



# Sustainable Development

ACHIEVEMENTS/



## CELEBRATING TEN YEARS OF COMMUNITY DEVELOPMENT



# 2017

was an exciting year for SEMAFO as we prepare to mark the tenth anniversary of the Mana Mine and the establishment of SEMAFO Foundation. During this journey, the Mana Mine has produced more than 1.8 million ounces of gold, creating well-paid jobs, fostering growth and providing the government with much-needed revenue. None of this, however, would have been possible without the dedicated support of SEMAFO Foundation, whose outreach has spread to 134 towns and villages, positively impacting 1.1 million people, and improving livelihoods in rural communities in Burkina Faso.

The year 2017 was another very active year in which SEMAFO's concrete actions demonstrated the importance it attaches to being an exemplary community partner capable of contributing to the economic development of its host country.

### 2017 – Community Outreach

Through a combination of direct community dialogue and SEMAFO Foundation initiatives, SEMAFO fosters the social acceptability of its projects through community representatives and consultation committees. Our pro-active approach is highly effective as it allows us to maintain a continuous dialogue with the population surrounding our mines and hence, to take immediate measures if needed.

In the course of 2017, the Mana community team carried out a series of sustainable development initiatives complementary to SEMAFO Foundation activities that were designed to improve the living conditions of the near-mine population. These included commissioning of pipework to drain rainwater from a village area; installation of compost pits in villages in order to improve crop yield; spraying of roads to counter the effect of the Harmattan wind; supplying the local council with road signage; repair of local roads close to the mine; and funding for community events.

In addition to donations made to SEMAFO Foundation, the Boungou Mine community team upgraded local public infrastructure, trained the local population, supported local civic events and upgraded the housing and sanitary facilities of the resettled village (see next page). Specifically, a total of \$210,000 was invested into resurfacing two stretches comprising 115 kilometers of the RR28 regional road from Ougarou. In 2017, in partnership with the regional employment agency in the Est region, SEMAFO committed to providing \$125,000 to train up 115 young people from near-mine communities in 5 trades – car mechanics, bicycle mechanics, solar energy, metal joinery and building electrics. Of the \$125,000, \$20,000 has been contributed by our mining contractor AMS. Given the



low levels of employment in the Est region, the courses will help young people who are unable to find employment at the Boungou Mine, to join the labour market by furthering their skills and learning a trade that could lead to self-employment. At year-end, financial support was provided for national events held locally including Independence Day festivities.

### Relocation of Communities – a Priority



**New Boungou village**

In the third quarter of 2017, two and a half years of community discussions, buy-in and follow-up culminated in the relocation of 900 Boungou residents to their newly built village.

From the outset, SEMAFO adopted a participative approach to discussions that greatly facilitated community ownership of the rehousing and compensation processes. During mobilization, regular public consultations encouraged open dialogue, identified the positive aspects of the area in addition to explaining the mining project and relocation plans. Additional engagement methods included sending a group of community representatives to Mana to observe the mine and witness first-hand SEMAFO's commitment to its relocated communities. The combination of public discussions and visits resulted in community consensus on the new village location, after which approval was sought and obtained from customary authorities. During the entire process, SEMAFO Foundation continued to improve living conditions and livelihoods, and built resident capacity through enhanced skills and confidence.



**New Boungou village houses**

Construction of the new housing, which began at the end of March 2017, was completed at the end of September. Design of the housing was overseen by a Burkinabè architect whose team of supervisors were on site every day to ensure the quality of the buildings. Final uptake of the buildings was only made when no construction faults were detected.

During the key handover ceremony, the village chiefs underlined the 170 relocated households' deep satisfaction with the greatly improved housing stock, which had been made from cement breeze blocks and fitted with ecological latrines. The new village also included community infrastructures such as five mosques, two churches, a church lot, water boreholes, a school and a livestock vaccination pen for total investment of \$8 million or CFA 5 billion.

