A Mining Health Initiative case study:

Rio Tinto QMM and its health programme in Madagascar: Lessons in Partnership and Process

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CONSORTIUM

The Mining Health Initiative is implemented by a consortium comprising the following organisations and institutions.

Contents

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ARI	Acute Respiratory Tract Infection
AusAID	Australian Agency for International Development
CSB	Centre de Santé de Base, basic health centre
CSR	Corporate Social Responsibility
CHW	Community Health Worker
DFID	Department for International Development (UK)
DHS	Demographic and Health Survey
DRSP	Direction Régionale de Santé Publique, regional health management team
EITI	Extractive Industries Transparency Initiative
FTSE	Financial Times and Stock Exchange
GAVI	Global Alliance for Vaccines and Immunisation
GFATM	Global Fund to fight HIV/AIDS, Tuberculosis and Malaria
GIZ	Gesellschaft für Internationale Zusammenarbeit (German Government Agency for Development Cooperation)
GP	General Physician (medical doctor)
HANSHEP	Harnessing Non-State Actors for Better Health of the Poor
HDI	Human Development Index
DHS	Demographic and Health Survey (EDS = Enquête Démographique et de Santé)
HIV	Human Immuno-deficiency Virus
ICMM	International Council on Mining & Metals
IFC	International Financial Corporation
IRS	Indoor Residual Spraying
LLIN	Long Lasting Insecticide treated Nets
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MHI	Mining Health Initiative
MOH	Ministry of Health
NGO	Non Governmental Organisation

OPIC	Organisation Publique de Coopération Inter-Communautaire, Public Organisation of Intercommunity Cooperation
PDSSPS	Plan de Développement du Secteur Santé et de la Protection Social, Development Plan for the Health and Social Protection Centre
PEPFAR	President's Emergency Plan for Aids Relief
PLACE	Priorities for Local Aids Control Efforts
PPP	Public Private Partnership
PSI	Population Services International
RTQMM	Rio Tinto QIT Madagascar Minerals
OSIET	Organisation de Santé Inter-Entreprise de Tolagnaro
SDSP	Services Districtales de Santé Publique, district health management team
SE/CNLS	Secrétariat Exécutif du Conseil National pour la Lutte contre le VIH/Sida, Madagascar National AIDS Council
STI	Sexually Transmitted Infection
TB	Tuberculosis
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing for HIV

EXECUTIVE SUMMARY

Introduction

The UK Department for International Development (DFID), the IFC and Rockefeller Foundation, on behalf of the HANSHEP Group, have commissioned an initiative to document good practice and to foster agreement on standards and norms for mining health programming. Throughout the process the initiative engaged closely with the International Council on Mining & Metals (ICMM).[1]

This document summarises the results of a case study conducted as part of this initiative with Rio Tinto QIT Madagascar Minerals (RTQMM) in July 2012. RTQMM operates an ilmenite and zircon mine in the Anosy region in the Southeast of Madagascar.

The case study describes and analyses the company's current and historical health programme both inside and outside the fence. It is based on a review of background documents, both published and unpublished, as well as interviews with 55 individuals representing 30 organisations.

After introducing the company and the context within which it operates, the case study describes the health programme, paying special attention to partnership aspects as well as costs. This is followed by an assessment of the programme's impact on beneficiaries, the health system as well as the company itself. Lessons learned are provided in the conclusion and can be summarised as follows:

Lessons learned

Inside the fence

RTQMM puts great emphasis on health and safety of its employees. The company spends significant amounts of money on employee health, and employees and their dependants are provided with a comprehensive package of healthcare, largely free at the point of access. Employees have expressed their appreciation for this service and productivity is positively affected.

Health and safety are seen as closely interlinked. Ensuring health and safety of its workforce is a global priority for Rio Tinto, which is demonstrated by RTQMM in Madagascar. Nevertheless, the company might benefit from more in-depth and separate analysis of the two areas.

Inter-departmental links facilitate synergies between internal and external health programmes. Close inter-departmental links between Health & Safety on the one hand and Sustainable Development, on the other hand, are crucial in maximising synergy, particularly in the light of infectious diseases that affect employees and community members alike.

Malaria prevention requires a comprehensive approach. Malaria can be prevented cost-effectively but not through ad-hoc or dispersed interventions. Malaria prevention and control require an approach that links employee health and wider community health, and further reaching interventions are necessary to significantly reduce malaria incidence.

[1] For more information see http://www.icmm.com

Knowledge of national health policies and local needs is key. Thorough understanding of local health needs, gaps in service provision as well as national protocols in regard to diagnosis, treatment and care is important when entering into negotiations with health care providers. Periodic contract re-negotiations with the healthcare provider, International SOS, generate a need for continued assessment and strong in-house expertise in regard to healthcare across departmental divisions.

Robust systems for data collection and analysis can go a long way in maximising and understanding success. Monitoring and evaluation, including through baseline surveys, are crucial for planning, managing and periodically reviewing company health interventions and for continuing to demonstrate the business case for investing in health.

Outside the fence

Health is a key priority for communities. By using their share of mining royalties to support health care, communities demonstrate that health is a main concern. Communes receiving royalties from RTQMM's mining operations in Anosy Region have used the resources to expand their health centre and hire additional health workers.

Systematic, strategic and consistent communication with communities is crucial. When RTQMM – following recent community discontent, strengthened its communication, it was found that a large part of the communities' resentment had been due to wrong expectations combined with a lack of consistent and systematic communication.

Informal relationships are vital and warrant formal company support. Informal networks assist in gathering information, establishing collaborations and partnerships and gaining access to decision-makers. They potentially contribute to preventing and mitigating conflict with communities and authorities. Therefore, companies like RTQMM may benefit from more pro-actively and systematically supporting informal networking by key staff.

Catalytic support to organisations and initiatives can go a long way. RTQMM has provided seed funding and acted as a catalyst for bringing successful approaches and institutional frameworks piloted in other parts of Madagascar to Anosy Region. A decade later, these initiatives are still ongoing, which demonstrates the value and sustainability implications of well-conceived catalytic support.

Alignment with the national health system

Alignment with, and strengthening of, the national health system should be a key consideration in programme development. While there has not been a specific strategy to align with national policy, RTQMM's infrastructure development interventions and its support to provision of medicines, equipment and transport facilities have been driven by an aim to strengthen the public health system.

Sustainable development requires collaboration with authorities at local and central level. In regard to health and development, RTQMM has prioritised engagement with authorities and other

stakeholders at the regional and district level but has had less engagement with the central level. This may be a missed opportunity and RTQMM may reconsider this approach in the future.

1. BACKGROUND AND PURPOSE OF THE CASE STUDY

Mining companies can play a major positive role in sustainable development. Many global mining companies recognise their social responsibility to actively contribute to health and development of the societies in which they operate. Moreover, the business case for investing in this area is strong. Therefore, many large mining companies offer health services not only to their immediate employees but support wider public and community health.

Mining health partnerships, whether more or less formal, are a key vehicle for maximising health outcomes and strengthening national health systems, while improving company productivity and community relations at the same time. A key aspect of such partnership approaches to mining health programming is engagement and collaboration with the public sector, which, besides delivering services, has an essential stewardship role to play in setting the framework for mining health programmes both inside and outside the fence. Thus it is good practice for mining health programmes to align with national health policies and plans. Partnerships with development agencies, communities and wider civil society are also an important aspect of mining partnerships for health.

The Mining Health Initiative has been commissioned by HANSHEP (Harnessing non-state actors for better health of the poor) to build understanding and foster agreement on standards for mining industry partnerships which can work to strengthen health services for underserved populations. The Mining Health Initiative will lead to enhanced understanding of on-going mining health partnerships and a set of good practice guidelines for mining health programmes for wide dissemination and application. Throughout the process the initiative engaged closely with the International Council on Mining & Metals (ICMM).[2]

The Mining Health Initiative has conducted a number of case studies of health programmes run by mining companies in sub-Saharan Africa. The purpose of the case studies is to document the reach and impact that has been achieved through such projects and examine the best ways in which these programmes can overcome practical challenges and achieve maximum effectiveness both in terms of costs and efficacy. The case studies have both descriptive and analytical components (Figure 1).

[2] For more information see http://www.icmm.com

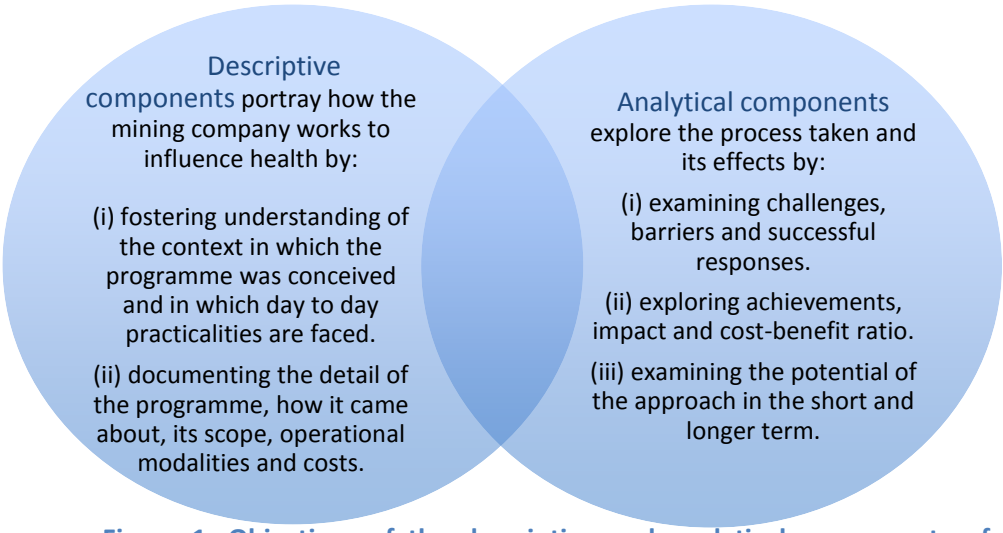

Figure 1. Objectives of the descriptive and analytical components of the case studies

There are a number of key audiences for the case studies with intended impacts:

- **The Mining Health Initiative and HANSHEP.** *Intended impact:* improved understanding of the scope, potential and most effective approaches for mining health partnerships; to identify potential investment opportunities for health PPPs between governments and mining companies.
- **The donor community.** *Intended impact:* increased awareness of the potential for mining health partnerships as approaches to improving the health of hard to reach populations.
- **The mining sector.** *Intended impact*: increased awareness of the range of potential approaches and the opportunities for increasing impact and cost-effectiveness.
- **Other health sector organisations.** *Intended impact*: increased awareness of the opportunities for mining health partnerships and of how best such partnerships may work.

2. CASE STUDY METHODOLOGY

This case study was conducted by a team of two international public health experts. The data collection and analysis process involved the following:

- Review of background documents
- Collection and review of health and health systems data at central, regional and district level
- Collection and review of company information relevant to employee as well as public and community health
- Interviews with 55 key informants, representing 30 organisations.

This report was prepared jointly by both consultants after thorough discussion and analysis of the information and other inputs received.

A list of individuals interviewed can be found in Annex A.

