' at the outset. People lived off the land as agriculturalists and pastoralists, and a number of them had to move to allow the mines to be constructed. Many local residents, sometimes entire villages, were displaced in the process of building the mines. Some people also had their land expropriated. In return for the land the peasants or pastoralists had to give up, they could seek compensation – either from government authorities in Mali, or directly from the mining companies.

To be eligible to get compensation from the state at the time when the two mines were built, the land users needed to have a formal title to the land. In other words, the state would only compensate those land users who were registered as such. In 2002 this was changed, as Mali's National Assembly adopted new legislation<sup>22</sup> which also entitled those who had not registered their land to compensation if their land were to be expropriated. But for Sadiola and Morila residents this did not make any difference, given that these new customary rights were introduced after the two mines

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<sup>22</sup> To Mali's new land law of 2000, a regulation was added (N 00-027/P-RM dated 22 March 2000) which in 2002 was amended and adopted by the National Assembly as law N 02-008. It is this 2002 regulation that stipulates the existence of collective and individual customary rights on non-registered land in Mali.

were established – in 1996 and 2000 respectively – and thus after the process of expropriation and compensation had been completed in their areas.

In Sadiola and Morila, therefore, only the minority of people who had a legal title to the land would be eligible for state compensation for expropriated land. The majority of agriculturalists and pastoralists who had not registered their land before the advent of the mines could only seek compensation directly from the mining companies.

In both areas the companies negotiated directly with the villagers on what they could get in return for giving away their land. According to company officials this process was ‘fully consultative’ and external consultants were used as mediators. Villagers met by the team felt, however, that the compensation they finally got for the land they had to leave was too small.

The end result in both Sadiola and Morila was that the mining firms gave compensation to land users for the fields, fruit trees, and houses the land users had given up. Compensation was awarded in money and in kind, the latter in the form of new settlements. As for the size of the monetary compensation, our sources suggest that during the talks local representatives had proposed rates for each hectare of field lost of up to CFAF one million. They ended up getting five percent of this: CFAF 50,000 per hectare.

It is also worth noting that after the mining firms had provided the compensation, they registered the land they had acquired and thus obtained property rights to it for the future.

Mining firms and community members evaluated the effects of the establishment of the mines quite differently. In contradiction to the relatively sombre account from local residents, one of the owners of the Semos company in Sadiola, the International Finance Corporation, described the displacement of two villages as Sadiola mine was built as ‘a model for such resettlement’ (IFC 2002). The process included relocation assistance to some 8,000 migrant workers who had helped build the mine. This source does not specify, however, the level of compensation given to local residents who were displaced.

### 6.1.2 Reduction in agricultural and pastoral activities

Another important socio-economic consequence of the establishment of the mines was that the scope for the agricultural and pastoral activities that most local residents used to live by became more restricted. Restrictions resulted directly from the expropriation of land and displacement of villages. These processes reduced the amount of land available for use by local people. Some of the best land was taken by the mines, and to the extent that new land was provided to replace it the new sites were often located far from the villages.

In Sadiola, as a result of the establishment of the mine, agricultural and pastoral activities in the surrounding areas were reduced considerably. Residents of Farbacouta village, for instance, had to go all the way around the big mine site to get to their fields. Another village was displaced to another area of the municipality where the soil was less fertile.

Another problem has been that cattle have sometimes entered the mine site, causing accidents, as a result of which many animals have been killed.<sup>23</sup> Cattle have also been lost in robberies and accidents along the new roads.

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<sup>23</sup> Cattle entered the site in spite of efforts by the mining firms to secure the pit physically. According to Anglogold Ashanti, one of the owners of the mine, the Sadiola site is fenced with diamond mesh fencing, but cattle have been able to



Water has been in short supply in Sadiola, and the issue has generated severe tensions between the mining agencies and the population. At one stage, it provoked a women's march. The communities have not been self-sufficient in food, and in 2003 they were in need of food aid from outside. These difficulties were not only due to the mine, though. They also relate to, inter alia, migration patterns, as migrants come in across the borders with Senegal and Mauritania and spend parts of the year letting their cattle graze on Malian fields. This increase in cattle grazing causes over-exploitation of the little water there is, and it also affects food production.

In Morila, the set-up of the mine also reduced the size of land available for use by local people. Residents of the village of Domba, for instance, reportedly lost 'a hundred' of their fields, among them some of the best. The new fields were located far from the village.<sup>24</sup>

As noted in Chapter 4, commercialised cotton production used to be important in Sanso municipality where Morila is located. Since the mine was established, however, cotton production has gone down. Residents in one village of the municipality, Fingola, said that 'it is the mine which has shattered the cotton cultivation'.

Table 4 provides details of trends related to cotton production in three villages close to the Morila mine at the time when the mine was established (1999-2001), and during its early years of operation (2001-2003/4). The table outlines how much of the land was used for cotton cultivation at the beginning and end of the period. It also indicates how the number of cotton production entities changed over time.

**Table 4. Cotton production trends in villages close to the Morila mine, 1999-2003/4**

<i>Name of village</i>	<i>Name of village area</i>	<i>Change in land surface used for cotton cultivation (in percent)</i>	<i>Change in number of cotton production entities (in percent)</i>
Morila		- 68,4	-66,6
Sanso	Sanso 1	-64,2	-42,2
	Sanso 2	-64,2	-76,0
	Sanso 3	-68,4	-76,0
Fingola	Fingola 1	38,0	00,0
	Fingola 2	-14,0	-14,0

Source: Field data.

Note. The figures are provided for the five-year period from 1999-2003 for some of the village areas, and for the six-year period from 1999-2004 for others.

The data do not cover the production of cotton in the three villages, only how much of the land and how many land entities were used for cotton production.

As a general trend, both the land area used for cotton and the number of cotton production entities decreased over time in the three villages. In two of them, both the land surface used for cotton and cotton-producing entities dropped by approximately two thirds during the period in question. In the third village the picture was more mixed: in one part of the village there was a downward trend while in another part more, and not less, land was used to grow cotton. The number of cotton-producing entities remained stable however.

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get in because parts of this fence have been stolen, or cut to allow bicycle and foot traffic to shortcut across the operational area.

<sup>24</sup> We do not have information about the area of the fields lost to the Domba villagers.

The overall picture is still one of decline in land area and land entities used for cotton production in the area around the Morila mine. We do not know whether cotton production has also gone down, but if we assume that the productivity of the smaller land area which was still used to produce cotton has not increased, then the decline in land area and entities used for cotton also imply that the production of cotton has gone down in the area.

During the same period, cotton production did not drop in Mali as a whole. In 1999/2000 459 tonnes of cotton were produced in the country and in 2003/2004 as much as 613 tonnes (EIU 2005a). In fact, Mali today ranks as Africa's second biggest cotton producer, only surpassed by Egypt (EIU 2005a: 26). EIU (2004: 24) ascribes the high level of cotton production in Mali in recent years to 'good weather, adequate rainfall, an absence of insects, and an increase in the ... [cotton] price'. The reasons why cotton production went down in the Morila area are hence likely to relate in large measure to the establishment of the gold mine. We did not investigate the particular reasons for cotton's decline in Sanso municipality during our fieldwork.

### 6.1.3 Environmental hazards

A third result of the establishment of the two mines was that the natural environment in the areas concerned was negatively affected, and, as a consequence, the people who depend on it. The mines caused deforestation as the trees that were already in the concession area were removed when the mines were built, and because of the over-exploitation of wood during the operations phase. Some of the fauna disappeared due to poisonous dust which, according to local residents, came from industrial operations at the mines. Another problem was the possibility of contamination by cyanide and other liquids that would mix with surface water and hence pose a danger for both humans and animals. The liquids have also affected the quality of the grazing fields. A shortage of water was also a result of the environmental degradation partly caused by the mines, which reduced the number of water sources safe for exploitation.<sup>25</sup>

Civil society organisations in Mali and abroad have been concerned about the environmental impact of gold mining in Mali and that of the Sadiola mine in particular. One example is the work done in 2002-2003 by representatives of Friends of the Earth and of an association of Sadiola emigrants in France (*Association des ressortissants de la Commune de Sadiola en France*), who did a joint investigation of conditions in Sadiola and published a report on the situation there (Godinot and Gibert 2003). The report documents health problems among mine workers and community members as well as the degradation of wildlife in the area.

### 6.1.4 Housing bottlenecks

The establishment of the two mines also put pressure on the housing situation in the two areas. While our data on this mainly describe the situation of the mine workers, the scope of the problems that even this relatively privileged group faced suggests that housing is also likely to have posed a problem for those local people who were not directly or indirectly employed by the mining operation.

In Sadiola, at the time of our fieldwork at least 200 workers (out of roughly 1,300, most of them migrants) did not have any accommodation. The place where most workers stayed was a camp built by the mine, but this camp was considered to be too close to the mine and was thus going to be moved further away. The workers who had arrived most recently were among those who had nowhere to stay. Some workers considered building their own houses, but were concerned about

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<sup>25</sup> For more details about the environmental impact of one of the mines, Sadiola, see Godinot and Gibert (2003: 47ff).

possible losses, since the house would probably outlive the mine, and since they could not be sure how long they would be able to stay there or how long the mine would last.

In Morila, most workers lived in poor conditions in Sanso village, at some distance from the mine site. Company officials met by the team argued that they did not give priority to building accommodation for the workers, since they were not sure how long the mine would last.

### 6.1.5 Social changes

Social relations and conditions in Sadiola and Sanso have also been deeply affected by the arrival of the gold mining industry. On a positive note, it has become more common for parents to send their children to school, as we elaborate on in our case study on education in section 6.2. Social changes perceived as negative were also experienced, however. These included the splitting up of households under the influence of wage labour (including for reasons of migration, in particular of young people); the erosion of solidarity links within the community; greater insecurity due to cattle robbery, banditry, and road accidents; the rise of prostitution, alcoholism and the use of narcotic drugs; and the spread of HIV/AIDS and other sexually transmittable diseases.

These developments are not only due to the mines, however, but are also part of larger processes of 'modernisation' that any 'traditional' society undergoes in our age of globalisation. Nevertheless, it is probable that the establishment of the mines speeded up these processes in the two areas, and perhaps added greater complexity and unpredictability to 'modernisation' than otherwise would have been the case.

It is also worth noting that both Sadiola and Mali's First Region, where it is located, have historically seen far more emigration and diaspora activism than have Morila and the Third Region of Mali. Such encounters with the outside world have probably had an impact on Sadiola's 'modernisation' processes that was at least as important as the advent of gold mining. Morila, on the other hand, has had less recent historical experience of encounter with the Western, capitalist world. Its traditions of cotton production oriented the area more towards the south of Mali and the rest of West Africa, while Sadiola in the west of Mali was part of the Senegal valley, from where emigration to Europe has longstanding traditions. Morila has also undergone a far more rapid transformation of its society than has Sadiola, since mining output in Morila has been absolutely extraordinary, even from a global perspective – in the course of only some five years. These differences help explain why gold mining seems to have caused greater social change and tension in Morila than in Sadiola.

### 6.1.6 Inflation and changed employment dynamics

Two final effects of the establishment of the mines were inflation and changes in local employment patterns.

The setting-up of the Sadiola and Morila mines caused prices to rise considerably in the two areas. While consumer price inflation in Mali has fluctuated in recent years and 2004 even saw a deflation (EIU 2005b), fieldwork data suggest that inflation has remained relatively high in mining areas. To be able to purchase goods and services at increasing prices wage labour, for instance in the form of a mine job, was clearly the most attractive option.