## SEMAFO Foundation: A Strong Community Partner

Through SEMAFO Foundation, community investment helps build sustainable partnerships between SEMAFO and neighbouring communities while reinforcing the latter's self-sufficiency. Inspired by the United Nations Sustainable Development Goals, SEMAFO Foundation pursues its mission to support communities by investing in development projects and by **training and empowering the population.**



Our contribution to SEMAFO Foundation totaled **\$1.1 million** in 2017, funding a wide variety of activities essential to improving the living conditions of communities. During the year, income-generating activities such as sesame, shea and beekeeping projects generated close to C\$0.7 million, positively **impacting 34,740 of the local population.**

Over the past eight years, SEMAFO Foundation has invested **C\$2.5 million in educational projects** impacting 173,000 people and increasing school capacity by 4,000 students. In addition to building educational infrastructures, SEMAFO Foundation continues to offer community development measures and support income-generating activities suggested by the communities.

## SEMAFO Foundation Achievements in 2017

### Boucle du Mouhoun Region

In 2017, half of SEMAFO Foundation's budget in the Mana area served to further the educational sector. Primary and secondary schools were fitted out with classrooms, desks and offices; a total of 13,000 school kits and 1,580 solar lamps were distributed; and sanitary conditions were enhanced by the construction of boreholes, latrines and hand-washing stations. Certain initiatives, such as the bicycle donations to needy and deserving students, the school kits and the financing of school canteens, are particularly appreciated by parents and teachers as they have a significant impact on students' lives and study conditions.

In addition to reinforcing the educational sector in 2017, SEMAFO Foundation also carried out the following in the Boucle du Mouhoun region:

- Constructed and renovated **13** classrooms
- Sunk **7** water boreholes
- Built **46** latrines
- Provided support for autistic children and women living with obstetrical fistula
- Supported **4** agricultural revenue-generating projects
- Supplied and launched the chicken farming project in a second location
- Accompanied **3** women from the shea grouping on a study visit to Canada to meet with key partners and obtain training
- Provided training courses in masonry, motorcycle mechanics and French



Inauguration of Kietou school



## Est Region

In 2017, many of SEMAFO Foundation's actions had the objective of facilitating the relocation of Boungou residents to their new village. To this end, it financed and fitted out ecological latrines for each of the households, in addition to training inhabitants in their use and upkeep. Moreover, to address displaced residents' concerns about water and schooling, the Foundation built a school with four classrooms at Boungou in 2017 and sunk water boreholes. To encourage school enrolment, for the first time, SEMAFO Foundation distributed school kits to pupils from three schools in the immediate Boungou area.

### Revenue-generating Projects: 'Open Sesame' in the Est Region



In 2017, the sesame project was extended from **42 to 44** villages in the Boucle du Mouhoun region. During the year, 1,723 registered farmers **generated income of \$430,000** from an area under cultivation of 2,676 hectares.

Examining sesame crops

In addition to being SEMAFO Foundation's longest-established livelihood project, the sesame project generates more income per participant than any other project. In the Boucle du Mouhoun region where it was implemented in 2010, the farmers have organized themselves in cooperative groups to defend their collective interests; participate in the Foundation's grain credit 'warrantage' project to store their products and obtain micro-credit; and receive training in production techniques and cooperative affairs.

Starting in 2016, SEMAFO Foundation began accompanying farmers from five villages neighbouring our Boungou Mine in a first sesame project. In the 2016-2017 year, the 250 participants generated \$31,000 in revenue. Mid-2017, a roadshow was held in additional villages in order to grow more interest in organic sesame production. As the year advanced, producers began complying with organic production traceability standards by initiating GPS positioning in their fields. By year-end 2017, SEMAFO Foundation had supported 125 organic sesame producers with seed donations and training in production and storage techniques.

In addition to the sesame project, the Foundation launched sewing center and chicken farming projects during the year. Both projects should enable participants to supply the Boungou Mine.