Constraints

The Department, assigned by RTQMM to host the case study, was highly supportive in accommodating the consultants and sharing documents throughout the mission. Nevertheless, the consultant team encountered the following constraints:

- Constraint 1: As the Director of the Sustainable Development and Community Relations Department had communicated prior to commencement of the mission, the consultants' visit coincided with a number of other important events and internal processes, limiting the availability of RTQMM staff for interview and sharing of data. It was thus agreed, prior to arrival of the consultants, to conduct a 'case study light'. The consultant team therefore emphasised creating and making use of opportunities to speak to external stakeholders.
- Constraint 2: A few years ago, RTQMM scaled down its engagement in health interventions outside the fence. Thus, rather than being able to look at a current health 'programme' in the communities surrounding RTQMM's area of operation, the team investigated a collection of activities and partnerships that had taken place in the past, or are indeed planned for the future. In other words, the consultant team focused on a relatively wide – but not clearly defined - time horizon and scope of activity. This also means that many key informants - who have not been in the region for very long - were unable to provide insights on RTQMM's earlier engagements.
- Constraint 3: No community focus group discussions were conducted as RTQMM felt this might raise wrong expectations and interfere with ongoing processes to consult and engage communities. Instead, the consultant team used other meetings and opportunities to gather the views of community members, either directly when meeting company trade union representatives, sex worker associations or people living in communities neighbouring the main mining site Mandena, or indirectly when asking representatives of civil society and others about community perceptions in regard to RTQMM.
- Constraint 4: A political crisis that has been ongoing in Madagascar since 2009 has meant that some donors and other organisations working in health have withdrawn or reduced their

involvement in the country. This, coupled with a health worker strike that had been ongoing for two months at the time of the consultants' visit, somewhat affected the team's ability to gather information, in particular from public sector health workers.

3. CONTEXT ANALYSIS

3.1. Company profile

Rio Tinto QMM (QIT Madagascar Minerals) is 80 per cent owned by Rio Tinto and 20 per cent owned by the Government of Madagascar as represented by the Office of Mining and Strategic Industry (*Office des Mines Nationales et des Industries Stratégiques*)[3]. Rio Tinto's Government & Corporate Relations team maintains regular dialogue with the Malagasy Government about legislation and policy concerning mining as well as in regard to promoting the Extractive Industries Transparency Initiative (EITI) in Madagascar.[4]

RTQMM extracts ilmenite and zirsill (from which Titanium dioxide and zircon are extracted respectively) from a deposit of mineralised sands. These are distributed over three areas (Mandena, Petriky and St. Luce) in Fort Dauphin district of Anosy region in south-eastern Madagascar. The sites contain reserves of ilmenite which account for ten per cent of the world's deposits and are of higher quality than most other global sources.[5] They are estimated to be sufficient to ensure over 40 years of production.

The chart below shows RTQMM's position in the Rio Tinto group[6].

[3] In this document, the acronym RTQMM will be used.

[4] See RTQMM website http://www.riotintomadagascar.com/english/aboutMalagasyGovernment.asp

[5] GIZ/Rio Tinto (2011): Tracking Development: a collection of QIT Madagascar Minerals' (QMM) socioeconomic contributions.

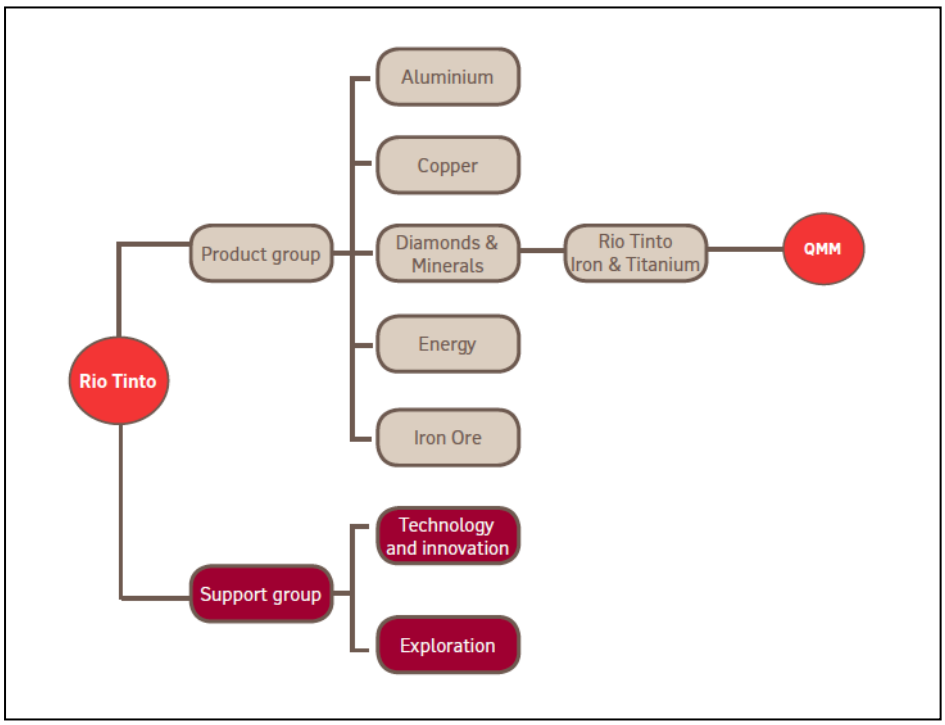

Figure 2: RTQMM's position in the Rio Tinto Group

Titanium dioxide is used mainly in automotives, industrial paints, building material and, to a lesser extent, in the manufacture of plastics and paper. Zircon plays a significant role in construction (public works, shipbuilding, etc) and is also used in a variety of other markets (ceramics, electronics, etc.). For both titanium and zircon, emerging economies are the main consumers.[7]

Rio Tinto has been active in Exploration and Project Development in the Anosy region since 1986.[8] Mandena is the first, and currently only, area to be mined following an investment decision taken in 2005 based on nearly two decades of exploration and assessment. Construction of infrastructure began in 2006 with a total investment of USD 931 million: USD 675 million for mine infrastructure and USD 256 million for construction of Ehoala Port, of which USD 35 million was funded by the government through the World Bank. Mining operations began in early 2009.[9]

The map below depicts RTQMM's three mining sites in Fort Dauphin district.[10]

[7] RTQMM (2010): Sustainable Development Report 2010, p. 6.

[8] GIZ/Rio Tinto (2011): Tracking Development: a collection of QIT Madagascar Minerals' (QMM) socioeconomic contributions.

[9] RTQMM (2010): Sustainable Development Report 2010, and RTQMM website http://www.riotintomadagascar.com/english/aboutMalagasyGovernment.asp

[10] Taken from RTQMM (2012): RTQMM, intégration au développement régional et local : appui à une bonne gouvernance. Chambre des Mines, 22 June 2012.

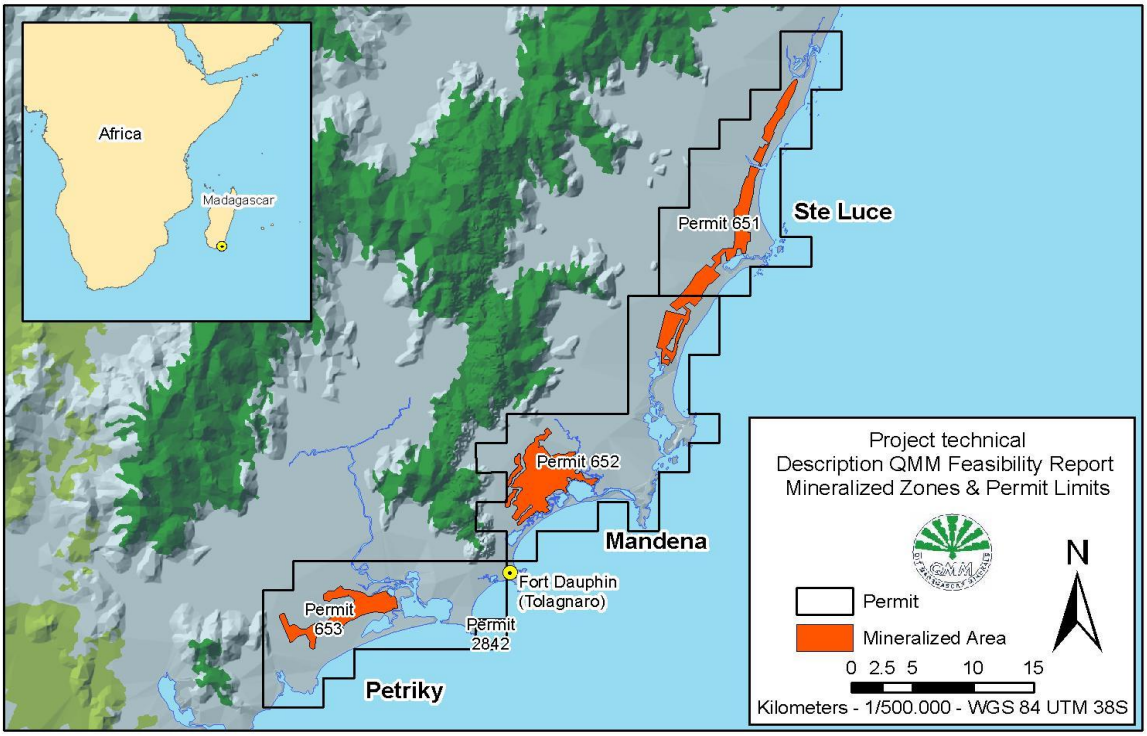

Figure 3: Map of RTQMM mining sites in Fort Dauphin District

During the commissioning phase, technology challenges related to relative isolation and constraints in site infrastructure became apparent that have still not been entirely resolved. This has meant that financial performance of the site has been lower than expected. As a result, drastic cost-cutting measures were put into place.[11] Today, three years after operations started, the company is still making an operational loss[12]. This is partly due to the global financial crisis, which has meant that market prices and demand for RTQMM products have been lower than expected[13]. RTQMM expects to become operationally profitable by the end of 2012.

RTQMM currently has around 1,500 employees, including about 700 that work directly for RTQMM. The remainder are contractors working either exclusively or non-exclusively with RTQMM[14]. Around 95 per cent of employees are Malagasy nationals[15]; about 70 per cent of staff are below 30 years of age[16]. During peak times of construction, up to 6,000 people were working for RTQMM, however, mostly through contractors rather than directly for RTQMM.

[11] RTQMM (2010) : Évaluation gérée par le site (EGS) des relations communautaires.

[12] Contrary to breaking even on investments, which has an average time horizon of around ten years, operationally profits can normally be expected shortly after the beginning of production.

[13] Interview with Rio Tinto Managing Director for Iron & Titanium (London-based).

[14] Interviews with RTQMM Human Resources staff, etc.

[15] RTQMM (2010): Sustainable Development Report 2010.

[16] Interview with the RTQMM President.

3.2. Country information

Madagascar is an island nation located in the Indian Ocean off the coast of Mozambique in Southern Africa. It is a biodiversity hotspot with 90 per cent of its wildlife found nowhere else on earth. The country's capital is Antananarivo, located in the high plateau. Madagascar is divided into 22 administrative regions and 112 districts, which are each divided into a number of communes.

Recent historical and political overview

Madagascar was a French colony from 1896 to 1960. Presidential and National Assembly elections in the early 1990s ended 17 years of single-party rule and in 1997, during the second presidential race, Didier Ratsiraka, the leader during the 1970s and 1980s, was returned to presidency. The 2001 presidential election was contested between his followers and those of Marc Ravalomanana, which nearly caused secession of half of the country. Ravalomanana won the 2001 elections and achieved a second term following a landslide victory in the presidential elections of 2006[17].

In early 2009, protests over increasing restrictions on opposition press and activities resulted in Ravalomanana stepping down. The presidency was conferred to the former mayor of Antananarivo, Andry Rajoelina. Numerous attempts have been made since by regional and international organisations to resolve the subsequent political gridlock by forming a power-sharing government.[18] Former president Ravalomanana is currently in exile in South Africa.

More than three years into Rajoelina's disputed presidency, no date has been set for election and the country is suffering from growing unrest with 'bandits' attacking soldiers and local communities in rural areas and prolonged strikes by civil servants, such as health workers, as well as a recent mutiny by a group of soldiers in the capital.

Demographic profile

Madagascar has an estimated population of about 22 million, of which 43 per cent are under the age of 15. The population is growing at around three per cent per year,[19] with 30 per cent of the population living in urban areas[20].