This brings us to how the mines affected employment levels and patterns. As noted in Chapter 5, a number of jobs were created as a result of the establishment of the mines: as miners, petty traders, housemaids, and sex workers. Other new opportunities included the renting out of rooms for accommodation, and taxi and bus driving. New teaching jobs were also created, as well as jobs

related to the construction of schools and other public works set up as a result of the mining firms' investments or local contributions. On the other hand, other ways of making a living were rendered more difficult for Sanso and Sadiola residents – due to land expropriation, displacement, and/or environmental degradation. Agriculture and pastoralism, including the traditionally important cotton cultivation in the Morila area, became particularly hard to pursue. The option of supplementing one's income by means of artisanal gold mining, moreover, was blocked since manual gold mining is prohibited in concession areas for the industrial exploitation of gold (Walker 1999: 2).

We do not have quantitative data to reach a conclusion on whether the number of jobs created outweighs the number of jobs lost, or vice versa, in the two areas. Our interviews with local residents clearly suggest, however, that it had become more difficult to make a living after the mines were established. From a comparative perspective, a stronger frustration seemed to prevail with regard to employment in Sadiola and Morila than in e.g. communities close to newly established mines in Tanzania (Lange and Musonda 2005). While unemployment rates are uncertain, we can therefore conclude that the combination of inflation and radical changes in the local labour market seems to have made it more difficult to make a living for the bulk of the population who did not benefit directly from the mine jobs as employees or dependants.

It is with the background of all these factors introduced above that the mining companies have given priority to accommodating some of the needs and wishes of the local population. They have supported training, business and infrastructure development, and social and community development. We now take a closer look at these activities.

## 6.2 Mine-induced local development projects

### 6.2.1 Introduction

Compared with the three other main stakeholders – the Malian authorities, workers, and communities surrounding the mines – it is the mining firms that seem to have gained the most from the gold mines. Although we do not have figures that specify the profits the companies have made from Mali's gold, the differences between the total value of the gold exported and the amount received by the Malian state, workers and communities suggest a large margin that is likely to have accrued to the companies – to cover operating costs and provide profit to shareholders. The average value of the gold exported from 1998-2003, USD 383 million, thus stands in contrast with the average GoM income from gold mining in terms of taxes, customs, royalties and dividends from 1994-2004, USD 57 million per year – only 15 percent of the gold value. As we elaborate on in Chapter 7, some of the value of the gold exports also went to workers and local communities, but this is less than ten percent of GoM revenues.

Assuming a 10 percent share, we estimate that approximately USD  $(57+6=)$  63 million of the gold's value every year, on average, went to the three Malian stakeholders and the rest, USD  $(383-63=)$  320 million, to the mining firms. While some of this income will have been spent on covering operating costs (other than salaries), the low operating costs in mines such as Morila suggest that a substantial part of the more than USD 300 million earned annually will have been kept by the companies as profit. The fact that the mining companies enjoyed tax exemption during the first three years of production before 2003 also strengthens the likelihood of major windfalls. While in the absence of the exact profit figures from the firms we cannot reach a conclusion on the relative income accruing to companies compared to that going to the GoM, workers, and communities, we can with reasonable certainty state that the companies have made very significant gains – gains that at least compare, and probably favourably so, with those accruing to Mali's state. The fact that the

firms obtained property rights to very valuable land, in addition to the financial income, is also significant in a longer-term historical analysis of the winners and losers in Mali's gold rush.

As for the benefit streams to local communities, evidence presented so far in this chapter suggests that the people in the two areas who have no mine or mine-related jobs, and who do not receive transfers from miners, today live an economically and physically less secure life than they did before the mining era started. Many had their land expropriated and received an apparently modest sum in compensation; many had to move and found it difficult to access their old fields or to use the new fields given to them; and many saw the land they used degrading under pressure from environmental decay and water shortages partly caused by the mine. While land use became more difficult, the option of artisanal mining was also blocked; inflation made wage labour more important; and at the same time social relations were affected due to inward and outward migration, prostitution, drug use, and new diseases.

The flip side of this coin is, however, the new jobs and dynamism infused into the local communities, and other positive consequences in terms of higher school enrolment, new skills and opportunities, and, not least, the development initiatives to be presented in this chapter. It is thus difficult to reach a conclusion on an overall balance sheet between the positive and negative changes for the local communities surrounding the mines. However, we should not underestimate the impression our fieldwork left us with, of the sentiments among not only local residents who did not necessarily benefit from the mines but also among the mine workers: that of frustration and also sometimes resentment against the mining operation, due to the effects of the mines that some workers and community members felt had worsened their life situation. It should be noted that our fieldwork was conducted at a time of tension between workers and the mines' management, as strikes and even a court case had occurred just prior to our visit. It may thus be that our impressions, based on talking with the same broad range of people, would have been more positive had we met the communities at a calmer time. However, the fact that these conflicts occurred may also be indicative of the controversy that mining activities had stirred locally.

In more concrete terms, though, the exact proportion of people who have become more vulnerable in the two areas as a result of the gold industry is difficult to establish. As noted earlier, some 8,000 people are likely to benefit from each mine as employees or dependants. Still, only a few of the workers come from the municipalities where the two mines are located; hence many of those who receive remittances live elsewhere. Therefore, the share of people who benefit from mine-related jobs probably represents a minority in both Sadiola municipality, which has some 20,000 inhabitants, and in Sanso with a few more than 10,000.

Our fieldwork data thus suggest that many local residents felt they had received less than their 'fair share' of the gold's benefits. They therefore demanded further and different types of compensation than the compensation they had received in return for expropriated land.

People who had been displaced or had had their land expropriated often mentioned a tacit 'contract' which was to have been concluded with the teams that had assessed the future impact of the mine. This 'contract' had assumedly consisted of a promise that expropriation and displacement would be countered with compensation in the form of employment during the construction phase, and of training of locals so that they could acquire the skills required to get jobs during the operational phase. Locals even said that this 'contract' had specified that the mine would hire 70 percent of its workers from the local communities during construction and 30 percent during the production phase. While community members spoke a great deal about this 'contract' and the promises embedded in it, during fieldwork we found no valid evidence that any such contract had been concluded. Nor was the existence of any such contract confirmed by the mining firms. It was therefore not possible for the team to verify whether such a contract existed.

A second form of compensation mentioned by local residents was development projects, on which far more data exist. Below we present the spectrum of development activities established and/or backed by the firms in the two areas, including training or capacity-building activities. We quantify the financial size of these projects, and finally present a case study of how the mines have affected the education sector in the two areas.

## 6.2.2 Development initiatives supported by the mining companies

### 6.2.2.1 Sadiola

In Sadiola a number of local development activities were supported by Semos, the operating company of the mine. Table 5 provides an overview of these initiatives, as well as estimates of the financial size of each project. To classify the various projects we use the World Bank's template for assessing benefit streams from mining (World Bank 2005) as our point of departure. The template classifies development projects in the following categories: physical infrastructure, education, health, local enterprise development, and community development. In the table we add three more categories on which our source provides information, namely: agricultural activities, training, and 'other'.

**Table 5. Development projects in the Sadiola area financed by Semos Development Fund**

<i>Area</i>	<i>Project (if specified)</i>	<i>Amount (in million CFAF)</i>	<i>Proportion of total (in percent)</i>
Infrastructure (roads, utilities)	Drinking water	241	29.6
	Other infrastructure	51	6.2
Education	-	239	29.4
Health	-	56	6.9
Local enterprise development	-	-	-
Community development	Donations	94	11.5
	Public consultations	70	8.6
Agricultural and pastoral activities	Agricultural activities	12	1.5
Other		2	0.025
Training/capacity-building		49	6.0
<i>Total</i>		<i>814</i>	<i>100</i>

Source: Iamgold and AngloGold (2004)

Note 1. In their presentation the companies add another 3.3 billion CFAF said to be used for 'village relocations'. As this relocation concerns two villages that had to be moved to construct the mine site, we do not consider this activity to be a 'community development' activity and have therefore excluded it from this table.

Note 2. While this source suggests that no resources were allocated to local enterprise development, according to AngloGold officials Semos has supported projects for this purpose, e.g. a micro-credit scheme, apparently under a different budget from that of Semos's Development Fund reflected here.

As the table shows, Semos's Development Fund had supported development initiatives with a total amount of CFAF 814 million by May 2004. Using the average exchange rate for the period 1999-2003, 667.8 CFAF/USD, the contribution from Semos corresponds to approximately USD 1.22 million. Our source does not specify the exact timing of the contributions, but we assume that they represent Semos' total funding of development projects for the duration of the mining operation up to 2004, i.e. for the eight-year lifetime of the mine up to that point (from and including 1996 up to

and including 2003). This implies an annual average contribution by Semos of approximately USD 152,500 USD, or roughly USD 12,700 per month.<sup>26</sup>

More than half of Semos's input was given to drinking water and education. The third biggest budget post is 'donations'; few data were found on what this consisted of, however.

Semos spent 6 percent of its contribution, CFAF 49 million or approximately USD 73,000, in training mine workers – e.g. to get the skills required to conduct certain tasks at the mine. The mayor of Sadiola had his views on why such relatively low priority was given to training:

'To produce a lot in a short time and at low cost, such is the logic of the mine. It does not want to lose time training people when skilled labour already exists on the market'.

While Table 5 does not provide data about initiatives to protect the environment, according to AngloGold officials Semos funded this as well but under another budget; as an operating expense.

One such environmental initiative was to help local people in various villages of the Sadiola municipality to plant and grow mango trees. Semos financed the provision of information about how to cultivate the trees, and the provision of the saplings. Sources differ on how the project evolved, however. According to AngloGold officials, the villagers were 'fully consulted' by ASERNI, a Malian NGO, as well as by mine officials, before they were given the saplings. The mayor of Sadiola, on the other hand, argued that the villagers who received the saplings had received 'no information' about how to treat the plants. That the information they got may at least have been incomplete is likely, since the end result of the project was that all the trees died due to lack of water, according to the mayor. In his view, it is questionable whether there was a need for the mango trees at the outset: 'I don't understand how one can ask for a mango tree and then not bother to take care of it'. Company officials, on the other hand, argued that 'villagers saw mango trees as an easy cash crop'. The team was not able to question villagers who had participated in this project to get further details.

Semos has also sought to support initiatives to diversify the local economy and help people get jobs and alternative sources of income. A first such local enterprise in which development projects aimed at enabling local residents to engage was artisanal mining of gold. But after Semos had started this project it soon had to make a U-turn, since Malian law forbids the manual extraction of gold in areas that are part of a concession for industrial exploitation.

After the artisanal mining project ceased, Semos identified another project to stimulate local business life, namely a micro-credit initiative. The 'bank' for the small loans provided was managed by the Development Fund of Semos (on which we elaborate in section 6.3 below). Fifteen villages benefited from the scheme, and from 1999-2003 85 persons received a small loan to start a business or set up a small or medium-sized enterprise. Approximately CFAF 42.5 million was lent out, and by the time of our fieldwork in 2004 a little less than one third of the loans, approximately CFAF 14.3 million, had been paid back. The micro-credit project seems to have helped diversify the local economy and generate alternative sources of income for local residents. Representatives of the

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<sup>26</sup> IFC, one of the owners of Semos, provides a lower estimate for the monthly average contribution, namely USD 5,000 (IFC 2002). The discrepancy may derive from several factors: (a) that Semos's contribution has increased in recent years, as our source is more recent; (b) exchange rate differences; and/or (c) the fact that the IFC average only reflects 'small agricultural projects, training, capacity-building, and micro credit' – a narrower range of projects than those listed in our table.

Development Fund said they planned to give priority to more local business development in the future, and to agricultural and training projects.

#### 6.2.2.2 Morila

As for the development projects supported by the operating company at the Morila mine, Morila SA, our qualitative data are weaker than in Sadiola's case, but the quantitative data are stronger. Table 6 gives an overview of what activities Morila SA funded in the areas close to the mine during the first four years after the mine opened. The table adopts the same categorisation of projects as Table 5, and adds the category of 'environmental protection', as information was provided about the amounts allocated for this purpose too.

