

2018 CORPORATE RESPONSIBILITY REPORT



GOLDEN STAR



**MESSAGE FROM
THE CHIEF
EXECUTIVE
OFFICER**

“ Following a wealth of achievements in 2018 – including winning the prestigious PDAC Environment and Corporate Social Responsibility award – we won multiple awards at the Ghana Mining Industry Awards. ”

On behalf of the Golden Star team, I am pleased to share our annual corporate responsibility report. The report provides a detailed overview of our sustainability performance in 2018 and outlines our commitments for 2019. The report also serves as our Communication on Progress (CoP) for the United Nations Global Compact.

The past year was yet another exciting year in our company's growth and development. We continued our transition to becoming an underground-only producer and secured a \$125M investment from La Mancha, a private gold investment company. The strategic investment will help expedite our exploration and expansion programs at Wassa and Prestea and help secure the company's platform for growth in Africa.

We also achieved much success related to our ongoing delivery of corporate responsibility programmes. Following a wealth of achievements in 2018 – including winning the prestigious PDAC Environment and Social Responsibility award – we won multiple awards at the Ghana Mining Industry Awards. The Golden Star Oil Palm Plantation (GSOPP) won the Best Performer in Corporate Social Investment award and Ms. Gifty Gandhi – an underground shift boss at our Prestea mine – was First Runner-Up Female Miner of the Year.

In 2018, our programs to enhance and retain the value of our operations for host communities came to fruition. Golden Star was recognised as First Runner-Up Best Performer in Local Content for our strong contribution to local employment and procurement. Additionally, the host community umbrella company that we supported to establishment, Local Companies in Mining Services (LOCOMS), themselves won First Runner-Up in Best Performance in Mining Supplies and Services. I would like to extend my congratulations to our teams and Ms. Gandhi for these fantastic achievements.

During the year, we continued to advance our progress in supporting the Sustainable Development Goals (SDGs). Throughout the report, we highlight some of the myriad partnerships that we have established for the delivery of programming in support of the goals. Look for the SDG wheel and icons in each section to see how we map the goals to our performance.

This is the first corporate responsibility report which I have the pleasure of presenting as the CEO of Golden Star. For me, this is a key area of strength for the company and I am privileged to inherit such a talented and dedicated team. One of my key priorities is to ensure that our work in this area continues to develop and that we remain a trusted and valued partner for all our stakeholders.

The following year promises to be another exciting one for Golden Star and our stakeholders as we continue to advance towards becoming a leading African gold mining company. With the strategic investment from La Mancha, we are well-positioned to capitalize on growth opportunities. We look forward to working with all our stakeholders and partners as this next phase of our company's growth progresses.

Andrew Wray
President and Chief Executive Officer

HIGHLIGHTS

ZERO fatalities

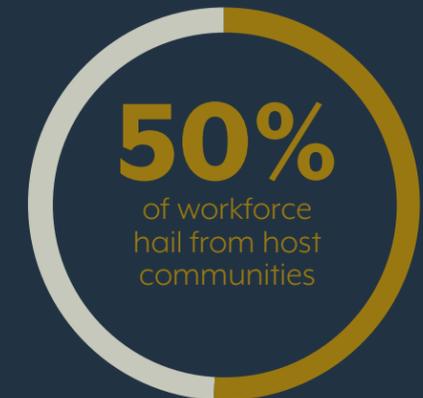
ZERO reportable environmental incidents

0.76 TRIFR
(Total Recordable Injury Frequency Rate)

3.89 AIFR
(All Injury Frequency Rate)



Winner of 2018 PDAC Environment and Social Responsibility Award
Winner Best Corporate Social Investment Project of Ghana Mining Industry Awards



\$69 million
in total salaries paid

\$207 million
in Ghanaian procurement

\$26.8 million
in local procurement

99%
of contractors are Ghanaian

74%
of contractors from host communities

ABOUT THIS REPORT

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 'Core' option and the United Nations Global Compact (UNGC) reporting requirements. The report covers our operating mines in Ghana, namely Bogoso, Prestea, and Wassa. The report does not cover our exploration, development, and closed properties (unless otherwise indicated).