The Anosy region, where RTQMM operates, is located in the south-east of the country and has an estimated population of 640,000. The region covers the districts of Fort Dauphin, Amboasary and Betroka. The three actual and planned mining sites cover seven communes which are the urban Commune of Fort Dauphin as well as the rural Communes of Ampasy-Nahampoana, Mandromondromotra, Mahatalaky, Soanierana, Manambaro and Sarisambo.[21]

[17] United States Government (2012): CIA World Factbook on Madagascar.

[18] United States Government (2012): CIA World Factbook on Madagascar.

[19] United States Government (2012): CIA World Factbook on Madagascar.

[20] UNICEF 2012 http://www.unicef.org/infobycountry/madagascar_statistics.html?p=printme

[21] RTQMM (2010) : Évaluation gérée par le site (EGS) des relations communautaires.

The population around the Mandena site is young, with 62 per cent being under 24 years of age. With 5.2 individuals per household, household size is slightly higher than the national average. While other activities, such as trade and commerce, have increased in importance, agriculture is still the main occupation of household heads in the area.[22]

Development status

Madagascar is one of the poorest countries in the world. With an annual per capita gross national income of USD 420[23], it ranks 151 in the Human Development Index (HDI) and 68 per cent of the population are estimated to live below the international poverty line of USD 1.25 per day.[24] Life expectancy is 61 years. 71 per cent of the urban and 29 per cent of the rural population have access to an improved drinking water source[25]. Overall, infrastructure is poor.

In 2010, under five mortality in Madagascar stood at 62 per 1,000 live births, with a neonatal mortality rate of 22. Estimated adult (15 – 64 years) prevalence of HIV was 0.2 per cent in 2009. The youth (15 – 24) literacy rate is 66 per cent for males and 64 per cent for females. Mobile phone penetration is 40 per cent[26].

Anosy region is one of the least developed regions of Madagascar. The regional GDP per capita is 14.5 per cent lower than the national average[27]. With an average household income of about USD 50 per month, 91 per cent of households live below the poverty line[28].

The political crisis that began in 2009 has led to a suspension or reduction of most development aid from international donors.

Madagascar and EITI

Madagascar was accepted as an EITI (Extractive Industries Transparency Initiative) candidate country in early 2008. In October 2011, the EITI Board suspended Madagascar noting that it did "not believe that the relationships necessary for effective EITI implementation in Madagascar are currently possible and capable of being sustained". It was noted that the suspension would be active "until the current international situation is resolved" but that there was confidence that on a national level

[22] RTQMM (2010) : Évaluation gérée par le site (EGS) des relations communautaires.

[23] GIZ/Rio Tinto (2011): Tracking Development: a collection of QIT Madagascar Minerals' (QMM) socioeconomic contributions.

[24] GIZ/Rio Tinto (2011): Tracking Development: a collection of QIT Madagascar Minerals' (QMM) socioeconomic contributions.

[25] United States Government (2012): CIA World Factbook on Madagascar.

[26] UNICEF 2012 http://www.unicef.org/infobycountry/madagascar_statistics.html?p=printme

[27] RTQMM (2010) : Évaluation gérée par le site (EGS) des relations communautaires.

[28] RTQMM (2010) : Évaluation gérée par le site (EGS) des relations communautaires.

the multi-stakeholder group would "continue as best possible." The suspension ruling is schedule for review following presidential elections schedule for October 2013.[29]

3.3. Health status

National level

Significant gains were seen in health indicators in Madagascar between 1990 and 2009 - under five and infant mortality were reduced by about 60 per cent. The current Madagascar health status is higher than that of other countries in the sub-Saharan region (see box 1). However, the momentum of improvements made during the 1990s and 2000s was lost following the 2009 political crisis. Consequently, Madagascar is unlikely to meet the 2015 targets for MDG 5, improved maternal health, and MDG 4, reduced childhood mortality.

Box 1: Overview of key national health indicators

- HIV prevalence (14-49y): 0.2% (2009)
- Infant mortality rate: 43/1,000 live births (2010)
- Under 5 mortality rate: 62/1,000 live births (2010)
- Maternal mortality ratio: 440/1,000 live births (2008)
- Life expectancy at birth: 64 years (men: 61.97 y, women: 66.1 y (2012 est.)

Sources: UNICEF Madagascar / CIA Fact Book Madagascar

Malaria remains an important cause of mortality among adults even though the rates have decreased from, between 17.5 per cent and 19.5 per cent of all deaths in the early 2000s, to 5 per cent of deaths among adults in 2011. While HIV prevalence of the adult population is low at 0.2 per cent, prevalence of other sexually transmitted infections is higher. For example, syphilis prevalence is high for 15-30 year olds (2.1 per cent for 15-19 years, 5.5 per cent for 20-24 years and 7.5 per cent for 25-30 years).

The three main causes for mortality of children under five are acute respiratory infections, diarrhoea and malaria, accounting for 51 per cent of hospital deaths of children under five in 2004[30]. The main causes of morbidity amongst children under five are acute respiratory infections (34 per cent), fever (21 per cent) and diarrhoea (13 per cent). Malnutrition remains high with UNICEF estimating that 40 per cent of children under five are underweight.

The Ministry of Health (MoH) has made significant efforts to roll out measures for malaria prevention, including indoor residual spraying (IRS), long lasting insecticide nets (LLINs) and intermittent preventative treatment for pregnant women, diagnosis (rapid diagnostic tests and microscopy) and treatment. The proportion of children under five sleeping under an insecticide-treated mosquito net increased from 0% in 2000 to 46% in 2010[31]. Vaccination coverage has improved in the country, and in 2008, the Extended Programme on Immunisation reached 55 per

[29] See EITI website http://eiti.org/Madagascar

[30] Ministry of Health (2006): National Health Policy 2006 – 2008.

[31] United Nations (2011): The Millennium Development Goals Report 2011.

cent of children under the age of 12 months, and 65 per cent of children aged 12 – 23 months. Coverage in rural areas was lower (60 per cent) than in urban areas (80 per cent)[32].

With an average of 4.8 children per woman, fertility remains high in Madagascar. Fertility is lower in urban areas (average of 2.9 children) than in rural zones (5.2 children). Contraceptive prevalence is about 40 per cent. Antenatal care coverage for at least one visit during pregnancy is estimated at 86 per cent, whereas the coverage for four visits during pregnancy is 49 per cent.[33]

Regional level

The Demographic and Health Survey (DHS) of 2008/2009 states that the infant mortality rate of 75/1,000 live births and the under five mortality rate of 112/1,000 in Anosy region were significantly higher than the national average. MoH annual statistics for 2010[34] state that malnutrition for children under five observed at CSB (*centre de santé de base* – primary healthcare centre) level was high for Anosy Region at 20 per cent, compared to a national average of 13 per cent.

In 2010, CSBs in Anosy Region reported that malaria was the second most important cause of morbidity for all ages, accounting for ten per cent of consultations. The district (regional) hospital[35] in Anosy Region reported in 2010 that malaria accounted for 34 per cent of morbidity and 39 per cent of mortality amongst children under five. Ante-natal consultation utilisation at CSB level was 78 per cent in Anosy Region compared to a national average of 65 per cent.

Measles vaccination of children under five in Anosy Region is high at 91 per cent compared to the national average of 75 per cent, whereas tuberculosis vaccination coverage was low in Anosy Region at 47 per cent against a national average of 67 per cent. The overall vaccination coverage for Anosy region of 43 per cent was below the national average[36]. Regional health management information data suggest that the ante-natal coverage (for at least one visit) was low for Fort Dauphin District at 61 per cent compared to an average for Anosy Region of 71 per cent. Institutional births in Fort Dauphin District were at 12 per cent of all births, compared to an average of 16 per cent for Anosy Region.[37]

[32] Ministry of Health (2007): Plan de Développement du Secteur Santé et de la Protection Sociale, 2007 – 2011.

[33] UNICEF website 2012.

[34] Ministry of Health (2011): Annuaire des Statistiques du Secteur de Santé 2010.

[35] See next section (3.4) which explains that there is no district hospital in Fort Dauphin district and that the regional hospital in Fort Dauphin also functions as district hospital for the district.

[36] Ministry of Health (2006): National Health Policy 2006 – 2008.

[37] Data provided by the District Regional de Santé Publique de Anosy.

3.4. Health system: structure, functionality and accessibility

Structure

The Ministry of Health, Family Planning and Social Protection is responsible for coordinating the health system in Madagascar. The National Health System operates in 22 Regions and 112 Districts, including 3,219 health centres, 138 district hospitals and 22 regional hospitals[38]. Each region covers about one million inhabitants. The administrative and public health delivery system consists of a national level responsible for health sector policy and strategic direction and a regional level providing technical and policy oversight to the operational level (districts). Health services in Madagascar are provided at four levels:

- Primary – consisting of centres de santé de base level 1 (CSB 1), which are equivalent to health posts; and CSB level 2, equivalent to health centres. CSB 1 provide basic diagnosis and care, whereas CSB 2 include more staff and a few beds for overnight observation. The primary level is supposed to provide the minimum health package as defined in national policies.
- Secondary - consisting of district hospitals, the first reference level providing the complementary health package. This includes improved diagnostics as well as surgical and obstetric services.
- Tertiary – second reference level consisting of regional hospitals providing improved diagnostic and care service and acting as training centres.
- Quaternary - consisting of central hospitals in Antananarivo and Mahajanga.

In rural areas, traditional healers and herbalists provide the first link in the chain of access to health care and referral in the country. These are supplemented by community health workers and traditional birth attendants.

A private health sector has started to develop which includes faith-based not-for-profit health facilities as well as private for-profit health centres and general physician practices. 79 per cent of CSBs are public and 21 per cent are private (including those provided by faith-based organisations), whereas 63 per cent of district hospitals are public and 37 per cent private.[39]

Functionality and accessibility

A key reason for poor health outcomes in Madagascar is low accessibility and quality of health services. An estimated 35 per cent of the population has access to health services, defined as being within 45 minutes' walk (5 km or less) of a health facility. [40] Institutional deliveries remain low at 35 per cent in 2011, with a marked difference between rural (39 per cent) and urban (82 per cent) areas.[41] The average CSB utilisation rate in Anosy Region for 2011 was 27 per cent compared to a national average of 31 per cent.[42]

[38] Ministry of Health (2011): Annuaire des Statistiques du Secteur de Santé 2010.

[39] Ministry of Health (2011): Annuaire des Statistiques du Secteur de Santé 2010.

[40] Ministry of Health (2007): Plan de Développement du Secteur Santé et de la Protection Sociale, 2007 – 2011.

[41] UNICEF statistics for the period 2006 – 2010.

[42] Ministry of Health (2011): Annuaire des Statistiques du Secteur de Santé 2010.

A partial cost recovery system is in place in the Madagascar public health system, with most basic health services being provided free at the point of access in combination with a partial patient contribution to the purchase of medicines. Although fees for medicines are highly subsidised and the patient only pays a small part of the actual cost, this fee still presents an access barrier for poor people. At the same time, as funds collected by medicines sales are limited, they are not sufficient for most health facilities to purchase all essential drugs each month.

The referral system does not function well, and patients frequently present at higher facility levels without being referred by lower levels. For example, in Fort Dauphin town, patients present directly at the regional hospital, without being referred by a health centre. Reasons for this include low staff skills and motivation, staff and drug shortages, poorly equipped and maintained health facilities and long distances to health facilities.

Annex C includes more information on functionality and accessibility of the health system.

Health sector financing

In 2011, the health sector received eight per cent of the overall national budget. Of the national health budget, 42 per cent was allocated to the regional and district levels.[43] The National Health Development Plan reported in 2007 that of overall health sector financing, 32 per cent was provided by the domestic government contributions, 36 per cent by donor agencies and 32 per cent by private funding, including 19 per cent household contributions.[44] 70 per cent of household spending for health services was on pharmaceuticals. In 2003, public health expenditure per capita was at USD 11.9, against a Sub-Saharan African average of USD 12.9 and compared to USD 34.0 recommended by WHO.