**Table 6. Development projects in the Morila mine area funded by Morila SA, 2001-2004**

<i>Area</i>	<i>Project (if specified)</i>	<i>Amount (in US\$)</i>
Physical infrastructure	Construction of infrastructure (bridges, administrative buildings, electrification, fences) Provision of equipment (furniture, mills, etc.)	359,595
Education	Construction of 15 classrooms, 16 latrines and five managers' homes in four villages in 2001 Payment of salary to ten teachers Purchase of school furniture Organisation of school exams	30,117
Health	Purchase of medicine for the health centre in Domba, In 2002 and 2003	15,434
	Digging of 12 pits in three villages (of which ten in Domba) in 2001	60,504
	Water project in Sanso village in 2003	17,323
	14 drills, of which 13 in Domba	76,000
Local business development	-	-
Community development	Construction of mosques Electrification of villages Financing of sports activities, parties, and funerals	311,505
Agricultural and pastoral activities	Feasibility study on the building of vegetable gardens and of and paddy fields	30,000
	Popularisation of selected seeds	117
Environmental protection	Purification of Sanso village Construction of a garbage dump Building of systems to regulate rain water	4,131
Training	-	-
<i>Total</i>		<i>1,192,114</i>

Note. The grand total does not correspond to the sum of the amounts in the table. This is because we do not have complete figures for all single projects. We were, however, given a grand total, including also those amounts for which we were not given details. We are not aware of the exchange rate used to calculate the USD amounts.

The total amount that Morila SA contributed, USD 1.2 million, is approximately the same as that contributed by Semos in Sadiola. However, the average contribution per year is significantly higher in Morila, as the 1.2 million sum was distributed over a four-year period only. This implies an annual average of development funding by Morila SA of approximately USD 300,000, which represents approximately double the USD 152,500 annual average for Semos.

As Table 6 shows, most of the development funds from Morila SA have been allocated to the building of physical infrastructure and to community development, including the electrification of



public buildings and villages. Priority has also been given to the provision of drinking water. Compared to Semos in Sadiola, Morila SA paid relatively less attention to the education sector but more to the provision of physical infrastructure.

Comparing these figures with the socio-economic situation outlined in Chapter 4 for Sanso municipality, we find that the investment in drinking water seems to have paid off. Sanso ranks almost at the level of the average for Mali's rural municipalities in this dimension, in spite of the pressure that the running of the mine puts on the water locally. Morila's substantial funding of health projects can also be said to match the favourable score Sanso municipality gets on the health indicator. As we return to below, however, the company's allocation to education appears insufficient, inasmuch as the municipality, while ranking above the average for rural municipalities, still has a far lower rate of secondary to primary schools than, for instance, Sadiola.

Some of the projects listed in Table 6 had not yet been implemented at the time of our fieldwork, e.g. the building of a library and the setting up of vegetable gardens, as well as the digging of paddy fields.

But one project which is not listed in the table was well underway. This was a project which aimed at promoting transparency in local government, and the stabilisation of commodity prices. It was centred on a so-called 'primary commodity bank' (*banque de céréale*) in Sanso municipality, managed by the municipal council. At the end of each year the council would publish the balance sheet of this bank. The running of the bank and the openness about its affairs had in turn contributed towards curbing local increases in primary commodity prices. In the light of the local inflation pressures outlined earlier, this is clearly a positive achievement.

### 6.2.3 Education case study

Having gained an idea of the level of support to development projects by the two operating companies, as well as the content and distribution of that support, we now take a closer look at the education sector. In this area the impact of both the establishment of the mines and of the subsequent initiatives taken by the firms during the operations phase has been strongly felt.

#### 6.2.3.1 Sadiola<sup>27</sup>

According to CIA (2005), 47 percent of Mali's population is below 15 years of age. Out of Sadiola municipality's more than 21,000 inhabitants at least one third, i.e. around 7,000 persons, can be therefore be expected to be of school age.

At the time of our visit the municipality had a total of 16 schools. Only three of those covered both the primary level of the first six years and the secondary level of the ensuing three years. One other school had a complete six-year cycle, while the 12 remaining schools gave a more limited offering of either two, three, or four years of primary schooling only.

Some of the schools have been built 'by the mine' as locals said, i.e. with the financial and logistical support from the Development Fund of Semos. As noted above, Semos contributed approximately CFAF 239 million to education between 1996 and 2004, that is, roughly 358,000 USD (at an exchange rate of 668 CFAF/USD). Another source suggested that Semos's total contribution to education amounted to USD 527,998. A reasonable estimate is therefore that Semos put slightly less

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<sup>27</sup> Since the teachers of Sadiola municipality were on holiday during our fieldwork our main source of information was the mayor, who had previously been a teacher as well as the head of administration.

than half a million USD into education during the eight-year period from 1996 to 2004, or some USD 60,000 on average per year.

The funding from Semos was spent in setting up one of the three existing complete nine-year cycles, primarily to cater for the children of its own mine employees. Semos funding also went to add the secondary level to one of Sadiola's other primary schools.

These investments had, however, apparently not removed important infrastructural bottlenecks in the school system. One problem was the high number of pupils per class. At two schools in Sadiola village, each first-year class had more than 100 pupils. Another problem for local people was school fees. At the time of our visit, the bus which transported the children from the mine to the school was due to be taken off service in 2005, which in turn was likely to cause an increase in the school fees. Moreover, several of the 16 schools in the municipality did not have latrines, and some also lacked an adequate management structure.

Nevertheless, on balance the establishment of the Sadiola mine did seem to have a positive impact on the education sector in the municipality. The municipality increased its number of schools to 16 as a result of the coming of the mine. There is also clear evidence that enrolment rates have gone up since the mine was established.

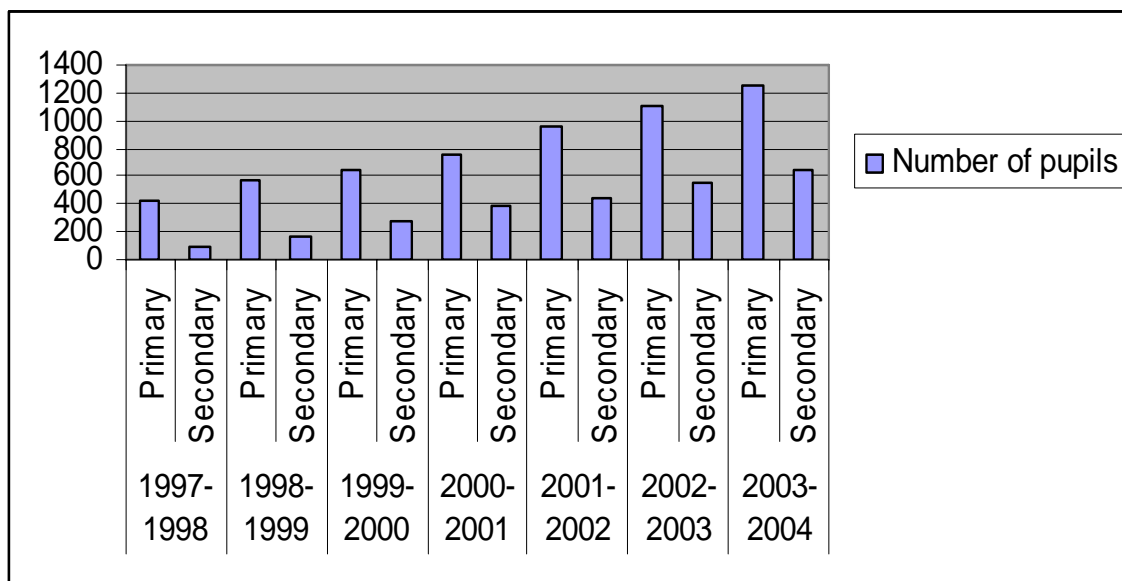
Positive spin-off effects had, however, not yet materialised in the villages more distant from the mine. Sadiola municipality has 46 villages but only 15 of these, one third, had schools.

#### 6.2.3.2 Morila

Sanso municipality started benefiting from education services at a rather late stage of Mali's history. The first school in the area was set up in colonial times in Domba village. In the 1970s, an additional six-year primary cycle was installed, while a secondary school was introduced only in the 1980s. Today there is a larger number of schools in Sanso. During our visit to the municipality we met with primary and secondary school teachers in Sanso, Domba, Morila, and Fingola villages.

The case of Sanso village illustrates both some of the merits and some of the problems that the mine has contributed to in the education sector. Sanso is the main village of the municipality, and it hosts many of the workers at the Morila mine. In 2000, when the mine was built, more than 4,000 people lived in Sanso, an increase from approximately 2,000 in 1987. It is likely that the population has further increased since 2000, given the extraordinary gold mining output at Morila. Assuming that at least one third of the population is of school age (on the basis of the estimate of 47 percent of Malians are younger than 15 years old), we can assume that Sanso village had approximately 1,300 children of school age in 2000.

Even so, at the time of our fieldwork the village still only had one school. This school, which had both a primary and secondary level, has experienced a dramatic increase in pupil numbers in recent years. In less than a decade, in fact, the number of pupils almost quadrupled, from 514 in 1997/1998 to 1,901 in 2003/2004. At the time of our visit, it was predicted that the number would increase further to reach 2,500 in the school year of 2004/2005. Figure 7 illustrates this steep increase in school children in Sanso village between 1997 and 2004.

**Figure 7. Number of school-attending children in Sanso village, Mali, 1997-2004**

Source: Fieldwork data.

It is clearly positive that a growing number of children went to school in the area. However, the virtual explosion in pupil numbers posed serious challenges in terms of infrastructure and human resources. One problem was, as in Sadiola, the high number of pupils per class. Some primary school classes in Sanso had as many as 200 pupils at the time of our fieldwork.

The support of the Morila operating company in this critical situation seems to have been inadequate, at least at first. Morila SA initially constructed three classrooms for the primary school level, but this did not even cater for the increase caused by the children of the mine workers. In addition to the miners' children, others came to Sanso from neighbouring villages without schools.

A more positive impression of the company's contribution can, however, be read from Table 6 in the previous section. It shows that Morila SA allocated more than USD 30,000 for education purposes between 2001 and 2004, or USD 7,500 per year. Compared to the USD 60,000 that Semos gave on average per year to education, however, this is much more modest.

According to the table, funding from Morila SA to local education resulted in the following:

- Building of 15 classrooms, 16 latrines, and 5 homes for managers;
- Payment of salary to 10 teachers;
- Purchase of furniture for the schools; and
- Organisation of school exams.

While Morila only built three classrooms at first, it seems that it made a far greater effort to respond to the critical school situation in a later phase after the mine was established. The 15 classrooms that were built with funding from Morila SA constituted new primary schools; and both setting-up and running costs, including teacher salaries, were covered by the company.

An important problem, however, was that the company did not get the required authorisation to build some of the schools. According to local teachers met by the team the CAP (*Centre d'animation pédagogique*), a regional authorisation body based in Koumantou, had not been

informed that schools were being constructed with company funding in the villages of Fingola and Morila. CAP had in the end therefore not recognised the new schools. If a primary school is not officially recognised in Mali, the pupils will not be allowed to take the exams required to go on to the secondary school level.

Evidence suggests that the main reason why the company did not seek formal authorisation was disagreement about who should cover the fees to get it. In meetings with the team, the mayor of Sanso municipality raised the question as to who should take responsibility for covering the registration fees. In response, Samba Touré, General Manager of Morila SA, argued that:

‘By constructing the schools, by providing furniture and equipment to the pupils and paying the salary to the teachers, Morila SA has already done what needs to be done. Other partners need to take over. The education budget of the mayor should cover such costs. Morila SA has started to pay taxes and its resources are no longer like before, which, as a result, reduces its capacity to spend’.