All information and data in the report are applicable as at 31 December 2018 (unless otherwise indicated). The report is the 13th corporate responsibility report published by the company and the first using the GRI Standards. The GRI Index and our performance data tables are available at www.gsr.com/responsibility. There are no re-statements of information from the 2017 report.

Feedback on the report can be directed to Ms. Philipa Varris (VP, Corporate Responsibility) or to info@gsr.com

All figures in the report are stated in United States dollars (unless otherwise indicated).

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GHANA

EDIKAN ✕
MAMPON ✕
PRESTEA PROCESSING FACILITY ✕
PRESTEA OPEN PITS ✕
PRESTEA UNDERGROUND ✕
DAMANG ✕
WASSA ✕
ASHANTI BELT
TARKWA ✕
IDUAPRIEM ✕
KUMASI BASIN
NZEMA ✕
TAKORADI
ACCRA ●
GULF OF GUINEA

KEY FACTS ON GHANA

- Ghana has **a stable constitutional democracy**, with the most recent parliamentary and Presidential elections taking place in December 2016.
- Ghana has **a long history of large scale gold mining**, with four prolific greenstone belts that have yielded +120Moz of gold in past production.
- Ghana is **Africa's second largest gold producer** after South Africa.
- Ghana is **a respected mining jurisdiction** with stable and well legislated royalty and tax laws.
- Ghana is **the second largest producer of cocoa beans in the world**, after Côte d'Ivoire.

UN GLOBAL COMPACT

We are a long-time supporter of the United Nations Global Compact, the world's largest voluntary corporate responsibility initiative. The Compact is a call to companies to align their strategies and operations with universal principles on human rights, labour, environment and anti-corruption.

This is our 13th annual report that details our progress on implementing the principles. Each year, we set associated performance targets, which drives continual improvement in our operations, whilst advancing societal goals. This includes the Sustainable Development Goals (SDGs), which serve as the basis for the global development agenda.

The tables below present our performance in 2018 and our goals for 2019. The relevant SDGs are mapped to our performance and goals.

| 2018 Goal | Progress | |
|---|---|---|
| Collect new data on youth and women to enable design of programs to enhance retention of value from our operations by these groups. | We commenced a program to collate data on gender representation, parity and systems. |   |
| Pilot new initiatives to strengthen incorporating gender considerations into community development programs, projects, and support. | Internal processes have commenced to determine the modalities for undertaking engagement on the incorporation of gender considerations into community development programs, projects and support. |   |
| Formally include gender and diversity provisions in revisions to Policy on Community Development and Human Rights. | The policy review resulted in the development of separate Policies for Human Rights and Community Relations. A draft Policy for Diversity is in development. |   |
| Develop implementation measures for further alignment with Voluntary Principles. | Yet to be advanced. |   |
| Zero human rights complaints against the company. | Achieved. |  |
| Zero fatalities. | Achieved. |  |
| Undertake safety culture surveys and safety leadership initiatives to strengthen and improve workforce safety culture. | Two safety culture surveys were conducted in 2018 and a major program commenced to improve workforce safety culture including safety leadership training and "grass roots" development of safety standards. |  |
| Strengthen safety management systems, symbols and behaviours through implementation of a three-year Safety Plan. | We developed a four-year safety plan to support our newly-documented Safety Strategy, Principles and Values. |  |