While there are no figures to demonstrate the scope of this trend, it is clear from stakeholder consultations across sectors that the political crisis of 2009 resulted in most donor funding being suspended. Not only has direct support to the Madagascar Ministry of Health been withdrawn, but funding to projects and programmes implemented by NGOs and other civil society organisations has greatly decreased.

In order to address financial accessibility of health services, the Ministry of Health and partners are currently preparing to pilot health insurance schemes (*mutuelles de santé*). RTQMM, through the regional health authorities and implementing partners, is in the process of providing support to such initiatives.

3.5. MOH strategic priorities

The National Health Policy of 2006 set out the overall health sector policy for Madagascar for 2006 – 2008. The four strategic areas were: strengthening of the health system; mother and child survival; disease control; and health promotion. In the following year, a strategic plan was developed to

[43] Ministry of Health (2012): Plan Stratégique de Lutte contre le Paludisme, Madagascar, 2013-2017.

[44] Ministry of Health (2007): Plan de Développement du Secteur Santé et de la Protection Sociale, 2007 – 2011.

define how to implement the National Health Policy: the Health Sector and Social Protection Development Plan for 2007 – 2011 (PDSSPS - Plan de Développement du Secteur Santé et de la Protection Sociale). The latter Plan has now expired and the Ministry of Health and partners are working on developing an interim plan for 2012 – 2013. No new national health policy has so far been developed.

Staff from the regional health authority in Anosy Region stated that their health priorities for the region included addressing malnutrition, HIV prevention, fighting against malaria and TB, addressing low utilisation of health facilities, low institutional births, improving family planning and strengthening community health approaches. The consultants were not able to view any district or regional health plans.

3.6. Stakeholder context

Health sector stakeholders at a national level include; global health initiatives such as the Global Fund for HIV/AIDS, Tuberculosis and Malaria (GFATM) and GAVI; multilateral agencies such as the World Bank, the UN system, the European Union; and, bilateral donors such as the United States, France and Japan. Other bilateral agencies, which previously provided health sector support to Madagascar, have now withdrawn or are withdrawing from the health sector, are Germany and the UK.

In Anosy Region, health sector stakeholders include:

- USAID: mother and child health projects,
- GFATM: HIV and TB interventions,
- ASOS (national NGO): SantéNet project for mother and child health and community health,
- Azafady (national NGO): behavioural change communication on mother and child health,
- SALFA (Lutheran Church): behavioural change communication on mother and child health, running of district hospital,
- PSI (international health agency): malaria, family planning, STIs and HIV,
- UN agencies: UNICEF and UNFPA have offices in the region: mother and child health, nutrition, malaria, water and sanitation, etc.
- Private GP practices (mainly in cities).

4. PROGRAMME CHARACTERISTICS

4.1. Overview

Over the past ten years, RTQMM has catalysed, supported, implemented and led a number of different activities and initiatives in the area of employee as well as wider community and public health. While these may have been driven by programmatic considerations at times, it is not easy to clearly define or delineate the RTQMM health programme in the strict sense of the term. This is partly because operationally, employee health is seen and treated as distinct from wider public and community health. Nevertheless, the term 'programme' will be used here to cover all health-focused activities and initiatives the consultants were able to describe for the past decade, both within and outside the fence.

It should also be noted that analysis of the RTQMM health 'programme' has shown that no neat distinction is possible to distinguish RQTMM's health activities inside and outside the fence. For example, the main company health centre is located outside the fence and serves employees as well as their dependants and a few selected contractors with general health services that are largely free at the point of access. While it also covers contractors in regard to occupational health, a different institution – not associated with RTQMM – is responsible for covering healthcare for contractors. Therefore, 'inside the fence' will be used here to focus on the employee and occupational health aspect of the programme while 'outside the fence' is used to emphasise the community and public health aspect of RTQMM's engagement.

RTQMM's health programme has changed over time as needs, priorities and staff size have evolved along with the company's progress from one phase to another, and linked also to the availability of financial resources. While the type of support provided to employees and their dependants does not appear to have changed remarkably over the past decade, the public health aspect of the programme has shifted as follows:

- **Phase 1** (2002 – 2008): Strong focus on prevention of HIV and AIDS and other sexually-transmitted infections (STI) during exploration and construction.
- **Phase 2** (2009 – present): Cost cutting and de-prioritisation of public and community health once operations began.
- **Phase 3** (present onwards): Larger, strategic health programme in partnership with government, NGOs and development agencies is being planned.

4.2. Conception process

RTQMM's inside the fence programme was conceived in line with Rio Tinto's global policy on occupational health, which states the company's recognition of the fact that "a healthy workforce contributes to business success" as well as its commitment "to preventing new cases of occupational disease".[45] Conception of the programme also followed a recognition that existing health structures

[45] Rio Tinto (no year): Global policy on occupational health.

in the Fort Dauphin region were poor and access to quality care could not be guaranteed unless RTQMM invested in a facility to cover both employees and their dependants. The Phase 1 programme with regard to community and public health was conceived following a number of social and environmental impact assessments and the realisation that any major mining operation, particularly during the construction phase, causes major population movements, thus presenting a great risk in terms of HIV transmission. With up to 6,000 contractors working for RTQMM at any given time, and many of those coming from other countries in Southern Africa where HIV prevalence rates are high, this was a very real risk for Madagascar as well as the Fort Dauphin area which, until then, had seen only very low prevalence rates of less than one per cent.

Once construction was completed and the workforce had decreased significantly, the risks of RTQMM's operations accelerating HIV transmission were considered less significant. This coincided with a time of austerity as general cost-cutting was necessary.

Since late 2011, discussions have been underway to reprioritise health as an important part of sustainable development and community relations, partly in recognition of the fact that RTQMM's relations with its communities are somewhat strained. Moreover, given that many previous supporters of health in the region have left due to the political crisis, needs and gaps are more obvious than ever and RTQMM is very visible as potentially the last remaining supporter to fall back on. RTQMM has been mentioned to bear the risk of being "the only game in town".[46]

4.3. Components of the health programme

The previous paragraphs provide a short overview of RTQMM's health programme and its components, including some background information in regard to how it has been conceived and structured. The following paragraphs will provide more detail in describing the programme inside the fence as well as phases 1 – 3 of the programme outside the fence.

Inside the Fence

RTQMM offers a comprehensive package of care to its direct employees and their dependants largely free at the point of access. Most services are delivered by the main health centre (the 'company health centre', Antok'Aina Clinic) located in one of three employee 'villages', i.e. locations where accommodation is provided for employees and their families. A second, smaller facility, is located inside the fence and deals with urgent medical issues of staff working at the mining site, including to decide whether an employee who feels ill at any given moment is fit to work or not. Moreover, a well-being peer education initiative as well as an integrated malaria and vector control programme are also part of inside the fence services.

Company health centre

Management of the health centre has been contracted out to International SOS, a global health service provider specialised in operating company clinics and assisting companies in medical

[46] See http://www.riotintomadagascar.com/english/cai_QMMRegDev.asp

evacuations. Madagascar is one of several countries where Rio Tinto has contracted International SOS to provide services to employees.

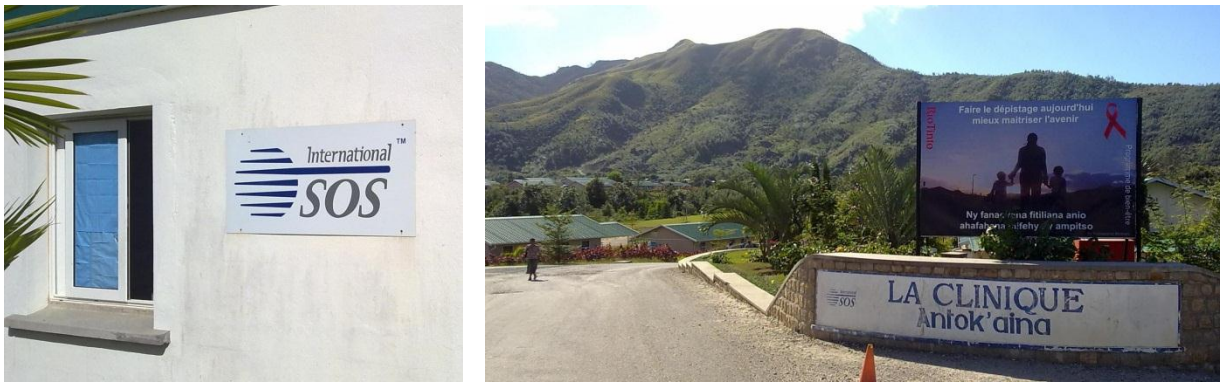

Figure 4: Impressions of the company health centre

International SOS is currently operating with 34 staff, including seven doctors, ten nurses, one lab technician, one X-ray technician and a number of administrative and support staff. The health centre provides a variety of services, including occupational health, emergency, in- and out-patient, vaccination, dentistry, antenatal care, family planning, minor surgery, pre-school check-ups and others.

The centre also conducts laboratory and radiology tests. Since 2011, after MoH authorisation was obtained, the company health centre has also been operating a Voluntary Testing and Counselling (VCT) service. Previously, employees and their families were referred to *Top Réseau* centres (VCT services provided by private GPs) in Fort Dauphin town. The health centre also provides antiretroviral treatment for HIV and Aids. The company has been commissioning regular surveys on employee knowledge, attitudes and practices on HIV.[47]

Furthermore, the facility assists in arranging medical evacuations as necessary.

Infrastructure and equipment used by International SOS are owned by RTQMM and were purpose-built after a needs assessment and a corresponding agreement between RTQMM and International SOS regarding the desired level of care as well as the target audience.

Attached to the health centre is an occupational health office, dealing mostly with initial, periodic and exit medical check-ups of employees and contractors. RTQMM recently started to conduct a comprehensive health baseline survey of all employees and contractors. This includes physical examinations that cover vision, hearing, radiology and other aspects of health. While baseline tests are the same for all types of employees, regular and exit check-ups are different as not all employees are exposed to the same risks. For example, only some occupations are regularly exposed

[47] Institut National de Santé Publique et Communautaire (2010): Etude sur les connaissances, attitudes, pratiques et comportements en matière d'IST / VIH / SIDA au niveau des employés de Rio Tinto QIT Minerals Madagascar. Final report July 2010.

to risks relating to noise or radiation. This baseline study will allow the company to track its health impact on employees and also produce useful information for government authorities.

The occupational health office provides an initial health briefing pack, which is included into the general briefing pack new RTQMM employees receive when they start working at the company. The pack includes information on prevention of malaria but does not include information on prevention and treatment of HIV. Also, new employees are not systematically briefed on HIV prevention by International SOS clinic staff or by the employee peer education programme.

Besides targeting all 1,500 employees and contractors in regard to occupational health, International SOS offers wider health services to all direct employees, their dependants, as well as a selected group of contractors. Thus, the health centre officially covers medical care for approximately 700 staff and 1,300 dependants, amounting to a total of 2,000 individuals.

All above-mentioned services, except dentistry and ophthalmology services, are provided free at the point of access. The costs of dentistry and prescription glasses are partially reimbursed.

While the RTQMM health centre officially does not cover contractors for health problems that are unrelated to their occupation, in reality up to 20 per cent of total consultations have been by such contractors. Nevertheless, RTQMM has recently reinforced its policy to not cover contractors and asked International SOS to respond accordingly.

Where a patient is identified as not being eligible for consultation, International SOS contacts RTQMM to take decisions about seeing the patient or not on a case-by-case basis. In cases of emergency or mass casualty, RTQMM would normally sanction treatment even for contractors and other community members. Moreover, it is part of International SOS policy to not turn anyone away who is in urgent need of medical assistance. In such cases, the health centre aims to get reimbursed by RTQMM. If this is not possible, International SOS would cover the cost.