While the legal status of the schools built was problematic, the massive influx of school children certainly had a positive impact on enrolment rates in Sanso municipality. Indeed, the establishment of the mines in both Sadiola and Sanso was accompanied by a significant growth in the number of children going to school. An important reason why more parents sent their children to school was, apparently, that they thought the children would need to get skills and education to qualify for a mine job in the future. Another reason was that rules for registering children to go to school had been relaxed.

Evidence from Sanso further suggests that not only enrolment rates, but also success rates had improved. In Sanso village, at secondary school level 65 percent of the pupils passed the final exam, as opposed to 48 percent on average. In addition, at primary school level 85 percent of the pupils passed their final test, which was far better than the national average result. The teachers in Sanso attributed this performance to the fact that the courses they offer are fee-based and of high quality.

As in Sadiola, however, the more distant villages in the municipality were still deprived of the offer of a school. In Sanso, moreover, reluctance was also reported among the villagers to send their children to what some called the ‘school of the whites’.

While the Morila operating company did contribute significantly to the improvement of educational standards in the area, the contributions remained insufficient to meet the demand. Pupil numbers per class reaching 200 in some cases clearly bears witness to a critical school situation. Who should be in charge of improving the situation, however?

The debate between Morila SA and the municipal authorities in Sanso on who should cover the registration fees for the new schools parallels a larger debate on whose responsibility it should be to meet the growing demand for social services in communities affected by mining. Part of the growing demand for such services will be a direct result of the setting up of the mine. But the question is: how much of the burden of covering the costs of meeting that demand should be carried by the mining company – and how much by the municipality? And how much should the company contribute directly to the local community in the form of e.g. educational buildings and services; and how much indirectly as taxes to state authorities so that they, in turn, can take charge of building the welfare system?

These are questions we return to in Chapter 7, but first we examine how decisions were made on what development projects to select.

## 6.3 Selection of projects

In this final part of the chapter we assess why some development projects were supported by the mining firms and others not. We outline how decisions were made, who was involved, and how relations between the different groups evolved in the process.

### 6.3.1 Sadiola

*Regional-level pilot committee.* When the mine was constructed in Sadiola in the mid-1990s, a ‘pilot committee’ was put in place under the auspices of the governor of the region. The committee was tasked with overseeing the displacement of the population needed for the mine to be built. It included urban technicians, administrators from the regional capital, and representatives of state authorities, of Semos, and of the population in Sadiola municipality. While Sadiola mine opened in 1996, the pilot committee was only dissolved in 1999.

*Circle-level development committee.* A committee to address the issue of local development in the Sadiola area was also set up. While the pilot committee was established at regional level, this development committee was introduced at the level between the region and the municipality, which in Mali is called ‘circle’ (*cercle*). The committee comprised the head of administration (*sous-préfet*) in the Kayes circle, of which Sadiola is part, and his technical experts. Sadiola village was represented by one person. The task of the committee was to decide on the development actions to be taken in the mining area. However, since it was based in the town of Kayes, which is at a relative distance from Sadiola, and with only one representative from Sadiola on board, this committee was not close enough to the communities concerned to design and implement projects. It did, however, start to identify some of the needs in the Sadiola area that development initiatives should respond to.

*Municipal-level community development association.* Partly as a result of the shortcomings of the circle-level development committee, the Sadiola mining company, Semos, set up the ‘Semos association for community development’ (*L’association Semos pour le développement communautaire*). The association is headed by an administrative council, which was presided over by the Executive Director (*directeur général*) of the mine, assisted by managers of the mine’s departments of operations and environment. The council also included the mayor of Sadiola, as well as a delegate from an international organisation. Neither the head of the local administration in the municipality (*maire*) nor the local communities were thus directly represented in the association.<sup>28</sup>

The community development association also had one coordinator and two animators deployed in villages in Sadiola municipality.

The association managed a fund for community development projects of USD 5,000 on average per month. It is the contributions of this Semos Development Fund that were listed in Table 5 above. As noted there, the average contribution by the Development Fund up to 2004 was roughly USD 16,700 per month, i.e. much higher than the USD 5,000 monthly amount suggested here. We did not have the opportunity to inquire into the reasons for this discrepancy.

In addition to the administrative council, village coordinator and animators, and the development fund, the Semos community development association also had a working group and a commission mandated to evaluate supported projects. Financial management was left to Semos’s Executive Director.

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<sup>28</sup> AngloGold officials later informed the team that from the second half of 2004 onwards, the situation had changed, as a ‘stakeholder committee’ was established, apparently with the involvement of community delegates. In the following, however, we describe the situation as we found it when visiting the area in 2004.

If the local communities were not directly represented in the administrative council of the association, the mayor was seen as their indirect representative. All the project proposals went through him, and he gave Semos advice on which initiatives to support and which to refuse. Together with the Executive Director, he also produced the necessary papers to release funds to realise the selected projects. The mayor was thus at the heart of the financial network, while community members did not have their own separate representatives on board. Possibly as a result of this, the projects, according to local residents, were initiated without their being consulted – they were ‘given’ to them as *faits accomplis*.

Yet local people certainly had strong opinions on where the money should go. For instance, those who used to live in the villages that were displaced first said that the monthly USD 5,000 ‘belonged to them’. In their view this was a clause of the previously mentioned ‘contract’ concluded between them and Semos when they were displaced, a clause intended to compensate for their loss of land. They further accused the regional governor of not having followed this up. The governor, for his part, maintained that there was no written proof of the claims of the displaced villagers.

The deprived population also accused the mayor of Sadiola of siphoning off ‘their’ money for his own benefit. Facing these allegations, the mayor at one stage had to ask the Executive Director of Semos to clarify the situation, more specifically to highlight the fact that while the mayor did influence the decision-making, he played no role in executing the projects.

The channelling of the community development funds clearly stirred strife among the local people who had been excluded from the association. What is perhaps more notable is that the mayor, despite his powerful position, was not entirely positive about the way in which development project decision-making was organised, either. He noted, for instance, that ‘the mine has realised projects of which the costs are not known to the municipality’. He confirmed that the mining firm tended to make decisions that impacted on the citizens without consulting them, but also emphasised that in some cases he had himself, as mayor, not been consulted either. When three secondary school classrooms were constructed in 2003, for instance, Semos had negotiated directly with the parents’ association and apparently not involved the mayor.

As for the local population, the mayor suggested that they may be too optimistic in believing that they have a right to money from the company. He also pointed out that Semos had been responsible for some tangible achievements in the villages, key among them being the increase in the number of schools in the municipality from 6 when he became mayor to 16 in 2004.

*Diaspora activism.* A group which is also worth mentioning when analysing the decision-making processes affecting Sadiola’s development projects is the Sadiola people living elsewhere – in Bamako, or abroad. The most powerful such group is a France-based association of Sadiola emigrants (*L’association des ressortissants de la commune de Sadiola en France*). As noted earlier, it was this association which, together with an international NGO, addressed the detrimental effects of the Sadiola mine on the natural environment of western Mali, as well as other socio-economic effects of the mine (Godinot and Gilbert 2003).

The previously mentioned diaspora association has also taken its own development initiatives in the area, some of which, in fact, nearly match those of Semos in scope and magnitude. The group has paid for equipment for telephone booths in four villages at the request of the village chiefs; set up a medical depot and provided an ambulance; and improved local systems for banking and money transfers. It is a well-organised group, which in turn has provoked reactions from the municipal council as well as from the mayor, who had the following to say:

‘They (the diaspora association) want to be more royalist than the king ... they want to replace the municipality and run everything ... they want to put in the mayor of their choice, and think they control both the population and Semos’.

### 6.3.2 Morila

If tensions were strong in Sadiola over the distribution of the development funds, they seem to have been even more pronounced in Sanso. There, conflicts over how the non-job benefits from the Morila mine should be distributed pitted the following groups against one another:

- Village development committees versus municipal authorities;
- Different local politicians, including their role in the distribution of benefits; and
- Different villages, in particular Sanso versus Domba.<sup>29</sup>

*Villages versus municipality.* When the Morila mine was set up in Sanso municipality, land was expropriated from four villages close to the site: Sanso (4,174 inhabitants), Domba (1,083), Morila (181) and Fingola (320). In order to compensate for any harm done, the Morila SA operating company identified these particular villages as the prime beneficiaries of community development projects. But since the firm therefore related first and foremost to the village groups, these villages’ relations with the municipal authorities soured. The mayor and the head of administration in Sanso felt bypassed by the company, which targeted primarily local development committees in the villages.

*Political family cliques.* The distribution of the financial ‘manna’ exacerbated tensions between not only the village communities and the municipal administration in Sanso municipality, but also the different ‘political families’ in the area. As noted in Chapter 4, the mayor, who was elected in Sanso in 2002, was later ousted by a ‘coup’ within the municipal council, led by his own cousin. Yet before this conflict developed, the first municipal council had spent tax income from the mine to produce some tangible local benefits such as a school, a maternity ward, and agricultural and pastoral projects. The new municipal council had promised to work out a plan for local development, on the basis of a survey of the problems in the communities concerned.

Compared to the situation in Sadiola, where most of the decision-making on how mine funds should support local development took place within the Semos association, it seems that in Morila the municipal council played a more prominent decision-making role. Another difference was that in Sadiola management of the development funds was carried out by the Executive Director of Semos in collaboration with the mayor, and it was channelled out of a special company-established fund set up for this purpose. In Morila, on the other hand, most of the development funding seems to have come from taxes paid by the company to the municipality, and not from a separate fund structure.

*Sanso versus Domba.* The Morila operator company paid development taxes to Sanso municipality. However, this tax payment contributed towards souring Sanso’s relations with its neighbour, Domba municipality. Earlier, Sanso and Domba had been part of the same sub-region (*arrondissement*), but, partly as a result of efforts by Domba diaspora groups to ‘free’ Domba from

<sup>29</sup> As noted in Chapter 5, conflicts also broke out over the employment issue – between workers and their dependants on the one hand and the non-employed people on the other; between the young and the elderly; and between representatives of the state and of the local population. Benefits from jobs on the one hand and from development initiatives on the other certainly fed into one another and together shaped relations between the different groups. Still, we will in this section continue to focus on the impact of the mines on development only, in an effort to isolate the social effects of the development project decision-making processes.

Sanso influence, the sub-region had been split into two municipalities. When gold was discovered in Sanso, however, Domba residents obviously regretted the secession. They would now use the argument that the two municipalities were part of a historical 'union' to justify their claims to qualifying for a share of the benefits from the gold mining industry. Moreover, as noted earlier, Domba village, with more than 1,000 inhabitants, was one of those that were negatively affected by the setting up of the mine, including the land expropriation.

*Villages versus municipality revisited.* Morila SA cut across the dividing line between Sanso and Domba villages by creating a local development committee with representatives of the four most affected villages mentioned above, including Sanso and Domba. From this development committee, however, the mayors were eventually excluded. The mayors had at first been on the committee, but as time went by the community representatives expelled them. The expulsion was based on the argument that 'the management of the community development projects is an affair which concerns the four villages, but not the mayors'.

Interestingly, the decision to expel the mayors was backed by the regional governor, although he too represents the Malian state. The governor transferred the role that the mayors had had into the hands of the village chiefs (*notables*). We will illustrate the tensions that developed between the ex-mayor of Sanso on the one hand and the local development committee on the other with one example.

Reusable waste from the mining operation in Morila was being sold. The income generated from this trade was shared by the trade union of Morila SA and the local development committee. At one stage, however, the previous mayor of Sanso managed to block this income, and thus compelled the two other stakeholders to include him in the decision-making process on how the income was to be spent. From the approximately ten million CFAF that the waste sales had generated by then, the mayor deducted some two million CFAF which according to him were 'for the youth in Sanso'. Sanso's head of administration also tried to deduct some of the amount but was prevented from doing so by the mayor.