### Honey from beekeeping project



### Chicken farming at Boungou



### Boungou sewing center



#### To learn more:

Mandate of SEMAFO's Environmental, Health & Safety and Sustainable Development Committee (Lawrence McBrearty, Terence F. Bowles, Gilles Masson and Tertius Zongo) in addition to SEMAFO's Social Responsibility Policy:

<http://www.semafo.com/English/corporate-responsibility/corporate-governance/default.aspx>

SEMAFO Foundation website:

<http://www.Fondationsemafo.org/>



\*Note: All references to SEMAFO Foundation website are for your information only, and the information it contains does not form part of this document.

## Proud of our Labour Practices

Achievement of our goals and objectives depends on the 1,034 employees employed by SEMAFO. Effective management of our human resources capital can accelerate our growth and expansion, lower operating costs, reduce site disruptions and secure mining permits. Our strategy with regard to our human resources includes:

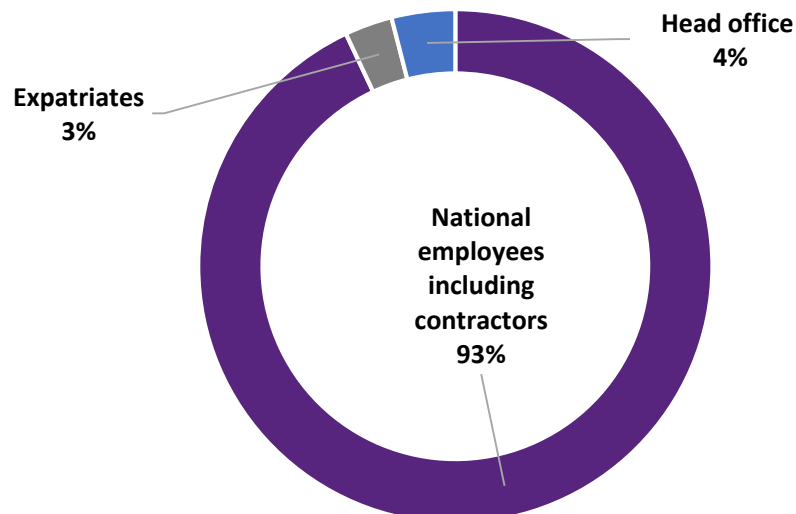
- Select talented and dedicated employees;
- Train and develop our resources;
- Offer competitive wages and benefits;
- Offer stable progressive employment; and
- Train national employees for higher managerial levels

In November, we signed a three-year collective agreement with Boungou Mine employees.

#### Our Priority:

#### Optimize Our Local, In-Country

As at December 31, 2017, **3,956** people worked at SEMAFO, including 1,034 SEMAFO employees at Mana and Boungou





## Developing National Talent

Since its inception in 2012, the National Workforce Development Program has trained high-potential national employees at Mana into higher-level or trainer positions. In 2017, the two-year program enabled twelve graduates to assume roles with greater responsibilities and to replace some of the positions held by our expatriates. A new cohort began in 2017, which, by year-end, had already completed 10 of the 17 modules or 670 hours of the development program.

In addition to training promising national employees, we continued to enhance skills at both Mana and Boungou in 2017. A total of 10,000 hours of training- predominately technical, managerial and safety training- was dispensed through 64 programs across both mines. Of the 10,000 hours, 6,300 were delivered at the Mana Mine. One of the overarching aims of 2017 training was to sensitize team leaders, supervisors, management and expatriates to equipment and material damage.

In parallel, SEMAFO provided continued education courses, ranging from French language classes to improve employee literacy to intercultural communication courses for expatriates and Burkinabè managers. The combination of our local hiring practices and national development program has proven effective: Between 2013 and the end of 2017, the number of Burkinabè in managerial positions at Mana almost doubled to now account for approximately 34% of total managers. In addition, at year-end 2017, approximately 46% of managers at Boungou were Burkinabè.