According to Malagasy labour law, all companies of a certain size are required to provide healthcare for their employees through an inter-company facility. In the case of RTQMM, this would be OSIET (*Organisation de Santé Inter-Entreprise de Tolagnaro*), a facility located in Fort Dauphin town and used by its contractors. Malagasy law provides for compulsory contributions of one per cent of employees' salaries and a much larger contribution by employers to fund this system. RTQMM managed to obtain a special provision to be allowed to set up its own facility rather than using OSIET. In the long term, once quality of service has improved further, RTQMM aims to use OSIET also for its employees.

Peer education

As main focus of its well-being programme, RTQMM has recruited and trained 32 'well-being champions' (*champions de bien-être*), both from within its own workforce as well as from selected contractor organisations. Their focus is on disseminating health and well-being messages both inside and outside the fence. The programme was launched in 2004 and has expanded since. Peer educators meet monthly to discuss current issues and approaches. Two priority themes, such as malaria or alcoholism, are agreed on for each year. These are then addressed informally among colleagues or slightly more formally during "safety share" or "toolbox" meetings that take place every morning at the mining site. Every year, the well-being champions receive training in communication techniques by a specialised institute (ITEM).

Overall, peer education appears to be very well-received by recipients, who feel they gain new insights and have been able to revise wrong assumptions with regard to health. Moreover, anecdotal evidence suggests that peer education sessions have resulted in employees changing their behaviour, for example in using malaria prevention tools, quitting smoking or reducing alcohol consumption.

Integrated malaria and vector control programme

RTQMM's vector control programme focuses on malaria control, one of the main causes of morbidity and mortality in the area. Besides education, the programme includes the provision of long-lasting insecticide-treated mosquito nets (LLIN), mosquito repellent, indoor residual spraying, test and treatment kits for staff travelling abroad, and other elements for employees and dependants.

Previously, RTQMM distributed one free LLIN per employee in combination with information on the need for purchasing additional LLINs for the employee's family members. As of 2012, RTQMM distributes one free LLIN per bed for each employee house. RTQMM employees also receive two bottles of mosquito repellent lotion, which are refilled twice per month. Furthermore repellent dispensers are located at the RTQMM mining sites.

RTQMM conducts indoor residual spraying (IRS) of houses of employees living in the RTQMM staff villages and of expatriates. Furthermore, RTQMM organises thermal fumigation of the areas surroundings the employee villages twice a year. RTQMM also treats confirmed mosquito breeding sites located within or close to the mines and employee houses with larvicide.

RTQMM has a full-time entomologist on staff to monitor mosquito breeding sites in RTQMM areas and in the surrounding communities. Furthermore, RTQMM has facilitated a number of malaria entomology surveys in the communities surrounding the mining sites.

Water treatment solution (sodium hypochlorite – Sur Eau) for point of use treatment of drinking water is also distributed (6,000 bottles in 2011[48]) to avoid diarrheal disease, another key cause of morbidity.

Outside the Fence

In its global guidance document entitled 'The Way We Work', Rio Tinto recognises that mining companies must bring economic, social and environmental progress to its host regions. The RTQMM Sustainable Development Report 2010 notes that the company "cannot achieve the expected impacts unless the actions undertaken by RTQMM fit into regional development initiatives, development dynamics and integrated development programmes".[49] In other words, the company understands the need to align with existing structures and policies, both government and other.

Phase 1

During phase 1, i.e. which begins before the investment decision, into the exploration phase and up until the completion of construction, RTQMM's health programme outside the fence had a strong focus on prevention of HIV and STIs. The decision for the programme to focus on HIV was made following a health impact assessment undertaken in the early 2000s, which pointed to the risk of RTQMM mining activities contributing to an increase in transmission of HIV in the region, likely to also constitute a reputational risk to the company. A second area of focus was on strengthening the capacity of the public health system.

The programme focused on the town of Fort Dauphin and communities adjacent to mining operations. It included the following components:

<u>Focus on the multi-sectoral response to HIV and other STIs:</u>

- Advocacy with the Ministry of Health at central level as well as the National AIDS Council (*Secretariat Executif du Conseil National pour la Lutte contre le VIH/Sida - SE/CNLS*) to include Fort Dauphin among the 20 priority areas in the fight against HIV and AIDS; and advocacy with USAID to bring national flagship projects "Top Réseau" and "Santé Net" to Fort Dauphin.
- Work with the National AIDS Council in establishing a regional HIV committee in Fort Dauphin as well as in local communities adjacent to RTQMM mining sites.
- Capacity building of sex workers through a collaboration with the International HIV/Aids Alliance, an international NGO, to facilitate peer education and transparency.
- Support to Population Services International (PSI) to conduct a study on HIV and other STIs in the local context (PLACE – Priorities for Local Aids Control Efforts - 2003 and 2007) and a survey among sex workers; support to establish an additional centre for voluntary counselling and testing (VCT) within a private GP practice and a mobile cinema to educate communities, many remote and difficult to access (see pictures below).

[48] GIZ/Rio Tinto (2011): Tracking Development: a collection of QIT Madagascar Minerals' (QMM) socioeconomic contributions. P. 36.

[49] Rio Tinto (2009): The way we work: our global code of business conduct. Page 26.

- Acting as a catalyst in establishing associations of people living with HIV and Aids to help fight against stigma and discrimination.

Figure 5: Activities supported by RTQMM

Focus on the public health system:

In collaboration with the Ministry of Health at central level, RTQMM contributed to strengthening of the public health system by supporting primary health care infrastructure. Two primary health centres were built, along with staff accommodation, and two further health centres were rehabilitated (see pictures below). RTQMM undertook these infrastructure improvement works following an agreement that the government would equip and staff these. RTQMM also donated some equipment and furniture to the regional hospital.

Phase 2

During phase 2, i.e. following the beginning of operations and the outflow of the majority of the workforce, the health programme outside the fence was discontinued and only ad-hoc support continued, which has not been systematically documented. For example, RTQMM continued to provide small-scale support to the Regional and District health authorities in response to ad-hoc request for provision of equipment, medicines or for provision of transport during health campaigns.

The decision to scale-down appears to have been due to a decrease in the perceived risk of transmission and thus lower reputational risks for RTQMM, coupled with a company-wide drive to cut costs. Early days of operation also coincided with the beginning of the ongoing political crisis in Madagascar, which has meant that development partners began to reduce or discontinue their support. This resulted in RTQMM becoming more visible as one of the few partners remaining to provide development support in the area of Fort Dauphin district.

Figures 6 and 7: Health centre and staff accommodation built by RTQMM

Phase 3

With a new Director for Community Relations and Sustainable Development being hired who has spent 30 years in Madagascar, including nearly two decades working for USAID, there are clear signs that RTQMM is re-prioritising health and development.

In late 2011, the company started discussions with UNICEF, UNFPA and the regional health authorities about a joint public and community health programme for Fort Dauphin district. This health programme is part of a wider development programme that also targets education, governance and key determinants of health, such as nutrition. It includes a focus on reducing child and maternal mortality as well as on preventing HIV transmission.

The programme also includes plans to construct a new health centre in Fort Dauphin town, as the only health centre is not only in poor condition, but also located away from the area where those with the greatest need live, resulting in very poor attendance. It is hoped that the new health centre will make a considerable difference in ensuring access to basic health care services for the population.

4.4. Programme management structure

Inside RTQMM, health is covered by two key Directorates:

a) The Health & Safety Directorate (*Direction de la Santé et Prévention des Accidents*) which is responsible for employee health and manages the contract with the health service provider International SOS
b) The above-mentioned Community Relations and Sustainable Development Directorate, covering community relations per se as well as specific technical areas, such as health and education, and working closely with the Communications and Environment Directorates.

Within the Community Relations and Sustainable Development Directorate, a Social Development Coordinator has principal responsibility for public and community health outside the fence (along with education). This individual is a medical doctor also trained in public health who has been with the company for close to ten years. He has a wide network of formal and informal relations in the Fort Dauphin area and is a leading member of several health-focused associations. For example, he was instrumental in setting up - and is currently chairing - the medical doctors association (*Ordre des Médecins*) for Anosy region. Together with the new Director, he provides strategic leadership on RTQMM's engagement in community and public health while also being responsible for most operational aspects of these relations.

The Director of Health & Safety manages the contract with International SOS on behalf of RTQMM and is in regular contact with health centre management. Supported by Rio Tinto's sub-regional office in Johannesburg, he participates in periodic revisions of the contract to accommodate for fluctuations in staff size and to respond to emerging company needs. He is consulted each time a patient presents to the International SOS health centre who is not officially covered by the service.

When it comes to regular health check-ups, vector control and peer education, another medical doctor – recruited and paid for by RTQMM but with an office attached to International SOS – is responsible. With a small team, he leads and conducts medical check-ups as well as managing, and providing guidance, to the peer education ('well-being champion') programme. Until recently, he also managed RTQMM's vector control programme, which was previously managed by International SOS. At the time of interviews, RTQMM had not yet decided who would continue to manage the programme.

5. PARTNERSHIPS

5.1. Overview of partners

Inside the Fence

With regard to occupational and employee health, the company's main partner is International SOS. Before entering into contract negotiations with prospective clients, such as RTQMM, International SOS conducts a thorough assessment of local needs and gaps in service provision. Since the contract with and payment to International SOS is based on the number of individuals to be covered, RTQMM regularly reviews and re-negotiates the contract to respond to fluctuations in the size of its staff. As part of its agreement with RTQMM, International SOS submits detailed reports about the number and type of consultations, including how many employees present for which service, and how many days of sick leave are recommended.. This enables the mining company to maintain an overview of trends in disease patterns as well as trends relating to productivity.

The partnership is thus mostly based on the fact that RTQMM not only formally contracts service provision out to International SOS, but goes beyond. For example, both companies share the burden of treating patients that are not officially covered by the contract, and International SOS provides regular reports and evaluation results – for example to assess its vector control programme – to RTQMM.

Outside the Fence

During Phase 1, RTQMM partnered with the following organisations:

- Government: the Ministry of Health at central, regional and district level, as well as the National AIDS Council,
- Development donors: USAID and GTZ (now GIZ),
- NGOs: PSI and HIV/AIDS Alliance, as well as ASOS (not depicted below), a key national NGO.

Most partnerships were outlined in written agreements, clearly setting out each partner's roles and responsibilities. For example, when RTQMM supported the construction and rehabilitation of public health infrastructure, including accommodation for health workers, the agreement was set out in writing and included a description of each party's roles and responsibilities as well as a clause addressing potential failure to respect the agreement. RTQMM's role was to provide health infrastructure under the condition that the government would ensure appropriate staffing, equipment and supplies. Ten years later, the health centres are still functional. Similarly, when supporting capacity development of sex workers with regard to HIV and Aids through the International HIV/Aids Alliance, a project document described the context, set out objectives and strategies, stated deliverables, detailed activities for support, and also included a provision for monitoring and evaluation.

Another example is one-year funding support to a four-year programme funded by USAID and implemented by the Global Development Alliance and national partners such as the NGO ASOS. The programme focused on prevention of HIV / STIs, education, agriculture and other development issues.[50]

During Phase 2, which coincided with the political crisis and a period of disputed government, RTQMM took the deliberate decision not to work with the Ministry at the central level. It nevertheless responded to ad-hoc requests for support by local health authorities.

In Phase 3, partnership considerations have been driving plans for the new health programme. The partnership was conceived when the RTQMM president spoke to a high-level UNICEF representative about a potential collaboration. It was not until several months into planning the joint programme with UNICEF and UNFPA that the partners realised a need to squarely place the programme within the context of regional and local priorities and pro-actively engage health authorities. Negotiations were still ongoing and signature of the agreement by all parties was envisaged for October 2012.