Eventually, the members of the local development committee and trade union were effectively prevented from deciding on how to spend most of the money generated by the waste sales. The mayor took a relatively unilateral decision that seven million CFAF from the waste sales should be allocated to buying large volumes of rice in Mali's capital Bamako. The profit generated from selling this rice was put into a fund. The interest on this fund in turn went to buy maize, and to cover the salaries of public officials. It is this fund that we mentioned in the previous section as being the primary commodity bank (*banque de céréale*), an apparently successful project executed by the municipal council, aimed at stabilising local commodity prices and thus countering the rampant inflation in the area.

This story illustrates the fact that different actors in Morila have different ideas and agendas on how the financial benefits generated by the mine should be spent. A continuous struggle goes on in the area between these various stakeholders, who all are fighting to promote their respective ideas and interests. It also illustrates the dilemma as to what actors have the 'right' to decide on the spending of the mine-generated funds for development: municipal authorities, representatives of mine workers, the mining companies, or local communities?

*Inter- and intra-village rivalries.* Among the four villages selected by the Morila mining company to benefit from development projects, rivalry was particularly intense between Morila (which calls itself the 'mother village'), Domba (which used to be the main town of the colonial *canton*), and Sanso (previously the main town of the *arrondissement*). Each uses its historical 'claim to fame' as a bid in the contest for local leadership. Still, the villages did manage to agree on appointing the chief of Sanso village to head a local development committee. Within this committee, however, new



fault lines developed, this time within the villages: between the traditional leaders or chiefs and the other representatives of the local communities. Several non-chief representatives in fact left the committee due to disagreements with their chiefs.

Furthermore, the youth, who were not on the committee at first, demanded representation. The young residents also contested the efficiency of the committee, 'whose elderly and illiterate members are unable to resolve the tiniest problem'. While no women were on the committee either, they seemed less impatient than the young people about getting on board, saying that 'if the men obtain advantages we will benefit as well'.

These examples illustrate core dilemmas involved in managing the non-employment benefits from the mining operations. Key questions include: who should be entitled to decide on how the benefits should be distributed – the local (and partly elected) public authorities; the traditional (and non-elected, yet revered) village leaders; the villages close to the host municipality; the young; the women? How much say should each of these groups have, and what procedures should be followed in cases of disagreement? Last but not least, what role should the management of the mining firm itself play in these processes of decision-making and the execution of the projects it supports?

## 7. Conclusion

In recent years, Mali, one of the world's poorest countries, has risen to become one of the three largest gold producers in Africa – and one of the ten largest in the world. Gold has replaced cotton as the country's main export commodity, and today Mali ranks as one of the world's most gold-dependent economies.

The spectacular rise of industrial gold mining has generated a number of both benefits and problems for Mali, its economy and people. We have in this study analysed how gold mining has impacted on the economic and social situation in the country, both nationally and at the local level of the two most important gold mines, Sadiola and Morila. We have found that industrial gold mining has been a mixed blessing. Some stakeholders have benefited considerably from it, others less; while a number of Malian people in the areas close to the mines have experienced the effects of the 'gold rush' mainly as negative.

In this chapter we summarise our findings on how the setting up and running of the two mines have impacted on the economic and social situation in the local areas, and in Mali as a whole.

### 7.1 Financial benefit streams from the two gold mines

We have looked at various forms of both the positive and the negative effects of the advent of gold mining in Mali. One of the positive effects is the income that industrial gold production has generated at various levels of Mali's society. To quantify these streams of financial benefits from gold mining we identify the three main beneficiaries of the benefit streams, namely:

- The Malian state – which receives taxes, customs and royalties from the mining companies, and dividends as a shareholder in the mining operations;
- The Malian workers and their dependants – who receive salaries from the operator and main contractor companies; and
- The local communities in the mining area – who benefit from development projects.

Table 7 sums up what we have found with regard to the financial benefit streams generated by the two gold mining operations of Sadiola and Morila. We specify how much these two operations have contributed to the three types of beneficiary during the period when the mines have been in operation, up to and including 2003.

**Table 7. Financial benefit streams from the Sadiola and Morila mines (in USD million)**

<i>Beneficiary</i>	<i>Type of contribution</i>	<i>Sadiola 1994-2003</i>	<i>Morila 2001-2003</i>	<i>Total</i>	<i>Proportion of total (in percent)</i>
Government of Mali	Taxes and customs	160.0	79.5	239.5	48.5
	Royalties	66.5	50.8	117.3	23.8
	Dividends	22.7	67.8	90.5	18.3
Malian workers and dependants	Salaries (direct and indirect employment)	31.5	12.2	43.7	8.9
Sadiola and Morila communities	Community development projects	1.2	1.2	2.4	0.5
	<i>Total</i>	<i>281.9</i>	<i>211.5</i>	<i>493.4</i>	<i>100</i>

Sources: AIRD and ENA (2002), Chihota (2005), EIU (2004), Iamgold and Anglogold (2004), Oxfam and FDS (2004), Phillips (2004) and Touré (2004).

Note. We calculate salary levels on the basis of our labour force survey data which, as shown in Chapter 5, indicate that the annual average wage of the mine workers amounted to USD 3,477. In Sadiola, in 2004 the number of Malian workers at the operator and main contractor companies, Semos and LTA, was 1,011. In 2004 the total amount of salary paid was thus USD 3.5 million. In Morila, around 1,290 Malians worked for the operator Morila SA, the main contractor Somadex, and three additional key contracting companies (AMM, Analab and AEL), implying that 2004 salaries amounted to some USD 4.5 million USD in Morila. The total amount paid out in salaries to direct and indirect mine employees was hence approximately USD 8 million. Our other data suggest, however, that both wages and the number of workers have increased over time. We therefore adopt a ten percent lower annual average salary payment for the entire periods in question – of, respectively, USD 3.15 million in Sadiola's case and USD 4.05 million in Morila's. Multiplying these estimates by the number of years when salaries were paid up to and including 2003, we get the figures provided above.

From 1994 to 2003 the foreign companies running the Sadiola and Morila mines contributed almost half a billion USD to the Malian state, the workers, and the communities surrounding the two mines. Over the ten-year period from 1994 to 2003, this means an input of around USD 50 million per year to Malian society. As noted earlier, the average annual contribution of all four mines in Mali from 1994 to 2004 can be estimated at USD 63 million. Hence Sadiola and Morila contributed roughly 80 percent, which is almost in line with their total share of production, 83 percent.

The USD 50 million from Sadiola and Morila and the total USD 63 million from all of the mines per year are clearly important amounts. As we have seen, however, this is not so impressive compared to the USD 364 million that Mali has received annually in recent years as development aid. Gold mining's annual contributions to Malian society are also smaller than the remittances from Malian migrants abroad: in 1995 and 1999, officially registered remittances totalled USD 112 million and 84 million respectively (IOM 2003).

As for the distribution of the financial benefits from gold mining, it is clearly biased in favour of the Government of Mali. The taxes, customs, royalties and dividends Malian authorities receive make up more than 90 percent of the total amount that the mining companies contribute. Most of the remaining share of the benefits stream flows to the workers and their dependants in the form of salaries. Only a comparatively tiny proportion of half a percent goes to the local communities in the form of development projects.

The mining industry thus generates considerable revenue for Mali, but a form of revenue that does not benefit Malians at large as directly as do, for instance, agricultural income or remittances. How much Malian citizens will benefit from the part of the gold income which accrues to the government will, however, depend on the political system in Mali – more specifically, on the ways in which the gold income is distributed, and the quality of the democratic institutions and processes. While these are key issues in understanding the impact of the 91 percent of Mali's gold income that flows via

the government, it is beyond the scope of this study, which deals with the social and economic – and not the political – impacts of gold mining. Further research is hence clearly needed on the political side of the gold rush to paint a more comprehensive picture of how gold mining has changed Malian people's opportunities.

The fact that the central government gets the lion's share of the mining benefits, and that the foreign mining companies have also drawn profits from the two mines, may help explain some of the frustration felt among local stakeholders in the mining areas – municipal authorities, workers, and community members alike – to which we will now turn.

## 7.2 Socio-economic effects of the two mines

The financial benefits generated by the two mining operations are only part of the picture. We have also analysed qualitative data on the advent of industrial gold mining and stakeholders' perceptions of it, focusing on the two municipalities of Sadiola and Sanso, where the mines in question are located. How did the mining operations shape employment patterns, the local economies, development projects, and conflict dynamics?

### 7.2.1 Employment and the local economy

Malian workers' salaries constitute around nine percent of the aggregate contribution of the two mines. Although this may sound meagre, it can be estimated that approximately 8,000 people depend on the wages of the around 2,600 mine workers in the two areas. With a population in the two municipalities concerned of roughly 20,000 and 10,000 respectively, the number of beneficiaries from the wages contribution of the mines is significant.

However, the miners rarely invest their salary income in profit-making businesses for the future. Instead, they commonly spend their surplus revenue on building a house, buying land, and supporting relatives. In a country where three out of four live below the poverty line, such support can clearly help secure livelihoods. In the long run we may expect that the money spent on better housing, nutritious food, education, and health will improve the life situation for the groups in question. On the other hand, gold mining does not seem to give rise to spin-off effects in terms of entrepreneurial activities and a diversification of the local economy. Given that workers rarely invest in other income-generating activities, at the same time that the prospects for agriculture and pastoral activities have turned slimmer, the local economies in the mining areas have become highly dependent on the mines' presence.

The advent of gold mining has caused a substantial increase in Mali's export income and GDP, and has contributed significantly to economic growth in Mali. But mining's effect on economic development thus far seems to have been more limited. It is illustrative that Mali presently ranks as a heavily gold-dependent economy. The income generated by mining has fed into Malian society – its government, workers, and local communities – but these financial streams have not yet contributed much to the diversification of the local economy, nor made Mali's primary commodity-producing economy more resistant to the blows of the global economy.

### 7.2.2 Development projects

In line with a rising awareness of corporate social responsibility concerns and as a response to local reactions against the adverse effects of the establishment of the mines, mining operators in Sadiola and Morila sponsored a number of development projects locally. Yet as Table 7 shows, local development constitutes the smallest contribution of the two mining operations to Malian society.

Nevertheless, at the local level in rural Mali, where physical infrastructure and social services are often poor, even this modest amount has made a positive mark. In national statistics, both of the municipalities where the two mines are located rank among those considered to be 'not poor'. Education has been one area of priority for the mining firms, and both municipalities fare better than the average Malian rural municipality with regard to schooling. Our case studies show that enrolment rates have increased dramatically, but that major challenges remain in building adequate infrastructure to cope with the rising demand.

### 7.2.3 Lines of controversy

The companies' support for development projects notwithstanding, gold mining has entailed a relatively high degree of antagonism in the local communities. Little common ground seems to exist between the different stakeholders in terms of values and rules that should apply to the mining venture. One reason why little common ground exists is that the different groups have conflicting interests over the gold. But another and probably as important reason is the lack of knowledge and understanding that prevails among the various stakeholders – about the others and their values and ways of thinking. There is much confusion and a number of misunderstandings. The combination of conflicting interests and knowledge gaps, in turn, fuels speculation, rumour, and suspicion.

Disputes on mine-related issues have arisen primarily between six kinds of actor, namely:

- the mining companies,
- the mine workers,
- residents of local communities in the mining area,
- traditional leaders of local communities,
- municipal authorities, and
- people from the mining areas living in the diaspora (in Mali's capital or abroad).

The setting up of the two mines spurred disagreements that have criss-crossed these groups and alliances between them have been forged and changed in line with the issue at stake. While various pairs of antagonists could be identified, we will in the following highlight two such pairs, namely: the mining companies versus the local communities, and the mining companies versus the municipal authorities. Below, we outline the main issues on which opposite views were held by these two pairs of antagonists.