## Job Creation Following Commissioning of the Boungou Mine



As at December 31, 2017, 2,025 workers were employed by the Boungou Mine, 87% of whom are Burkinabè nationals and many of whom are residents of villages close to the deposit. Once the construction period is over, SEMAFO expects to fill most of the 800 Boungou positions with Burkinabè employees and to source a third of total employees from communities surrounding the mine.

To achieve this aim, SEMAFO has begun developing a 2018-2019 training program for national employees at Boungou involving 6,000 hours of training split over three categories: task-based, management and development of a national workforce, and health and safety induction training. Prior to the mine start-up, mine operators will follow a structured training program that involves

task-based training. This training will be developed and delivered by a company specialized in ore processing and metallurgy. At year-end 2017, a specialized training course was being designed internally for members of the mechanic and electric maintenance teams.

The training courses in five non-mining related trades, as detailed on page 2, represent our 2017-2018 contribution to upskilling the Boungou community labour workforce. Once commercial production is reached at Boungou in the third quarter of 2018, we will begin contributing to the fund for local development (Fonds minier de développement local, FMDL), the majority of which will be returned to communities surrounding the mine.



**2017 Graduates from National Workforce Development Program**

## Promoting a Strong Workplace Health and Safety Culture

Our commitment to the health and safety of our employees, contractors and neighbours is an integral part of our operations. We strive to prevent accidents and achieve a goal of zero work-related incidents. Our continued focus on safety on and around the sites and the implementation of health and safety training programs drive our health and safety performance. Our prevention and health programs are regularly validated by primary health and safety personnel and by senior management. In 2017, as part of our continuous improvement system, we revised both programs to include:

- Quarterly meetings of members of the health and safety work committee
- Compilation of a risk analysis pocket note book
- Inspection of all fire extinguishers by an external firm to ensure their compliance



Construction worker at Boungou Mine site

### 2017 Highlights - Mana

- 160 planned joint inspections
- 1,420 daily inspections carried out by preventionists
- 980 supervisions of tasks and risk analyses
- 1,280 employees trained on health and safety topics by preventionists
- A total of 708 meetings hosted on monthly topics
- 1,253 induction meetings for subcontractors and employees
- Workplace safety personnel were trained on breathing apparatus and on work safety by external firefighters
- Regular medical check-ups for all workers
- Health team trained on SNIS (national sanitary information system)
- Health team trained on 'thick smear' tests (diagnosis of malaria by microscopy)
- Tests on blood-lead levels of laboratory employees
- Awareness campaign carried out across all departments of the mine in December by the workers' AIDS committee

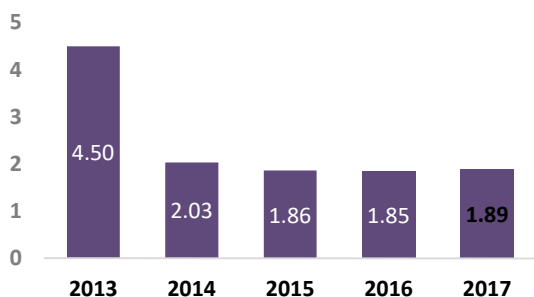
In 2017, our health and safety performance at Mana remained constant at **1.89** injuries per 200,000 hours worked. The number of lost work days increased from 35 to 227 due to a single accident that led to an extended period of absence. Our results at Mana are benchmarked against the industry average generated by the joint health and safety association for the mining sector in Quebec.



## Five-year Health and Safety Score Card

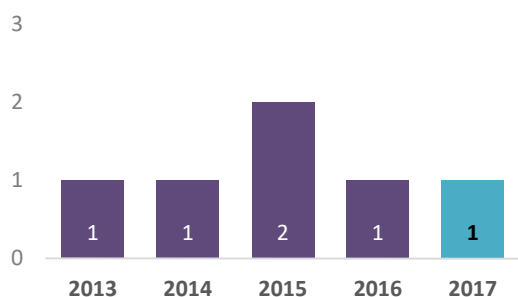
Injury Frequency Rate - Mana <sup>(1)</sup>