Although communities have not featured as direct partners of RTQMM health programming, they have been the focus of a number of initiatives aimed at developing community health care, strengthening community dialogue and consultation, and improving relationships with affected communities.

According to the Madagascar Mining Code, the Anosy regional authorities, as well as the authorities of the three districts adjacent to RTQMM's operations, are direct beneficiaries of the Community's Shares of Royalties paid by the company. In order to ensure effective, balanced and fair development of the resulting benefits to the whole population, RTQMM recommends setting up a Mining Foundation, in collaboration with other development partners[51].

It should be noted that a number of programmes and partnerships are being implemented which, while not directly focusing on health, address some key social determinants of health. For example, the Integrated Development Programme (*Plan de Développement Intégré*) spans a three-year period and aims to boost the local economy, particularly in areas bordering the mining site. Working with communities, income-generating activities, such as periwinkle production, were identified and implemented, which benefited 2,000 households.

RTQMM's flagship regional development programme, the Fagneva Programme, was initiated in 2010 for a five-year period. It is implemented by a steering committee composed of regional representatives of the district of Fort Dauphin, the Public Organisation of Intercommunity Cooperation (OPIC), RTQMM, and others. The programme is based on the objectives defined in the Regional Development Outline. The programme includes six projects in 2010: education, youth and sports, economy, public and road safety, governance, and improvement for Fort Dauphin. governance, monitoring and oversight processes

[50] RTQMM (2010) : Évaluation gérée par le site (EGS) des relations communautaires.

[51] RTQMM (2010): Sustainable Development report 2010.

Internal management arrangements for RTQMM health interventions inside and outside the fence are described in section 4.3 above.

Overall, responsibility for all health sector interventions in Fort Dauphin District lies with the District Health Management Team (*Services Districtales de Santé Publique - SDSP*), which is supervised and supported by the Regional Health Management Team (*Direction Régionale de Santé Publique- DRSP*). RTQMM is not systematically invited to regional and district health sector coordination mechanisms. Nevertheless, when RTQMM is invited to meetings, a company representative attends.

The district health management authorities are responsible for monitoring the RTQMM employee health centre but so far have never done so. The RTQMM health centre submits monthly reports to the SDSP following the MoH format, but does not receive any feedback.

When it comes to RTQMM's health programme outside the fence, monitoring arrangements vary. For support to interventions implemented by NGOs, arrangements were stipulated in the contracts between RTQMM and the NGOs. Generally speaking, the NGOs submitted reports to RTQMM and a RTQMM staff would occasionally visit the interventions supported. For support to the national health system, no formal monitoring or reporting arrangements existed.

5.2. Financing modalities

For RTQMM's health interventions inside the fence, RTQMM contracts International SOS to manage its health centre. The contract is not based on performance but on the number of individuals to be covered, as well as a pre-defined package of services. RTQMM also contracts companies to carry out spraying and fumigation activities as part of its vector control programme.

Outside the fence, RTQMM provides financial contributions form of grants. An exception to this was the financial support provided to ASOS, which was part of a co-financing agreement with USAID.

6. PROGRAMME COSTS

6.1. Inside the fence services[52]

Initial investment

When first setting up the company health centre, RTQMM spent about USD 750,000 on infrastructure. This includes the main as well as the secondary health centre, the dentist cabinet, the occupational health unit and equipment, but excludes initial investment on ambulance cars.

[52] The consultant team was unable to obtain written information and data on costs of the health programme inside the fence. When attempting to triangulate data obtained orally in interviews with key informants some inconsistencies emerged, which could not be entirely explained. Therefore, while the 'ballpark' is correct, the precise figures may be not. Similarly, when consulting various written documents as well as key informants regarding the total number of employees, contractors and dependants covered by inside the fence services, different figures were obtained. Again, while the ballpark is correct, the number of individuals covered – and thus the cost per individual – may be slightly different.

Recurrent costs

Approximate annual costs for service provision, drugs, consumables and other items spent mostly in connection with occupational and employee health, as well as health for dependants of direct employees, are summarised in the table below. This overview does not include cost of RTQMM staff managing the programme.

Table 1: Approximate annual cost for health programme components

Description	Approximate annual expense US$
Health service provision (International SOS contract plus operational cost)	1,100,000
Drugs and consumables	180,000
Medical evacuation	80,000
Training and peer education	48,000
Vector control programme	40,000
TOTAL PER YEAR	**1,448,000**

6.2. Outside the fence services

Phase 1

No comprehensive budget data is available for Phase 1 of the RTQMM public and community health programme. Such data is only available for specific activities and contributions seem to have varied greatly in their size. For example, it is known that RTQMM spent approximately USD 7,000 for the purchase and distribution of bednets in a collaboration with Santé Net that targeted four Communes in Fort Dauphin district, totalling 41,000 beneficiaries.[53] Another example includes support to PSI, of an initial USD 370,000 in 2006, followed by USD 19,000 in 2009, to support a mobile cinema for preventive HIV education in Fort Dauphin district, various peer education activities for vulnerable groups as well as health surveys conducted in collaboration with PSI and USAID.[54]

Besides such contributions to NGOs, RTQMM also built and rehabilitated four health centres around 2003. While no specific cost data is available for these construction and rehabilitation activities, the team estimates that RTQMM spent at least USD 100,000.[55] Given the above figures, it does not seem unjustified to provide a rough estimate of RTQMM spending on health outside the fence, which might have totalled at least half a million USD during phase 1.

Phase 2

The team has been unable to obtain information on a health budget for outside the fence activities for Phase 2. This may be due to the fact that expenditure on public and community health during this time was minimal and ad-hoc rather than systematic.

[53] Budget information on the KM project managed by ASOS and financed by USAID and QMM.

[54] Internal list of RTQMM community projects.

[55] In the document outlining the planned collaboration of RTQMM with UNICEF, UNFPA and others, the budgeted cost of construction of one health centre is USD 75,000. Nevertheless, the team does not have any detailed information on what is included in this amount, nor does it have reliable information on cost inflation over the past ten years to allow for a realistic estimate.

Phase 3

The budget for public and community health for 2012, including HIV and Aids, is USD 171,000. This equals 6.3 per cent of the Community Relations and Sustainable Development department budget, which budget amounts to USD 2.7 million for 2012 in total. Within the health portion of the budget, the majority (93 per cent) is spent on public and community health, with about seven per cent budgeted for HIV prevention. Overall, the budgetary focus of the Community Relations and Sustainable Development department is on economic development, an area that receives 60 per cent of the department's budget.[56]

The tentative budget for the planned health programme (including nutrition and family planning) in collaboration with UNICEF, UNFPA and the government is approximately USD 1.8 million over a period of three years (2012 – 2014). Of this, USD 696,300 (39 per cent) is accounted for by RTQMM.[57] It cannot be said with certainty to what extent the budget mentioned above for 2012 overlaps with the budget for the joint programme with UNICEF and others. There is no information on additional items relating to health and HIV for 2013 and beyond.

Cost effectiveness

In order to compare cost effectiveness, comparative values or quantifiable benefits are necessary. Neither are available to a degree that permits calculation of cost effectiveness. Nevertheless, cost of healthcare per employee and dependant may be calculated and put in relation to days lost due to illness and injury, as well as public spending on health per person in Madagascar.

Cost per employee

Recurrent cost per employee (700 direct employees plus selected contractors) is USD 2,069 per annum. When dependants are taken into account, cost per individual (2000 individuals covered, i.e. employees and dependants) is USD 724. The initial investment may be written off or distributed over a ten-year period or longer. If a ten-year period was used as the basis of analysis, annualised costs would increase by USD 75,000, i.e. by about five per cent. In other words, cost per employee would amount to USD 2,176 and cost per individual to USD 762.

Cost per community member

Given the fact that each aspect of the RTQMM health programme outside the fence has a different target audience and thus addresses a varying number of community members, and that these numbers have not been clearly specified, it does not appear useful to calculate a unit average.

Cost compared to public spending

Public health spending per person in Madagascar was USD 11.9 in 2003. This compares to a WHO recommendation of USD 34.0 per person per annum which is considered sufficient to provide a basic package of health care.

[56] RTQMM internal activity plan and budget for the sustainable development interventions for 2012 – 2014.

[57] Draft activity plan for joint MOH – UNICEF – UNFPA – RTQMM project.

7. PROGRAMME BENEFITS AND IMPACT

7.1. Employees and families

The team has had no access to data on health outcomes of employees and their families, or on whether outcomes improve once a person starts working at RTQMM. In fact, it would appear that neither International SOS nor RTQMM systematically analyse such data over time in order to allow reflection on trends and impacts.

Nevertheless, employees interviewed by the team expressed a high level of satisfaction with the health services provided by International SOS and RTQMM, and amongst stakeholders in the district, the RTQMM health service enjoys a high reputation. Companies not linked to RTQMM have attempted to negotiate access for expatriate employees to access medical services at the RTQMM health centre (RTQMM has not agreed to this). This indicates that the quality of service provided is perceived to be high. In addition, anecdotal evidence points to the fact that HIV prevention interventions amongst RTQMM employees may have led to decreased risk-taking by employees.

The RTQMM health centre maintains on-site health records. In 2011, there were a total of 13,616 consultations (at an average of 1.134 per month), of which 4.5 per cent were for expatriate staff[58] The consultations led to 150 positive malaria diagnoses. In 2011, International SOS carried out seven medical evacuations. Whilst RTQMM does not provide health insurance for its national employees, the company health centre provides them with access to good quality healthcare, in addition to which RTQMM facilitates referrals to Fort Dauphin Regional Hospital and to Antananarivo Hospitals, as well as medical evacuation to Antananarivo. In addition to the above services, expatriate employees are provided with health insurance by RTQMM.

The RTQMM health centre recorded a total of 753 days in 2011 lost due to illness and injury (average of 62.8 per month) and a total of 723.5 sick leave days (average of 60.3 per month), which represents a grand total of 1,476.5 days lost due to illness for the entire year.

Table 2: Selected causes of consultations in the RTQMM health centre in 2011

Cause	Number of consultations in 2011	Average consultations per month	Number of work days lost in 2011	Average work days lost per month
TOTAL CONSULTATIONS	13,616	1,134		
TOTAL DAYS LOST TO ILLNESS / INJURY			723.5	60.3
Selected causes of consultations:				
• **Lower Respiratory Tract Infections**	1,806	150.5	85.5	7.1
• **Infections / sepsis**	1,030	85.8	148.0	12.3
• **Diarrhoea**	924	77.0	64.0	5.3
• **Malaria**	68	5.7	89.0	7.4
• **STI**	150	12.5	89.0	7.4

[58] RTQMM (2012): Annual Statistics for 2011 for health centre operated by I-SOS in Fort Dauphin district.

An HIV workplace policy is in place within RTQMM which is supported by peer education by employees, posters in strategic sites in the RTQMM offices and by provision of free male condoms in employee toilets in the mining sites and offices. Since late 2011, the RTQMM health centre has been authorised to operate its own Voluntary Testing and Counselling Service. Previously, employees and their families were referred to Top Réseau centres (VCT services provided by private GPs) in Fort Dauphin town. The RTQMM health centre provides antiretroviral treatment for HIV and Aids.

7.2. Communities

Impact on Disease

Regarding the health status of communities, it was not possible to collect data on mortality and morbidity from health centres located in the Communes surrounding the mining sites. There is no data available on the impact of RTQMM health interventions on the health status of communities surrounding the mining sites. Furthermore, no reliable data is available on trends in HIV prevalence in Fort Dauphin District[59].