Apart from these issues on which positions differed, there were many other effects of mining on the nature of which there was more agreement. For instance, the mines' impact on job creation and school enrolment was quite unanimously felt as positive. By contrast, most would agree that the reduction in scope for agricultural and pastoral activities, environmental degradation, social tensions, housing problems, and inflation would rank among the more adverse effects of gold mining's advent in rural Mali.

### Issues of controversy between mining companies and communities in the mining areas

- Employment of local people

Two thirds of the mine workers come from the region where the mine is located, and the remaining one third of employees from elsewhere, i.e. Mali's capital, Bamako or abroad. Many of the workers from the region, moreover, came from the regional capital – only a relatively small share was recruited from the communities close to the mines. Company officials argued that they needed to recruit from beyond the local area since the required skills were not available locally. They also held that people who came in from the outside would be more motivated to work than locals, who would tend to leave their mine job as soon as they earned enough to do so. Local community members, on the other hand, believed that the mine discriminated against them by not giving them jobs. They felt they had borne the brunt of the negative effects of the mine in terms of, for example, land expropriation, displacement, environmental degradation, and inflation, and wanted wage employment in return. Local residents also argued that the mining company had promised to provide a certain share of the jobs to locals, including after the construction phase, when many more locals had been hired.

- Compensation for land expropriation

As a result of the establishment of the mines, users of the land in the concession area had their land expropriated. Many of these agriculturalists and pastoralists were also displaced. In return, they received compensation from the mining company. Company officials argued that the negotiations process was fully consultative and involved external mediators. Local residents, on the other hand, were dissatisfied with the outcome. They got USD 50,000 per hectare of land lost, as well as compensation in the form of new settlements elsewhere.

- Reduced cotton production

In the area around the Morila mine cotton production has gone down since the mine was established. National cotton production levels, by contrast, have remained relatively stable. Local villagers blamed this on the advent of the mine.

- Role of traditional leaders

When jobs were given out by the mining company, traditional leaders in the local villages were not consulted or asked to accept the appointments made. Company officials would argue that they have to employ people based on merit and to obtain the required skills, and therefore must manage the recruitment process themselves. Local chiefs and villagers, on the other hand, felt that the company sidelined them and undermined the authority of the traditional leaders.

- Involvement of the local community in decision-making on development projects

In Sadiola, the company established a development fund managed by an administrative council to make decisions on what kind of development initiatives to support. The council included the mayor, but no other representative of the local communities. For the mining company, the mayor was the representative of the people, including the local communities. Sadiola residents, on the other hand, argued that the mayor did not necessarily know what projects local communities wanted and needed, and therefore demanded to be represented directly.

### Issue of controversy between mining companies and municipal authorities

- Responsibility for the provision of social services such as education

In Morila, the mining company sponsored the building of new schools, but was reluctant to pay the fee to have the schools registered. As a result of lacking registration, children attending these primary schools were not able to proceed to secondary school level. The company argued that since it was starting to pay taxes to Mali's government, it should be the task of the regional and municipal authorities to meet most of the costs of running the schools – including the registration fee. The municipal authorities, on the other hand, held that it was because of the establishment of the mine that the demand for education had risen and therefore the mining firm should take charge of meeting some of this demand by contributing the bulk of the finances.

- Involvement of the municipal authorities in decision-making on development projects

In Sadiola, the company had once built a new school without consulting the mayor, but instead worked directly with the parents' association. Similarly, in Morila, the company related directly to village associations in the villages that had had some of their land expropriated. In both cases, the company argued that the village residents were the beneficiaries and therefore they related to them to make sure that the initiatives were well tailored. The municipality, on the other hand, said that it, as a representative of Mali's democratically elected government, was in charge of coordinating welfare services and therefore should be consulted first by the company whenever development initiatives were taken.

## 7.3 Closing remarks

In a country where most people live below the poverty line, foreign investment will necessarily entail hopes and expectations that will be hard to fulfil. Conflicts of interest are virtually impossible to avoid, given that the various stakeholders will have differing interests with regard to the mining operations. Given conflicting interests, what is the best way forward to make the benefits from gold mining reach more Malian people?

In our view, a key challenge will be to carve out common ground for the various actors in the mining areas, on the basis of which relations of cooperation can be built and strengthened. To do so, the approach should be as participatory as possible: one that enables and stimulates the different stakeholders to have their say on how the mining operation should be managed, how the positive effects may be optimised and how the negative effects may be reduced.

An open dialogue is a first and very important step towards working out solutions to a number of problems. Such dialogue should also foster efforts from the different sides to understand the thinking and background of the others. From our analysis, it seems that the mining companies in particular would have an interest in developing a more nuanced analysis of the local communities, based on a continuous and broad dialogue with these communities, in order to design efforts that are well tailored to meet their needs. Our analysis suggests that the companies will have a lot to gain from investing more in building internal capacity for relating to the local communities, and in understanding their values and conceptions of right and wrong, as well as their needs and development priorities. A balance will also need to be struck by the companies between working with the communities on the one hand and the municipal authorities on the other. Participatory mechanisms such as the inclusion of villagers in development project decision-making bodies and community dialogue between company officials, municipal representatives, and traditional leaders should be commended. The aim must be to get all the main stakeholders involved in designing a

division of responsibilities and rights in relation to the mining operation that parties can agree on and adhere to.

Beyond the local community dynamics, we have also seen that gold mining more clearly contributes to economic growth than it does to economic development in Mali. The generation of revenue from gold is clearly not enough for a country's economy to develop. More steps will need to be taken to use the gold income to create alternative sources of income and diversify the local and national economy. If moves are made to channel benefit streams from mining more systematically into other income-generating activities, mining will make an economy such as Mali's less lop-sided and thus less vulnerable to the vagaries of the global market.

This study has highlighted a number of questions that also appear to be outside the scope of the local and national communities, or mining companies for that matter, to resolve single-handedly. These are issues of a more ethical and political character, such as: What should the social responsibility of a mining corporation be? For instance, to what extent should a foreign mining firm contribute to the host country's government authorities via the tax bill, and to what extent should it contribute in a more local and direct way in the area where it operates? Given the sometimes drastic changes that a mining intervention creates in local communities, how much should the company do to 'soften the blow' – and how much should the government do, which also gains from the mining income? In short, how much should the various stakeholders do to meet the challenges created by mining, and what is the 'fair' distribution of mining benefits?

These are only some of the questions highlighted by this study. While part of the answers must be worked out at the local level in each case of a mining operation, there is also a need for clearer guidelines and more research to provide inputs for policy-makers. More 'bottom-up' local involvement as well as 'outside-in' contributions from relevant research and policy debates, on e.g. the 'resource curse' and corporate social responsibility, will be useful in stimulating a more integrated approach to the management of the benefit streams from mining. In our view, such an approach will be crucial to enable a country like Mali – so rich, but also so poor – to use its gold to make its way out of poverty.



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# Annex 1: Terms of Reference

**Building Capacity in Governance and Benefits Streams Management  
Norwegian Trust Funds  
Project No. \_\_\_\_\_**

**Terms of Reference  
Research on Benefits Streams of Mining in Mali and Tanzania  
10 May 2004**

## 1. Background

Effective and transparent management of the benefits streams<sup>30</sup> from the natural resource industries (mining, oil and gas, as well as forestry and fisheries, in some cases) is a challenge for many countries. To date, the focus of much of the analytical work and capacity building has been on the management of resource industry revenues in the macro-economic sense: currency over-valuation, natural resource stabilization funds, etc. However, equally, if not more important, is ensuring that the tax revenues and benefits from the project are effectively used to improve service deliveries in the local area where the positive and negative impacts of these projects are likely to be felt the most. In most countries, the capacity of government personnel (national and sub-national), community and civic leaders, and private company officials to cope with large and sudden wealth created by exploitation of these natural resources simply does not exist. This is especially true in Asian and African countries with well established or nascent extractive sectors. Thus, improving the ability and capacity of these governments to better manage the benefits streams from natural resources projects and to derive from them the maximum beneficial impact is at the heart of the World Bank Group's strategic development mission. Enhanced capacity of public and private officials in this area can significantly improve the economic and social impacts of resource projects and ultimately improve the delivery and quality of public services to the poor.

The objectives of the BCGBSM project are to research, design and disseminate training courses in selected African and Asian countries on the topic of benefits streams management for the natural resources sectors. The project aims to provide training in "nuts and bolts" management of benefits streams from resource projects. The target audience for the training are mid-to-senior level civil servants and private sector officials, university or senior education students, and cognizant members of civil society. The training is not designed to make "experts" of the students but rather to make them fully conversant and functional in the basic concepts and have a good working knowledge of internationally accepted practices.

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<sup>30</sup> The term "benefits streams" encompasses the economic and social impacts of a natural resources (oil and gas, mining, forestry, fisheries) project for the country including, for example, taxes and royalties at the central and local levels, jobs, linkages to the local economy through vendors and suppliers, investments in infrastructure and social good works, training and knowledge transfer, induced development, and other impacts.

The BCGBSM Project is to be carried out and supervised by the World Bank with the assistance of educational institutions – “anchors” – in the Africa and Asia regions. The work in Africa will be anchored in the Christian Michelson Institute (CMI), Norway. For Asia, the project will be anchored in the Centre for Accounting, Governance and Taxation Research at Victoria University, Wellington. Other units in the University such as the Greater Mekong Sub-region Tertiary Education Consortium Trust (GMSTEC) will be involved in implementation. It is intended that the Wellington and Bergen “anchors” will work independently but will nonetheless coordinate closely, share information and methodologies, and build upon their mutual work. The role of the anchors is to help the Bank task management team conduct basic research on the relevant topics, design the courses, and to provide training in association with local educational institutions.

The present terms of reference concern work to be conducted by CMI researchers in Tanzania and Mali. Previously, CMI have worked under the first tranche of funding by the Norwegian trust funds on similar research in Namibia and Botswana.

## **2. Research Work Program in Mali: Benefit streams of industrial gold mining**

### Overview

Exploitation of gold has a long tradition in Mali. Since the 1990s, this production has been mainly industrial in nature. Very large mines, financed and operated by multi-national companies, currently produce nearly 60 metric tonnes of gold per year, ranking Mali the third largest producer in Africa, after South Africa and Ghana. Historically, artisanal production of gold has been important. This activity continues to the present day, even though precise statistics are not available concerning artisanally produced gold.

The objective of this study is to assess, on a national and community level, the benefits streams which accrue from mining in Mali. The Malian society is mainly involved in industrial mining through government taxes, provision of labour, services for the labourers and some minor subcontracting arrangements. Interestingly, little is known about the sociological and economic impacts of these industrial operations or how they relate to the local population base and government authorities (national and sub-national).

Some incomplete studies have argued that the situation is obscured because of unclear agreements, differing expectations by the various stakeholders and a poor flow of information from the operating firm. Thus, the principal objectives of the study are to assess the interplay of social and economic parameters pertaining to industrial mining in Mali.

In order to ensure an appropriate data base for analysis, the study should first focus on an overall presentation of industrial mining in Mali, in terms of the types of institutional arrangements found within the sector and provide data on economic importance, employment and spin off activities for the various elements of the sector.

Case studies (Sadiola and Morila mines) should be undertaken to clarify the economic and social contributions of various stakeholders, including the operating company, sub-contractors, workers and unions, local communities, local government authorities, and the national government.

The case studies should be complemented by an analysis of the formal and informal relationships existing between the various groups of actors, common understandings of aims, operating principles and rules of operation, and how power is distributed, and influences concerning the distribution of benefits. Finally, some questions could be examined: how are salaries and profits re-invested? How does the mobility of people affect the distribution of benefits? How does the distribution ultimately affect the traditional and non-traditional power structures?