<sup>(1)</sup> Per 200,000 hours worked



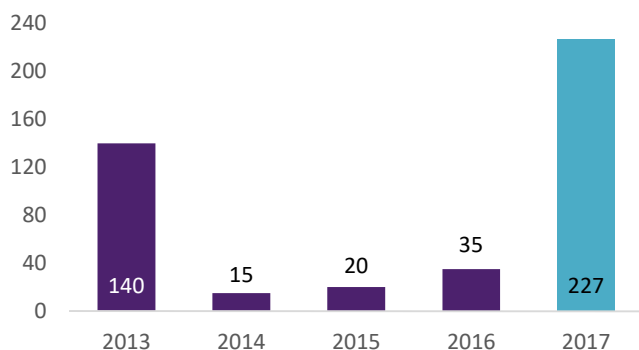
- ▲ In 2017, Boungou Mine achieved a work injury frequency rate of **0.54, an exceptional result** relative to our 5.0 target.
- ▲ Our target of 5.0 is the average injury frequency rate sustained during the construction of three mining projects in Burkina Faso.

Accidents with Lost Time - Mana



- ▲ As at December 31, 2017, we had worked **341 days** at Mana without lost-time accidents.
- ▲ At Boungou, at year-end 2017, a total of **3.7 million man-hours** had been worked without lost-time injury.
- ▲ In 2017, **no** accidents with lost time were recorded at Boungou.

Lost Work Days - Mana



- ▲ The 2017 increase in lost work days at Mana relative to the previous year is due to the severity of the 2017 accident.
- ▲ In 2017, **no** lost work days were recorded at Boungou.

## The Environment, an Integral Part of our Management Process

### Compliance

We conduct regular environment audits to ascertain our level of compliance with our environmental system and environmental policy. In 2017, the Mana Mine hosted three inspections from Burkinabè authorities: an unannounced environmental inspection by BUNEE, the Ministry of Environment; an inspection of listed facilities for protection of the environment by BUMIGEB, the Ministry of Mines and Energy; and a follow-up visit by Ministry of Environment on the environmental and social plan management. The ensuing recommendations, all of a minor nature, are being implemented on both a short-term and medium-term basis.









Sesame harvesting at Tawori, Boungou



## Water Management

SEMAFO is committed to using water responsibly. By educating employees to avoid water waste, regularly monitoring our consumption and using innovative water treatment processes, we encourage prudent use and achieve the highest possible recycling rate while maintaining the lowest possible consumption. Water for the Mana Mine processing plant is collected from a network of water ponds, from the tailings pond and accumulated behind a dam constructed to collect seasonal runoff water, usually sourced from a mixture of recycled and surface water accumulated in reservoirs during the rainy season.

Between the years 2012 to 2017, the plant sourced an average of 43% to 55% (53% in 2017) of its water needed to process the ore from the tailings pond. Recycling rates increase significantly during the peak rainy season months of May to October. For the second consecutive year, no additional water was pumped from the Mouhoun river to the water reservoir.



**Water drinking facilities at Mana Mine**

## Monitoring our Tailings Ponds



**Elevation of tailings walls**

Tailings produced by the processing plant are pumped to the tailings storage facility. The walls of the tailings surface facility are regularly lifted in order to increase the overall storage capacity. In early 2017, elevation of the east and west cell walls was carried out using the upstream construction method with the walls of both extended to 380 meters. We also perform daily analyses of mine tailings deposited in the sites that will be crucial during the rehabilitation phase. An independent audit of the Mana tailings in 2017 came to the following conclusions:

- The tailings dams are stable and elevation of their walls was carried out in accordance to industry standards
- Successful management of the tailings facility is maintained by operating two alternating cells that optimize consolidation of the tailings under their own weight and by evaporation
- The water dams are stable



## Site Rehabilitation



Financial resources are allocated annually for the implementation of our environmental rehabilitation program. The plan is updated annually and includes objectives and activities that allow for gradual restoration, which will minimize the impact of an eventual closure. The total rehabilitation costs expected for the Mana Mine and the Boungou Mine were estimated at \$14.7 million and at \$21.6 million, respectively, for the total life of the mine.