| 2018 Goal | Progress | |
|---|---|---|
| Enhance public reporting on local procurement participation, gender and diversity. | We continued our efforts in local procurement participation and were recognised at the Ghana Mining Industry Awards as first runner up for Local Content. Additionally, the local community company – LOCOMS – which was established with support from Golden Star, was recognised as first runner up Mining Supplies and Services. |    |
| Zero reportable environmental incidents. | The company did not have any reportable environmental incidents. There have been no reportable environmental incidents since 2011. |    |
| 100% regulatory compliance for water, air, and noise and vibration monitoring. | The company conducted all required statutory monitoring. 100% conformance was achieved to air, noise and vibration targets. A high level of conformance (99.7%) was achieved to water targets. |    |
| Complete review of our internal standard for 'Discretionary Payments'. | The standard for Discretionary Payments was reviewed and finalized in the year. Training on the Standard was provided to key staff in the year. |   |
| Provide training to key personnel on anti-corruption provisions of the Policy on Community Development and Support. Provide additional training to key personnel on the internal standard for discretionary payments. | Key personnel were trained in the legal aspects relating to anti-corruption, as well as the Golden Star policies and standard for Discretionary Payments. |  |
| Continue to support voluntary industry initiatives for anti-corruption. | Golden Star continued to report under the Ghana Extractive Industries Transparency Initiative. |   |

| UNGC Compact Area | 2019 Goal | |
|-------------------|--|---|
| Human Rights | Develop a corporate Policy on Diversity. Commence design of programs in support of the Policy on Diversity. Zero human rights complaints against the company. Continue to advance our programs on local procurement. |     |
| Employees | Zero fatalities and sustained reduction in recordable injuries. Sustain malaria case rates under 6% of clinic attendance and under 0.6 cases per capita. All leadership complete Safety Leadership Development training. Continue to strengthen safety culture through implementation of our Safety Plan. |     |
| Environment | Zero reportable environmental incidents. 100% regulatory compliance for air, water, noise, dust. |    |
| Anti-corruption | Continue to report payments under the EITI. Undertake conflict of interest survey with all senior leadership. |    |

PARTNERSHIPS FOR SUSTAINABLE LIVELIHOODS

The Golden Star Oil Palm Plantation (GSOPP) was established in April 2006 as a non-profit subsidiary of Golden Star. GSOPP promotes the development of oil palm plantations amongst our catchment communities, using the smallholder concept, in partnership with the Traditional Authorities, affected farmers, and the agro-forestry industry.

In 2018 Golden Star won the Ghana Mining Industry Award for Corporate Social Investment for GSOPP. Not only is this the second year in a row that we have won this coveted award, but it is one of many awards that GSOPP has now received.

Through GSOPP, we continue to advance the businesses objectives of reducing poverty through employment generation, and promoting wealth creation through sustainable agri-business.

As at the end of 2018, GSOPP involved 317 small-holder farmers and 434 contract workers over 1,133 Ha of plantation.

Socioeconomic studies conducted in 2018 showed the powerful impact that GSOPP has had:

- Farmers who were formerly on the poverty line, now enjoy significant farm revenues;
- Consistent application of best farm management practices ensures yields are more than 3 times the small-holder average for Ghana;
- A third of the farm workforce are female and youth (<45 yrs) – demonstrating diversity and inter-generational equity;
- 80% of participant's dependents are now in school.

\$6.6M
in sustainable
agribusiness to date



HEALTH AND SAFETY

We recognize that our mining operations present a range of health and safety risks for our workforce and host communities. We also recognize the opportunities we can provide to enhance health outcomes for employees, their dependents, and local communities.

Our Policy on Safety, Health, and Well-being is applicable to our entire business and workforce and outlines our approach to managing health and safety risks and impacts. Our approach is guided by the belief that all work-related injuries are unacceptable, and everyone should go home safely every day.

Safety is a key part of our business culture. In 2018, we established a Safety Vision, Strategy, Principles and Plan to drive our efforts to improve our safety culture and performance. In a parallel 'top down' and 'bottom-up' approach we have engaged with our workforce to substantially enhance the way we approach safe production. Throughout 2018, over 220 leaders undertook a Golden Star safety leadership development program to align our leaders with our Policy and plans.