#### Organisation of data collection and analysis

The study will be under the responsibility of senior research staff of the Consultant, in association with a local Malian counterpart. The proposal of the Consultant will break down the relative apportionment of time and effort of senior and local staff, as well as the functioning of the respective parties within the work program.

#### Deliverables

- Inception report after initial field visits;
- mid-term report of key findings and recommendations, to be submitted after initial collection of field data;
- draft final report, to be submitted to the Bank for comments and suggestions; and
- final report, to be submitted in six (6) copies.

### **3. Research Program in Tanzania: Benefits Streams to Local Communities from Foreign investment in gold and gemstone mining**

#### Introduction

The last twenty years have seen a gradual liberalisation of the economy in Tanzania. Over the last decade, state owned industries and farms have been sold *en masse*, and generous tax exemptions have been established to attract foreign investors. Foreign investment in the mining industry has boosted the production of gold and foreign exchange earnings. However, there is a strong feeling among many Tanzanians that the country's resources and business opportunities are being given away to foreigners and that local people have little to gain but a run down environment. This study will look into the economic and social impact of gold and gemstone industries in Tanzania. To what degree do the industries induce development in the local communities where they operate, and in what ways can local stakeholders ensure that the social and economic impacts of mining are gainful and sustainable?

#### Historical background

Tanzania has large reserves of gemstones and gold and may well become one of the major gold producers in Africa in the near future. Mining at an industrial scale was initiated during German and British colonial rule. In the early 1960s, soon after independence, the contribution of the mining sector averaged 3 – 4% of GDP. After 1967 a number of industries were nationalised, mining included, and by 1988 the contribution of the mining sector to GDP had sunk to 1.1%. Almost three quarters of the income came from the Williamson diamond mine which predated independence. There was little investment in the sector, and due to price regulations and lack of market, the greater share of recovered gold was smuggled out of the country. According to official figures, the total gold production was only 800 kilos in the period 1981-89.

The Economic reforms of the late 1980s and the removal of currency controls resulted in significant changes in the mining sector in Tanzania. Since 1998, large international mining companies have invested a total of US\$ 1,300 million in the mining sector and gold production is now expected to have reached 40 tonnes per year. The investments by the large mining companies in Tanzania have substantially formalized the mining sector - something that has important fiscal implications.

In addition to the seven or so large operators there is a number of small-scale companies and thousands of artisanal miners. In 1992, around 500 gold mines and 300 gemstone mines were operated by small-scale miners in Tanzania. By the late 1990s the sector employed somewhere between 500,000 and 1.5 million people (118). The majority of the people employed in this sector are men, but in the Umba and Geita mines the participation of women is significant. While the small-scale and artisanal mining is important for employment and income-generating for poor people, this form of mining appears to constitute greater threats to both the environment and the workers themselves than do the formal companies. Uncontrolled “gold rushes” have led to a number of deaths among artisanal miners, and the informal villages that spring up at new sites lack basic social services, among them sanitary systems. It is the goal of the Tanzanian government to transform the informal mining activities into more organised forms.

Some preliminary research conducted in 1998 by local economists (Kassim Kulindwa et al.) concluded that the macro-economic benefits of mining in Tanzania are not sustainable. This conclusion is based on poor implementation of laws and regulations, lack of capacity and staff in government field offices, environmental degradation due to mercury usage typical in artisanal mining, conflicts between large and small scale miners, lack of institutional arrangements to ensure participation of local communities, and excessively generous tax exemptions granted to the large companies.

The topic of the present terms of reference is to test this hypothesis and up-date our knowledge of the benefits streams of mining in Tanzania, both to the national and sub-national governments as well as to the local communities.

The following issues should be of primary concern:

- *Implementation of the Mineral Policy.* The new policy “outlines the strategies for strengthening community participation and involvement in mining”. To what degree are these strategies known to stakeholders? What sanctions may be put on companies that refrain from involving local communities? Who – according to the policy - are to represent local communities? (Local governments, NGOs/CBOs, religious leadership, “traditional” authorities?) Do the involved representatives have the confidence of the greater part of the community? If not, what are the conflicts related to?
- *Mining companies’ attitudes:* Some of the larger companies have benefit sharing programs in place. To what degree are local communities involved in the planning of these projects and in what ways could smaller companies and artisanal miners be persuaded to initiate/respond to such programs?
- *Role of associations:* To what degree are local NGOs and CBOs (Community based organisations) already involved in benefit streams analysis and advocacy?
- *Taxation:* The mineral policy does not open up for royalty payment to local communities, and such rights would entail enormous differences between districts/regions that have mining activities and those that do not. However, members of parliament from the Lake Victoria area have demanded mineral royalties for their constituencies. What kind of taxes do local authorities collect from mining activities (and their spin-offs) and have there been any changes after the implementation of the local government reform?
- *Local government reform.* Up to now, local authorities have been inadequately involved in matters that have to do with mining activities. Licenses to companies are handled by the central government. The local government reform gives local authorities greater autonomy but also more responsibility to collect revenue and facilitate development in their areas. How does the reform affect the involvement of the local authorities in mining activities and

what are the differences played by political leaders (councillors etc), and district employees?

- *Conflict resolution.* Have people have lost confidence in their village governments when it comes to reporting disputes involving mining companies? Part of the problem is that village governments have not been empowered to resolve such disputes, but corruption has also been mentioned as a limiting factor. What is being done to address this problem?
- *Environmental problems.* To what degree are stakeholders concerned with environmental questions? Do local communities have enough knowledge about potential dangers to demand protection and hold companies and informal miners responsible? Is anything being done to enforce existing regulations?
- *Gender issues and social groups.* Are there any differences in the way that benefit streams reach different social groups? (Women and men, various age groups, different ethnic groups, the poor against the better off, etc.?)
- *Best practices.* Some village governments have invested in income generating equipment (crushers) that substantially strengthens the village economy. How were these projects financed and what lessons can be learned from such initiatives? What are the accomplishments when it comes to develop local lapidary industries? What can be done to make local farmers and businessmen more aware of the new market opportunities that mining communities represent?

The study should examine specific cases and collect data available on them. Two localities could be studies in Geita (Mwanza) and Mererani (Arusha).

The study will be conducted by senior staff of the Consultant, in association with local consultants and research institutions. Substantial field work will be necessary. In the proposal, the consultant will specify the partition of time between the senior and junior staff, as well as tasks of each according to the work program.



## Annex 2. Questionnaire for the labour force survey

### QUESTIONNAIRE

#### I. Identification

Nom:-----

Prénom:-----

Date et lieu de naissance:-----, Sexe: -----

Célibataire:                       Veuf (ve):                       Veuf remarié(e):

Marié (e):                       Nombre d'enfants:                       Nombre d'épouse(s) :

Date de recrutement à la mine : -----/-----/-----

LIEU DE RÉSIDENCE AVANT CE RECRUTEMENT PAYS:-----, RÉGION:-----,

COMMUNE :-----

Dernier emploi exercé avant votre embauche à la mine : -----

Avez-vous déjà travaillé dans d'autres sites miniers: Oui :----- Non :-----

Si oui, où ?:-----, Durée :-----, Nature de l'emploi :-----

POURQUOI AVEZ-VOUS QUITTÉ CET EMPLOI ?-----

Comment avez-vous appris l'ouverture de la mine ?-----

Comment avez-vous été recruté ?:-----

Votre catégorie au début du recrutement :-----, Catégorie actuelle :-----

#### II. Relations Etat/ force de travail

Que pensez-vous du rôle de l'Etat envers les travailleurs de la mine ?:-----

-----

Vous appuie-t-il dans vos actions ? **Oui** :----- **Non** :-----

Si oui, comment ?: -----Si

non, comment ?: -----

Pouvez-vous compter sur lui pour faire aboutir vos doléances ? **Oui** :----- **Non** :-----

Etes-vous au courant de l'existence de la convention collective ? **Oui** :----- **Non** :-----

Pensez-vous que cette législation (convention) vous est favorable ? **Oui** :----- **Non** :-----

Si non, pourquoi ?:-----

### III. Investissements immobiliers

Avez-vous fait des investissements ? **Oui** :----- **Non** : -----

Chez vous ? **Oui** :----- **Non** : -----, où alors ?:-----

De quelle sorte :

- Achat de terrain ou maison :----- ; Année :----- ; Montant :-----CFAF
- Construction de maison :----- ; Année :----- ; Montant :-----CFAF
- Autres :----- Année----- ; Montant :-----CFAF

Comment les avez vous réalisés ?:

Les avez-vous réalisés sur fonds propres ? **Oui** :----- **Non** : -----

Avez-vous bénéficié d'un prêt bancaire ? **Oui** :----- **Non** : -----

AUTRES SOURCES DE FONDS, LESQUELLES ?:-----

### IV. Possession de biens

Possédez-vous une ou plusieurs autos ? **Oui** :----- **Non** : -----

Si oui, depuis quand ?:-----, Combien ça vous a coûté ?:-----CFAF

Comment les avez-vous acquises ?

Au comptant ? :----- ;

A crédit ?:-----, si crédit, spécifiez la source :-----

Avez-vous une ou plusieurs motos ? **Oui** :----- **Non** : -----

Si Oui, marque :-----, cylindrée :-----m<sup>3</sup> ; Date et lieu d'achat :-----

Combien ça vous a coûté ?:-----

Comment les avez-vous acquises?

Les avez-vous achetées au comptant ?:----- ; A crédit ?:----- ; si crédit, spécifiez la source. :-----

Avez-vous acheté du bétail ? **Oui** :----- **Non** : -----

Si oui, nombre de têtes au départ :----- ; montant investi :-----, Année :----- ; nombre actuel de têtes :-----

Que faites vous de ce bétail ?:-----

### V. Envoi d'argent :

Envoyez-vous de l'argent ou d'autres choses (matériel, nourriture, etc.) à vos parents ?

**Oui** :----- **Non** : -----

Si oui, combien de fois dans l'année ? :----- ; Montant envoyé ou valeur :-----

Montant du dernier envoi et date :----- ; A quoi a servi cet envoi ?:-----

**VI. Epargne**

Déterminez-vous des actions dans une ou plusieurs entreprises ? **Oui** :----- **Non** : -----

Si oui, la ou lesquelles ? :----- Montant :-----

Avez-vous un compte d'Epargne ? **Oui** :----- **Non** : -----

Si oui, dans quel établissement bancaire ? :-----date d'ouverture de ce compte: ---/---/---

Montant actuel de l'épargne :-----

Avez-vous un compte Epargne-logement à la BHM ? **Oui** :----- **Non** : -----

Si Oui, date de la souscription :----/----/----, montant actuel :-----

**VII. Perception de l'entreprise :**

Par quelle société êtes-vous employé? **SEMOS** :-----, **Moolman. SA** :-----

Etes-vous satisfait de votre entreprise ? **Oui** :----- **Non** : -----

Les conditions de travail ( salaire, primes et autres avantages) offertes par la mine vous donnent-elles satisfaction ? **Oui** :----- **Non** : -----

Si non, pourquoi ?

- insuffisantes à vos yeux ? :-----
- pas assez motivantes ? :-----
- autres ? :-----

Pensez-vous vraiment profiter des bénéfices procurés par l'exploitation minière ?

Si Oui, comment :-----

Si Non, pourquoi ? :-----

Dans ce cas, quelles propositions faites vous pour améliorer cette situation ? :-----  
-----

Avez vous confiance aux dirigeants de votre entreprise ?

Oui :----- Non :-----

Si Non, pourquoi ? :-----

Que pensez-vous de l'avenir de la mine ? :-----  
-----

Qu'envisagez-vous de faire après la fermeture de la mine ? :-----  
-----

## Annex 3. Presentation of the labour force survey

We will here account for the framework of our labour force survey, challenges encountered in the process of conducting the survey, the variables on which we collected information, as well as our main findings. Some of the findings are also elaborated on in the main text of this report.