## Climate Change

In partnership with the Mouhoun water committee, our environmental team mobilized rural communities in Mouhoun in the fight against desertification by planting a total of 52,000 shrubs on the banks of the river Mouhoun. In addition to procuring the plants locally, the regional vegetation was planted with the assistance of locally hired day workers. As part of the environmental and social management plan, a memorandum of understanding was signed with the environmental department's technical team to measure the rate of success and green-up for the trees planted.



**Reforestation activities in Boucle du Mouhoun**

In 2017, we recorded a 12% year-over-year increase in fuel consumption at the plant compared to 2016. The increase was mainly attributable to use of larger trucking equipment at depth and to an increase in the energy plant consumption. In 2017, Mana's energy central consumed a total of 67,561 MW compared to 62,305 MW in 2016 when the secondary ball mill, which consumes about 20% less energy, was used for 20% of ore processing.

## Air Quality Monitoring Program



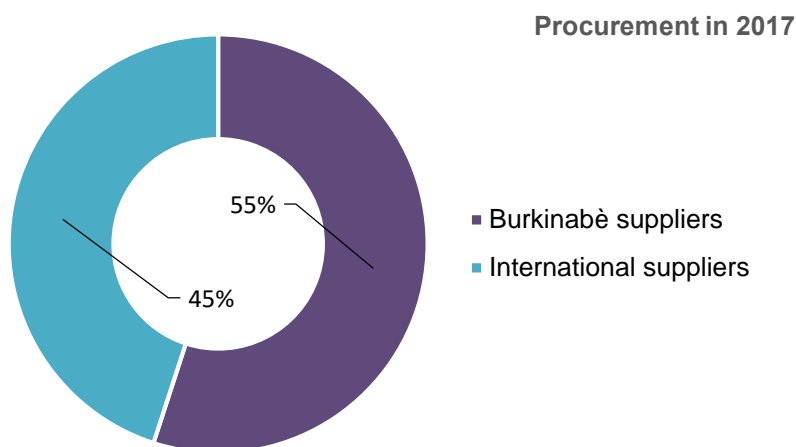
Installing an air quality sensor

In 2015, we mandated an external agency to provide the sampling, analysis, equipment and certification of air quality and airborne emissions on the Mana plant for a three-year period. In the 2016/2017 year, samplings of gases (ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), and nitrogen dioxide (NO<sub>2</sub>)) in the ambient air were conducted on 10 different sites surrounding the Mana Mine.

After analysis of the results, the agency concluded that the sites sampled tracked well below both Burkina Faso and World Health Organisation (WHO) guidelines.

## SEMAFO, Partner of Economic Development in Burkina Faso

Where possible, we advocate purchasing from local and regional suppliers in Burkina Faso. Approximately 55% (\$180 million) of our total purchases in 2017 (\$316.5 million) was made locally, up from the 45% of local purchasing recorded last year. Last year's local procurement percentage was negatively impacted by deposits made for equipment and infrastructure required for construction of the Boungou Mine.



## Economic Value Generated for Burkina Faso and Canada

The Extractive Sector Transparency Measures Act (ESTMA) was enacted on December 16, 2014, and brought into force on June 1, 2015. The Act delivers on Canada's international commitments to contribute to global efforts to increase transparency and deter corruption in the extractive sector by requiring extractive entities active in Canada to publicly disclose, on an annual basis, specific payments made to all governments in Canada and abroad. By May 31, 2018, SEMAFO will have filed the ESTMA report for the Canadian government on the following link: <http://www.nrcan.gc.ca/mining-materials/estma/18198>.





Shea nuts





INTERNATIONAL EXPERTISE<sup>®</sup>  
HUMAN ADVOCACY

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