Simultaneously, we commenced a program to develop business wide safety standards. In excess of 150 standards champions have been identified from amongst our workforce and these teams have determined the standards required to keep them safe. This is based on the recognition that nobody is better qualified to understand the risks in their work than the people doing the work.

Our safety, health and risk management systems are based on international standards and are integrated with our performance and contractor management processes. Our teams of specialist health and safety personnel guide systems development to ensure they drive required behaviours and are implemented as per best practice, often exceeding regulatory requirements. In 2018, we employed 37 specialist health and safety personnel at our operations who are complemented by contract resources to support our programs in medical services and occupational medicine, as well as occupational hygiene and safety culture.

During the year we commenced a comprehensive program to upgrade many of our key safety systems and have now implemented new proactive performance metrics to promote enhanced accountability and transparency on our performance. We have also enhanced our pre-task hazard assessment and near miss reporting tools and processes. Within the business we are promoting the belief that near misses are a 'gift' that warn us of a hazard that we are yet to control. These processes of upgrade followed routine system reviews and evaluation.

To identify work-related hazards, we conduct formal risk assessments, Job Hazard Analyses (JHAs), and pre-task hazard assessment (i.e. Take 5). All team members are empowered to identify, control and report hazards and incidents, through written or verbal reporting methods, including anonymous systems. We conduct quality incident investigations to identify root causes and corrective actions to avoid recurrence. If workers identify an unsafe working condition, they are required to make it safe or not undertake the activity. This is based on our cultural belief that "if it's not safe, make it safe".

We regularly engage with team members to obtain input and feedback into the development and evaluation of our safety management systems. Formal safety and health meetings are conducted within all work teams and are complemented by meetings between health and safety representatives and leadership and daily pre-start safety meetings. Additionally, we undertake twice-yearly safety culture reviews to assess the evolution of our culture and to guide leaders regarding their accountability for the safety of their teams.

Training is key to our approach to promoting a robust health and safety culture across our business. All employees are required to take general induction training when commencing employment. Job- and task-specific training is provided based on specific needs, risks, and impacts. In 2018, we provided over 87,000 hours of training related to health and safety.

We provide a wide range of preventative and curative medical and healthcare services, including National Health Insurance to our employees and dependents. Our health plan incorporates programs targeted to promote enhanced health outcomes in key areas of need including malaria prevention. See our case study on malaria prevention for more information on our performance in this important health concern.

We report our health and safety performance annually and set associated goals and targets to drive continual improvement. Key health and safety metrics for our operations are provided in the highlight section of this report. The metrics cover both employees and contractors and are consolidated for the operations. The rates are calculated per million hours worked.

In 2019, our primary targets will be zero fatalities, the ongoing implementation of our safety leadership program, and continual improvement in our safety performance.



PARTNERSHIPS

Community health is one of the greatest development needs within our host communities. As a result, SDG 3: Good Health and Wellbeing is one of Ghana's key development focus areas at the local and national levels.

We recognize the important role we can play as a catalyst for enhanced health outcomes in local communities. To do so, we engage in regular partnerships with a variety of development organizations for targeted community health programming.

Whilst Ghana has gradually reduced its neonatal mortality rate, as at 2016 it still remained more than two times higher than the SDG 3 target. Therefore, in 2018 we brought the Project C.U.R.E. Helping Babies Breathe neonatal resuscitation training program to our Bogoso/Prestea host communities, following its incredible success at Wassa. Under the program, 72 medical personnel were trained and equipped with enhanced skills to save newborn lives. For ongoing sustainability, six were trained as Master Trainers and by year end, they had trained a further 50 health professionals. The program impact was immediate with the Municipal Director of Health Services reporting a 25% reduction in neonatal mortality in less than 6 months post-program implementation.

MALARIA

Malaria is the single greatest cause of disease burden in Ghana and it disproportionately affects children and pregnant women. In our host communities, malaria represents around 60% of clinic attendance cases.