Stakeholders mentioned an increase in malaria mortality which occurred in 2010 in Communes surrounding the RTQMM mining sites. The National Programme for Malaria Control sent a team of experts from MoH and the US Centre for Disease Control to the district to investigate the reasons for this increase. No unambiguous evidence was found, but a link between an increase in wet mining in the area and an increase in malaria transmission seems plausible. At the same time, increases in malaria mortality may also have been due to changing climatic conditions and linked to an inadequate response by basic health services which may have been affected by the suspension of foreign aid.

Regarding HIV, stakeholders interviewed suggested that no notable increases in HIV prevalence have been observed over the past years in Fort Dauphin district. This suggests that RTQMM's HIV prevention interventions have been successful. There is concern however that STI incidence is reportedly increasing in the District.

Impact on Access

Communities benefit in a number of ways from RTQMM health programming:

[59] There is data on the number of persons on ARV treatment in Fort Dauphin district collected by the Regional Hospital in Fort Dauphin. However, there is currently no system (such as a sentinel surveillance system) in the district for recording HIV prevalence amongst large population groups (for example pregnant women) which would allow the Ministry of Health and the National HIV/AIDS Council to estimate HIV prevalence amongst the general population.

- Increased access to quality health care services by communities surrounding the RTQMM sites: improved infrastructure through investment by RTQMM or by Communes; increased numbers of staff where communities have used mining royalties to hire additional health staff.
- Improved access to HIV prevention services, particularly counselling and testing, in Fort Dauphin District and in Anosy Region as a whole.

The construction of two new public health posts by RTQMM in two Communes surrounding the RTQMM sites have undoubtedly had a significant impact on access to formal care. Without the support of RTQMM, these facilities may not exist and the population may have to continue to rely on accessing services in neighbouring Communes, as was the case in the past. The rehabilitation of two health centres in two additional Communes and the construction of staff housing near one of the health centres have also contributed to improved access as well as improved staff motivation. The opening of the new public health centre in Fort Dauphin town with RTQMM support will have a significant impact on access to formal health care within the locality. Unlike previous health facility constructions, RTQMM will this time not only support the construction of the building, but also provide equipment and support the costs of hiring public service staff while they are waiting to be put on the Government pay-roll. The health centre, once operational, will provide services to a broad population base of over 50,000 people, which may increase as economic immigration to the area rises.

In Fort Dauphin district, RTQMM will also support training of community health workers (*agents communautaires*) focusing on disease prevention and awareness-raising activities in their communities.

RTQMM has furthermore strengthened the capacity of HIV prevention services in the Region, including increasing the number of sites for VCT and STI prevention and treatment, strengthening systems for behaviour change communication on HIV as well as systems for peer education for most at risk groups. RTQMM also strengthened systems for regional HIV coordination and for monitoring of HIV knowledge, attitudes and practices.

Another important impact for communities is the royalties which Communes surrounding the mines receive from RTQMM. The royalties reportedly amount to up to USD 200,000 per year per Commune, which represents a considerable sum of money for authorities which receive very little funding from Government. A community close to RTQMM's main mining site Mandena, identified health as a priority need. To support the local health centre which had been suffering from limitations in regard to both infrastructure and staff, they addressed several aspects of healthcare needs: one doctor, one nurse and one midwife were hired and a dedicated delivery room as well as a guesthouse (to accommodate patients' families) were built and equipped. Thus the health centre is able to stay operational even at a time of political crisis when public health workers have been striking for several months.

7.3. Mining company

Impact on Workforce Productivity

Data collected by International SOS shows that days lost due to illness and injury amounted to 1.476,5 in 2011 (see table 2 above). This equals 123 days lost per month. Anecdotal evidence regarding a decrease in days lost due to illness or injury over the past few years indicates that productivity is increasing, i.e. that the number of sick days per employee are declining. This can be corroborated by anecdotal evidence indicating that malaria incidence has reduced since RTQMM started its vector control programme. In other words, RTQMM's investments in employee health appear to be effective in reducing illness episodes and related sick days. Nevertheless, improvements are possible, as the recent death due of a key RTQMM employee to malaria has shown.

RTQMM does not financially quantify or perform an in-depth analysis of data relating to days lost due to illness or injury. In other words, it does not systematically monitor trends in days lost, relating them to epidemiological patterns or indeed interventions to understand the latter's effectiveness in regard to productivity. Moreover, changes in days lost are not quantified financially, i.e. measured in relation to employee's salaries or outputs generated.

Social License to Operate

Most key informants, both inside and outside the fence, acknowledge that RTQMM was currently struggling in regard to community goodwill, and that community relations had been strained. Roadblocks staged by communities demanding services from the company in the face of deteriorating public provisions, were a clear signal. The company's sustainable development report 2010 notes that RTQMM had become one of the only sources of investment and one of the few employment opportunities in the Anosy region. It was felt that public criticism was due not only to inadequacies in RTQMM's approach, but also related to unmet expectations beyond its control. "RTQMM and Port Ehoala are no longer considered as just a prime mover, but as the entire vehicle for sustainable development".[60]

It is arguable that investing more, and more visibly, in community and public health would benefit the company in regard to community goodwill, as well as further improve its relations with government authorities. Moreover, by expanding its efforts in public health, for example in regard to vector control for malaria, to wider communities, it could positively affect employee health and productivity.

7.4. Local government and health system

By supporting health facility infrastructure in several Communes, RTQMM contributed to the strengthening of the primary health care system in Fort Dauphin District. Furthermore, through RTQMM's ad-hoc support to health campaigns, such as vaccination campaigns, and donations of drugs and medical equipment to the Regional Hospital in Fort Dauphin, RTQMM is supporting

[60] RTQMM (2010): Sustainable Development Report 2010. P 12.

secondary and tertiary health services, in addition to increasing the level of funding available to the health sector in the District and improving coverage of the public system.

RTQMM contributed to the strengthening of the capacity of private providers in voluntary counselling and testing for HIV and in STI prevention and treatment. It also strengthened partnerships between public and private providers of HIV and STI prevention services.

RTQMM's participation in regional and district level health sector planning exercises and coordination meetings strengthens the capacity of regional and district health authorities to plan and monitor interventions.

8. CONCLUSIONS AND LESSONS LEARNED

Inside the fence

RTQMM puts great emphasis on health and safety of its employees. This is evident in the significant amounts of money spent on employee health and demonstrated by the fact that employees and their dependants alike are provided a comprehensive package of healthcare, largely free at the point of access. This approach goes beyond legal obligations in Madagascar and, as it would appear, above standard industry practice. As a result, employee satisfaction is high, including in regard to health - a point that was stressed by company trade union representatives - and productivity is positively affected.

Health and safety are seen as closely interlinked, and responsibility is joined in one Directorate. It is evident that ensuring health and safety of its workforce is not only a global priority for Rio Tinto but also one demonstrated by RTQMM in Madagascar specifically. Nevertheless, the company might benefit from more in-depth and separate analysis of the two fields, since employee health, particularly in tropical low income countries like Madagascar, encompasses an important public health element, which is largely unrelated to workplace safety. Instead, public health and key causes of morbidity and mortality, such as malaria, acute respiratory infections and diarrheal disease, need to be taken into account, and the connection with wider community health be investigated.

Inter-departmental links between Health & Safety and Sustainable Development are necessary. When it comes to health, close inter-departmental links between Health & Safety on the one hand and Sustainable Development and Community relations, on the other hand – i.e. between the internal and external aspects of health programme – are crucial in maximising synergy, particularly in the light of infectious diseases that affect employees and community members alike.

Malaria prevention requires a comprehensive approach. Malaria, in particular, is an infectious disease which can be prevented cost-effectively. At the same time, it cannot be effectively prevented through ad-hoc or dispersed interventions. In other words, malaria prevention and control require an approach that links employee health and wider community health. Thus, as RTQMM has learned the hard way from the recent death of a key employee due to malaria, further reaching interventions, that include community members as well as employees, are necessary if malaria incidence is to be reduced significantly in a given geographic area.

Knowledge of national policies and local needs is key. The case study has shown that, in order to be able to negotiate effectively with private for-profit service providers such as International SOS, it is important for companies like RTQMM to have a thorough understanding of local health needs, gaps in service provision as well as national protocols in regard to diagnosis, treatment and care before entering into negotiations with partners. Periodic re-negotiations of its contract with International SOS generate a need for continued assessment and strong in-house expertise in regard to healthcare across departmental divisions.

Robust systems for data collection and analysis can go a long way in maximising and understanding success. Monitoring and evaluation, including through baseline surveys, are crucial

for planning, managing and periodically reviewing company health interventions. Moreover, the data thus generated can be used to demonstrate the business case for investing in health. Through International SOS and other means, RTQMM collects a wealth of data on employee health. Moreover, the company recently started to conduct a comprehensive health baseline survey of all employees and contractors. This includes physical examinations that cover vision, hearing, radiology and other aspects of health. Data such as this is extremely valuable and allows the company to more effectively track its health impact, as well as the impact of the services it provides or pays for. Moreover, it provides useful information for government authorities and other partners.

Outside the fence

Health is a key priority for communities. By using their share of mining royalties to support health care, communities demonstrate that health is a priority. At the same time, the positive indirect impact of mining on health becomes apparent. To support the local health centre which had been suffering from limitations in regard to both infrastructure and staff, a community close to RTQMM's main mining site Mandena addressed several aspects of healthcare: one doctor, one nurse and one midwife were hired and a labour ward as well as a guesthouse (to accommodate patients' families) were built and equipped. Thus the health centre was able to stay operational even at a time of political crisis and striking by public health workers.

Systematic, strategic and consistent communication with communities is crucial. Not long ago, RTQMM was facing roadblocks and other types of collective action by communities who demanded social services and support. When the company strengthened its communication with communities as a result, it was found that a large part of the communities' resentment was due to a lack of appropriate communication: community members simply did not know that an important part of the infrastructure and service that had been put in place, had in fact been provided by the company. Community members had assumed that these had come from the government. This also demonstrates the need for systematic and consistent programming for community and public health.

Informal relationships are vital and warrant formal company support. Informal relationships can go a long way when it comes to gathering information, establishing collaborations and partnerships and gaining access to decision-makers. The RTQMM Social Development Coordinator, who has been with the company for close to ten years, and has a wide network of formal and informal relations in the area where RTQMM operates, is just one example. Such networks are a clear asset to the company, and potentially contribute to preventing and mitigating conflict with communities and authorities. Therefore, companies like RTQMM might benefit from more pro-actively and systematically supporting less formal networking by key staff, including by allocating working hours for this purpose.

Catalytic support to organisations and initiatives can go a long way. RTQMM has provided seed funding and acted as a catalyst for successful approaches and institutional frameworks present in other parts of Madagascar to be introduced to the Southeast of the country, where it operates. For example, to facilitate peer education and support in the fight against HIV and Aids, the company has

helped create sex worker associations and groups of people living with HIV and Aids. A decade later, these groups are still operational. This demonstrates the value and sustainability implications of well-conceived catalytic support.

Alignment with the national health system

Alignment with, and strengthening of, the national health system should be a key consideration in programme development. There is no evidence that RTQMM health programming, either inside or outside the fence, has contributed to weakening Madagascar's public health system, for example by public sector health workers leaving to work with RTQMM facilities. On the contrary, RTQMM's infrastructure development interventions and its support to provision of medicines, equipment and transport facilities have been driven by an aim to strengthen the public health system. Public health facilities benefit from ad-hoc support where necessary, for example when running out of a certain drug or consumable. Moreover, the company health centre regularly reports to local health authorities and invites supervision visits, even if they are not necessarily consumed.

Sustainable development requires collaboration with authorities at local and central level. In regard to health and development, RTQMM has prioritised engagement with authorities at the regional and district level. At the central level, however, there has been little engagement. The fact that national-level health authorities, such as the Secretary General of the Ministry of Health, or the Director of the National Malaria Programme, have clearly expressed an interest in engagement and partnership with RTQMM is an indication that the company may reconsider its approach.