### 1. Framework

A quantitative analysis of the labour force at the two mines was conducted. It aimed at surveying 20 percent of the total number of employees of the four main companies involved, namely the operator and the main subcontracting company in Sadiola and Morila respectively. We surveyed only the national labour force and thus excluded expatriate workers from the analysis. The following table shows the number and spread of the workers that were targeted for the survey, and how many of them we ended up getting the requested information from.

**Table A. Labour force survey: Overview of respondents**

Mine	Name of company	Total no. of workers (nationals)	No. of workers intended to be surveyed (20 percent of all)	No. of respondents*	Proportion of targeted workers who responded	Proportion of total no. of workers who responded
Sadiola	Semos SA	680	136	22	16,2	3,2
	LTA	331	66	26	39,4	7,9
	<i>Total</i>	<i>1011</i>	<i>202</i>	<i>48</i>	<i>23,8</i>	<i>4,8</i>
Morila	Morila SA	429	86	36	41,9	8,4
	Somadex	465	80	24	30,0	5,2
	<i>Total</i>	<i>894</i>	<i>166</i>	<i>60</i>	<i>36,1</i>	<i>6,7</i>
<b>Total</b>		<b>1905</b>	<b>368</b>	<b>108</b>	<b>29,4</b>	<b>5,7</b>

\*Workers who filled in the forms correctly and returned them.

As the table shows, only between approximately one quarter (Sadiola) and one third (Morila) of the workers returned questionnaires that were filled in correctly and thus could be used for statistical analysis. This relatively poor rate of return materialised in spite of numerous efforts to overcome the various obstacles, as explained in the introductory chapter of this report; that we faced in the process of distributing and collecting the questionnaires and of informing the workers about our purpose and how to fill in the forms.

Nevertheless, despite this relatively weak response rate the spread of the respondents remains relatively representative in terms of mining site and company. While Sadiola employs 53.1 percent of the total number of workers it hosts 44.4 percent of the respondents, and is thus only slightly underrepresented among respondents compared to the Morila mine. Also in terms of type of company, i.e. operators versus subcontractors, the operating companies employ 58.2 percent of the targeted workers and among respondents we find that 53.7 percent are employed by operators. The operator workers' under-representation in favour of the sub-contractor workers is thus small.

Nevertheless, representativity of respondents in terms of salary groups may be slightly biased and thus has probably been affected by the weak return rate of questionnaires. Salary categories range from A to E with groups A, B, and C constituting the skilled workers (technicians and engineers)

and groups D and E the unskilled workers.<sup>31</sup> The following table shows how the 108 respondents are spread across these categories.

**Table B. Labour force survey: Spread of respondents across salary groups**

Respondents	Salary category					Total
	A	B	C	D	E	
Absolute number	10	16	34	30	18	108
Relative number (in percent)	9,26	14,81	31,48	27,78	16,67	100

As the table shows, 55.5 percent of the surveyed workers rank among the better-paid groups (A, B, and C), and 44.5 percent belong to the less well paid groups of workers (D and E). Assuming that a majority of the mine workers belong to groups D and E, our sample is thus slightly biased in favour of the better-off workers.

## 2. Challenges encountered

A first challenge we faced when conducting the survey of the workforce was to reach the target group – the workers at the two mines – with our questionnaires. As it turned out we were not able to distribute these forms directly to the workers, since the management of the mines allowed us neither to access the work sites, nor to convene the workers to inform them about the survey, explain the questions, and distribute the forms. The reasons given for this refusal were that distribution of the forms directly to the workers would affect the production process and that the rotation system at the mines would make it impossible to gather all the workers at the same time.

We therefore had to distribute questionnaires indirectly via the trade unions. Unfortunately, union representatives were often not well qualified to undertake the crucial tasks of explaining the purpose of the survey and instructing the workers on how to fill in the forms. A further obstacle was that a climate of suspicion prevailed between the workers and some of their representatives in the unions at the time. This distrust partly reflected a corresponding tension between the workers and the management, as expressed in the strikes. The unions were seen by some workers as being too closely linked to the management and not fully representative of the workers. These conflicts made some workers sceptical about filling in the questionnaires at all. A more technical problem was that the majority of the mine workers are not well educated, and therefore probably found it difficult to understand the questions. We invited the workers to come and see us if they had questions related to the forms, but very few of them used this opportunity.

As a result of these difficulties, a relatively modest number of distributed questionnaires were returned and several of those were filled in incorrectly. At the end of the exercise, which had aimed at collecting information from about 20% of the labour force, we were able to obtain data from 5% of the workers only. Still, as we have seen when introducing the results of the survey in chapter 5 of this report, a closer scrutiny of the data reveals that the respondents, even though they were not as numerous as intended, are in fact fairly representative of the workforce in terms of distribution across the two mines, companies (including sub-contractors) and salary levels.

<sup>31</sup> The monthly salary levels were as follows: E: 94,000-106,000 CFAF; D: 123,000-170,000; C: 159,000-228,000; B: 207,000-368,000; and A: 392,000-550,000 CFAF.

### 3. Variables

The workers at the two mines were asked a number of questions related to their background, attitudes, and ways in which they used what they earned. Below we give an overview of the more than 70 variables on which information was collected from the respondents.

#### *Social background (4 variables)*

- Gender
- Civil status
- Number of children
- Number of spouses

#### *Employment basics (2)*

- Employer
- Year of recruitment to the mine

#### *Geographical origin (3)*

- Country of residence
- Region of residence
- Municipality of residence

#### *Professional history (8)*

- Last type of employment before the job at the mine
- Whether they had worked in mining earlier
- If they had worked in mining earlier, where they had been
- Profession those who had worked in mining earlier used to have
- For those who had worked in mining, for how long they had done so
- For those who had worked in mining earlier, why they quit
- How they got to know that the mine operation would start
- How they were recruited

#### *Salary level (2)*

- Salary level in the beginning
- Salary level currently

#### *Attitudes towards the state and the law (7)*

- What attitude they have towards the state
- Whether they count/rely on the support of the state
- Whether they think the state is supportive
- If they think the state is not supportive, how the state is a 'bad thing'
- Whether they know of the existence of the mining code
- Whether the mining code is favourable/a good thing
- If the mining code is not a good thing, why not?

#### *What they did with the earnings from the mine:*

#### *Real estate investment (10)*

- Whether they have invested in real estate
- For such investors, whether they invested in their area of origin or elsewhere
- For real estate investors who bought 'elsewhere', where this was

- Whether they bought land or a house
- When they bought land and/or house
- For those who had bought land, how much that land cost
- For those who had bought land and/or house, how much they paid
- For those who had bought land and/or house, when they bought it
- Whether they had constructed a house
- How people obtained money to invest (own funds and/or bank loan)

*Purchase of car or motorbike (9)*

- Whether they possess a car
- When the car was bought
- What the car cost
- How the car was paid for (cash/credit)
- Possession of a motorbike
- When the motorbike was acquired
- What the motorbike cost
- How the motorbike was paid for (cash/credit)
- What the brand of the motorbike was

*Purchase of cattle (6)*

- Possession of cattle
- How many cattle they had at the outset
- How many cattle they have now
- What year they bought the cattle
- What they paid for the cattle
- What they use the cattle for

*Remittances (6)*

- Whether they send off money earned to family members
- How many times per year they send off money to relatives
- How much in total they have sent off
- The amount of the last transfer
- The date of the last transfer
- What the transfers are spent on (by those who receive the transfer)

*Savings (7)*

- Whether they have a savings account
- If yes, what bank they use
- When they opened their account
- How much they have saved
- Whether they have a savings account for housing at this bank
- When they opened a housing account at the BHM bank
- How much they keep in their BHM housing account

*Working conditions and attitudes towards workplace (9)*

- Whether they are satisfied with the company they are working for
- Whether working conditions are satisfactory
- If conditions are not satisfactory, reasons why
- Whether they profit from benefits procured by the mines

- If they do benefit from the mine, how do they benefit
- If they do not benefit from the mine, why they don't benefit
- What suggestions they have for how the situation could be improved
- Whether they have confidence in the management of the company
- If they do not have confidence in the management, why not

*The future (2 variables)*

- What they think about the future of the mine
- What projects they envisage engaging in after the mine is closed

#### **4. Findings**

*Social background*

- 98% (106) male
- 80% (86) married
- 56% (60) have 1-4 children
- 81% (87) are married and 66% (71) have one wife

*Employment basics*

- 57% (58) started work in 2000-2001

*Geographical origin, professional history, salary levels*

- All are Malians
- 33% (34) from Kayes and Sikasso, where the mines are located, and 29% (30) from Bamako. Those from Bamako earn the highest salaries
- Only 3 are said to be farmers, 31 have mechanic experience, 24 administrative experience (6 teachers), 10 from trade etc, 10 workers (n=97)
- 87% (94) have not worked in mines before

*Attitudes towards state and law*

- 92% (93) know about the mining code (*convention collective*)
- 68% (67) negative towards the convention and the reasons are that they consider that the firms exploit the labour force (37) or the fact that workers do not know the content (24)

*What workers did with earnings from the mine:*

*Real estate investment*

- 46% (52) have invested in land and/or house, of which 80% (41) in their home village. Only 2 have invested in towns from which they do not come
- 54% (22) report having invested between 200 and 300 US\$
- Only 1 has invested more than 2,000 US\$
- Of 22 that have built a house, 14 state having used between 1,000 and 2,000 US\$.
- 45% (23 of 51) have used only their own funds for the investment

*Purchase of car or motorbike*

- 18% (19) have a car and the average price is a little more than 2000 US\$.
- 54% (54) have a motorbike

*Purchase of cattle*

- Only 23% (24) have invested from 75 to 400 US\$ in animals



- 10 have 1-5 animals and 12 have 6 to 10 animals at present
- 68% say the animals only serve as a mode of saving (given to herders)

#### *Remittances*

- 92% (98) send remittances to the family
- 55% (51) do it every month
- 58% (36) say the last transfer amounted to between 50 and 100 US\$
- 16% (10) say they transferred between 200 and 800 US\$
- 97% (87 of 90) say remittances are used by the family for consumption only

#### *Savings*

- Only 32% (33) have a savings account
- 36% report having between 400 and 800 US\$ in it

#### *Working conditions and attitudes towards workplace*

- 65% (70) say they are dissatisfied with the company they work for
- 72% (76) are dissatisfied with working conditions
- Reasons have to do with a dull working situation and the way people are treated. Salary and respectful treatment by management are important
- Only 64% (66) say they have confidence in the management of the company
- The attitudes of the superiors are often referred to as the main reason for no confidence (26 of 63)

#### *The future*

- It seems as if very few are considering a permanent future in mining. 66% (67) plan to go into trade or 'their own enterprise' when the mine they work in closes
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## SUMMARY

In the last decade Mali has experienced a gold boom. Today Mali is Africa's third largest producer of gold and has one of the world's most gold-dependent economies.

This study looks at how the advent of gold mining has affected Mali's economy and society, and examines the local impacts of two of the country's main gold mines, Sadiola and Morila. It finds that in recent years gold exports have contributed more than half of Mali's export revenue. Still, this income represents less than what the country receives in development aid or in remittances from Malians abroad. From the two mines of Sadiola and Morila, out of the revenue that does not accrue to the mining companies the Government of Mali receives around 50 percent, the workers some nine percent and local communities less than one percent. To the population of nearby villages the mines have provided jobs, income and better education services, but their establishment has also led to land expropriation, environmental degradation and social tensions. The companies that run the two mines have supported a number of development projects locally, but their management and selection of the projects have stirred controversy. The study also finds that gold mining only to a limited extent has spurred entrepreneurship or a diversification of the local economy.

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