Annex B of this report includes a number of recommendations formulated by the consultant team for RTQMM on the latter's request.

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10. ANNEX

10.1. Annex A: Persons interviewed

Organisation	Name	Function
RIO TINTO / RTQMM		
Rio Tinto HQ	Mr. Jean-François TURGEON	Managing Director
RTQMM President	Mr. Ny Fanja RAKOTOMALALA	President
RTQMM Sustainable Development Directorate	Ms. Lisa GAYLORD	Director of Community Relations and Sustainable Development
	Dr. Jean de Dieu RAKOTOVAO	Coordinateur Développement Humain
RTQMM Safety, Accident Prevention and Hygiene Directorate	Mr. Richard PERASONY	Director for Health and Safety
	Dr. Erick RANDRIAMBOLARAINY	Chef Médine de Travail, Wellness Programme & Vector Control
RTQMM Human Resources Directorate	Ms. Toky RAKOTOMALALA	Chef de Service Administration et Relations avec les Employés, acting Head of Directorate
RTQMM employees	Mr. Herizo HANTANIORY	Syndicat Representative & RTQMM Sourcing Specialist
	Mr. Bonheur Arthur LAHATSARAVITA	Syndicate Representative & RTQMM Laboratory Analysist
	Mr. Jonas Neesken RABEMAMPUERIKA	Peer Educator & RTQMM Procurement Officer
International SOS (RTQMM Contractor)	Mr. Karim Braka	Directeur General, I-SOS Antananarivo
	Dr. Albert FABIEN	Clinic Manager, I-SOS Fort Dauphin
	Dr. Colin TILBURY	Clinical Medical Officer / Medical Adviser, I-SOS Fort Dauphin
	Dr. Solange ANDRIAMANALINTSOA	Medical Doctor, I-SOS Fort Dauphin
Contractor Wartsila	Ms. Lalao Nirina RAJERIHARINDRANTO	Peer Educator & Administrator, Wartsila
MINISTRY OF HEALTH CENTRAL LEVEL		
Directeur General de la Santé Publique	Mme Dr. Herlyne RAMIHANTANIARIVO	Directeur Générale de la Santé
Direction du Développement de Districts Sanitaires (3DS)	Dr Josette RAKOTONIRINA	Médecin, Equipe Technique, Santé Communautaire, Antananarivo
	Dr. Faly ANDRIAMAHUMTENUSOA	Médecin, Equipe Technique, Santé Communautaire, Antananarivo
Programme de Lutte contre le Paludisme (PNLP)	Dr. Benjamin RAMAROSANDRATANA	Directeur PNLP, Antananarivo
MINISTRY OF HEALTH - REGIONAL LEVEL		

Organisation	Name	Function
Direction Régionale de la Santé Publique (DRSP)	Dr. Michel BARIMANYATO	Directeur DRSP
	Dr. Toussaint RAKOTOMAVOARISONA	Chef Services Medicaux
	Mr. Jean-Claude RAVELOJAONA	Responsable Suivi & Evaluation
Service Districtale de Santé Publique (SDSP)	Dr. Emile RAVELOMANATSOA	Médecin Inspecteur du SDSP de Fort Dauphin
Centre Hospitalier de Référence Régionale, Fort Dauphin	Dr Augustin RANDRIAMANANTERIA	Médecin Chef de l'Hopital
	Mr. Honoré Lalanirina	Gestionnaire Hopital
	Dr Parfait PARAFINDRAZAKA	Service Ophtalmologie
	Dr Eric HARINAINA	Service Médecine
	Dr Raphael RANAIVOSOA	Service Médecine
	Dr Isabelle RAHASARIVERO	Service Pédiatrie
	Dr Henri MAHOMBY	Service Dentisterie
CSB Ambinanibe, Fort Dauphin District	Ms. Anita VOAHIRANA	Infirmière
CSB Ampasy, Fort Dauphin District	Mr. Alfred BUTO	Infirmier
OTHER GOVERNMENT AGENCIES		
Region Anosy	Mr. Prudence RAFALIARISON	Chef de Service des Affaires Sociales de la Région de Anosy, Fort Dauphin
Office National pour l'Environnement (ONE)	Mr. Jean Chrysostome RAKOTOARY	Directeur Général, ONE Antananarivo
	Mr. Heritiana RANDRIAMIARINA	Directeur de l'Evaluation Environnementale, Antananarivoç
	Mr. Andry RAVONINJATOVO	Chef d'Unité de Suivi Plan de Gestion Environnemental et Pollution, Antananarivo
Comité National de Lutte contre le Sida / Secrétariat Exécutif	Hajarijaona RAZAFINDRAFITO	Secrétaire Exécutif, Antananarivo
BILATERAL AND MULTILATERAL DEVELOPMENT PARTNERS		
GIZ	Ms. Mino Ranto RANDRIAMANANA	Responsable Suivi & Evaluation, projet réponse multisectorielle au VIH, Antananarivo
	Ms- Miaro-Zo ANDRIANOELINA	Responsable programme, projet réponse multisectorielle au VIH, Antananarivo
UN Coordination Office	Ms. Viviane RALIMANGA	UN Coordination Specialist, Resident Coordination Office, UN System, Antananarivo
UNFPA	Dr Dotian Ali WANOGO	Technical specialist Reproductive Health Commodity Security, Antananarivo
UNICEF	Dr. Andry Fidèle RAVALITERA	Emergency Officer, Antananarivo

Organisation	Name	Function
	Joelle Onimus-Pförtner	Resource Mobilisation and Reports Officer, Antananarivo
	Jelena Skopelja	Corporate Relations Consultant, Antananarivo
	Amal Bennaim	Nutrition, Antananarivo
WHO	Dr. Arthur Lamina RAKOTONJANABELO	Chargé Programme Prévention et Lutte contre la Maladie, Antananarivo
	Dr Damoela RANDRIANTSIMANIRY	Chargé Planification, Gestion et Evaluation de Programme, Antananario
PRIVATE SECTOR		
Top Réseau Health Centre	Dr. Abel Harnivel OCTAVE	Médecin Généraliste
CIVIL SOCIETY (NGOs, FBOs)		
ASOS	Dr. Harinesy RAJERIHARINDRANTO	Coordinateur Régional ASOS zone sud, Fort Dauphin
PSI	Dr. Mbolatiana RAZAFIMAHEFA	Coordinateur National de Franchise Sociale, Antananarivo
	Mr. Eric ROBSON	Superviseur des Pairs Educateurs Jeunes, PSI Fort Dauphin
PACT	Ms. Mirana RAKOTOSANINANASA	Coordinatrice PACT Fort Dauphin
Tsy Kivy, sex workers association	Ms. Bertine RAZANANIRIKO	Presidente TsyKivy
TsyVery, sex workers association	Ms. Loyola Antoinine MIARISOA	Presidente TsyVery
ASSOCIATIONS OF PEOPLE LIVING WITH HIV/AIDS		
VARI	Mr. Prudence RAFALIARISON	President de l'association VARI & Chef de Service des Affaires Sociales de la Région de Anosy
JAIRO	Mme. Nicole RAVAORISOA	Presidente de l'association & Assistante Sociale

10.2. Annex B: Recommendations to RTQMM

The President and management staff of RTQMM requested recommendations for the company on its provision of health services. These recommendations reflect the opinion of the consultant team only.

RECOMMENDATIONS:

Inside the fence:

1. **RTQMM may consider requesting International SOS to add comparative and trend analyses to their monthly and annual health centre reporting**, including incidence of key diseases amongst RTQMM employees, health centre utilisation, etc. This would provide useful information to RTQMM management on disease trends to inform decision making for the company health and wellness programmes. The company health centre reporting format may benefit from adaptation by an expert in consultation with both RTQMM and International SOS.
2. **RTQMM may emphasise additional, separate analysis of data and issues relating to health and safety**, for example by focusing specifically on public health data relating to employees and dependants.
3. **RTQMM may use the wealth of data already available to quantify, and provide equivalents of financial value, for the benefits generated by its health programme**, thus supporting the business case for investment in the area and facilitating communication with external stakeholders on the impact of RTQMM sustainable development programme activities.
4. **In collaboration with International SOS, RTQMM may conduct periodic Health Impact Assessments** to understand the full impact of health on its operations as well as of its investments in health.
5. **RTQMM may consider to ensure that peer educators of the employee wellness programmes are given sufficient time** by their department heads to carry out their peer education duties. This would alleviate the current pressure which peer educators experience from their superiors.
6. **RTQMM may consider integrating HIV prevention and treatment into systematic briefings of new employees**. Currently, new employees are not systematically briefed on HIV and Aids.

Outside the fence:

1. **RTQMM may further strengthen its drive to emphasise health as an important part of sustainable development.** This may include planning interventions in a programmatic rather than ad-hoc manner and prioritising and strengthening health sector interventions in the communities, as well as strengthening the national public health system in the region and the district.

2. **RTQMM may consider further prioritising monitoring and evaluation** of its sustainable development interventions and their impact, including health sector activities. A clear definition of targets and indicators for outputs and outcomes would be useful in this regard.
3. **Within Anosy Region, RTQMM may strengthen its engagement with government authorities and other key health stakeholders** (including implementing agencies and the general public), through pro-active, systematic and consistent interaction that is documented.
4. **RTQMM may reconsider its approach of non-engagement with health authorities at the central level.** Given their expressed interest in collaboration, strategic opportunities, RTQMM may miss out if it does not systematically and consistently engage with central level authorities in Antananarivo.
5. **RTQMM may acknowledge the value of informal networks generated by its staff** in regard to relations with communities and authorities, and may consider providing support in the form of working time allocated to assist with the nurturing of such informal engagements that have a clear added value for health programme success.

10.3. Annex C: Further information on functionality and accessibility of the health system

In general, the national public health system is weak and has been further weakened by the 2009 political crisis. Capacity of district and regional health management teams is limited. The MOH is committed to increasing access to health services, as well as their efficiency and quality nationwide.

However weak health infrastructure and a shortage of healthcare workers are formidable obstacles. Gains obtained in strengthening the public health system during the 2000s were lost following the onset of the political crisis in 2009 and subsequent disengagement of the majority of donors. The Malagasy state is unable to provide adequate financial resources to the public health service and has issued a recruitment stop. Regions and districts no longer receive any funding for infrastructure rehabilitation, renewal of equipment, and for provision of running costs and supplies to health facilities and to administrative offices[61].

Shortage of health workers is particularly acute in rural areas, with most senior level staff, including medical doctors, not willing to work in rural areas. Apparently, 41 per cent of public service staff is taking care of 21 per cent of the population in urban areas.[62] Regions and districts only have limited authority to address this, as decisions on appointments and location of staff are taken by central level MoH in Antananarivo. An additional major challenge for Madagascar's national health system is the advanced age of Malagasy health workers, with 50 per cent of current public health service staff reaching retirement age within the next two years. Another challenge is the high rotation of staff, including at management level.

Current systems for monitoring and evaluation are weak, particularly at district and regional level. The district health management team only supervises public health. Coordination mechanisms are weak and irregular, and again mainly focus on public facilities and on development partners (donor agencies, civil society organisations), leaving the private not-for-profit and for-profit providers out.

In Fort Dauphin District, access to health care remains a serious challenge. Many health posts and health centres do not have sufficient staff. There is no District Hospital, and patients are referred directly by lower level health facilities to the Regional Hospital in Fort Dauphin town. Fort Dauphin town has only one health centre that is in a poor state of repair and also located away from the people who most need it.. The district has one private hospital operated by a faith-based organisation, but this is located about 25 km from Fort Dauphin town.

[61] Interviews with health authorities at regional and district level.

[62] Ministry of Health (2007): Plan de Développement du Secteur Santé et de la Protection Sociale, 2007 – 2011.