In Golden Star, we implement a malaria prevention program that incorporates spraying of residential areas, provision of PPE and repellents and access to 24-hour testing and treatment at our mine site clinics.

In 2018, with the support of program partners, we shared over 5,000 long-lasting insecticide treated mosquito nets with our families and host communities. As a result of our ongoing efforts, we were recognized as a Malaria Safe Organization by Johns Hopkins Bloomberg School of Public Health.

Our programs are paying off – in 2018 our malaria case rates were less than 5.5% of clinic attendance, translating to 0.35 malaria cases per capita, for less than 768 days lost to malaria illness.



COMMUNITY RELATIONS

Maintaining the support of local communities is essential for our ongoing business success. Therefore, we view community relations as a key strategic priority for our company.

Our Policy on Community Relations outlines our approach to community relations and stakeholder engagement including our commitment to building and maintaining strong relationships with local communities, including through active partnerships.

The policy states that we will make community relations an integral part our performance and contractor management systems. These systems include processes and procedures for fulfilling our consultation and engagement requirements. As part of the systems, we conduct stakeholder mapping to inform our stakeholder engagement processes.

ESIAs are conducted at all operations as part of project permitting. The ESIAs cover a variety of environmental and social issues, including potential impacts on vulnerable groups, including women, children, the elderly, and people with disabilities.

We conduct extensive community engagement as part of all ESIAs to ensure a participatory process. All ESIAs contain extensive monitoring provisions for identified potential impacts. Summary results of ESIAs are made publicly-available through public hearings and as part of ongoing consultations.

We have established a Community Mine Consultative Committees (CMCCs) for communities impacted by our operations. The CMCCs are comprised of local leaders who meet regularly with the company to establish dialogue and provide feedback to the company.

Formal grievance mechanisms are in place at our operations to ensure grievances are dealt with promptly, systematically, and strategically.



COMMUNITY DEVELOPMENT

We recognize that our operations are the primary economic drivers in our host communities. We generate a substantial number of jobs, business opportunities, and spin-off economic benefits. We also recognize that our operations have a finite life and that sustainable economic development requires diversification.

We have a corporate Policy on Community Development and Support. The policy outlines our objective to develop long-term alternative economic development and capacity-building projects to enable enduring social and economic benefits for host communities.

All of our operations have community development programs that are based on the needs of host communities. Community development needs are identified through a variety of means, including:

- Strategic needs assessments conducted as part of ongoing engagement;
- Alignment with needs identified in local, regional, and national development strategies;
- Local, regional, and national priorities under the SDGs.

The Golden Star Development Foundation (GSDF) is one of the primary vehicles we use to invest in community development projects. We invest \$1 into the GSDF for every ounce of gold we produce. Projects are defined by local communities and assessed by local Community Mine Consultative Committees (CMCCs). Projects are approved by the GSDF Board of Directors, which is comprised on local leaders and company representatives.

We aim to have long-term sponsors for all projects to ensure ongoing sustainability beyond our involvement, which promotes local ownership and capacity-building. In addition, we conduct post-implementation reviews of GSDF projects as part of our continual improvement cycle.

We invest in a variety of economic diversification projects. By doing so, we can lessen the economic reliance of our local communities on our operation, whilst enabling sustainable, long-term economic opportunities.

For example, we invest \$1 per ounce of gold into the Golden Star Oil Palm Plantation (GSOPP), which is a multi-award-winning social enterprise project that integrates closure planning, economic development, and capacity-building. GSOPP is based on the smallholder farming concept to generate oil palm for biofuels.

To date, we have invested \$6.6M into the program. In 2018, GSOPP employed more than 700 farmers, which is more direct employees than both of our mines. For more information on the program, including its importance in our closure programs, see the 'Mine Closure' section of the report.

As per our Policy on Community Development and Support, we regularly review and audit our community development activities relative to our policies and standards. In addition, we regularly review community projects we fund to help ensure they align with this policy and broader objectives for sustainable development.



PARTNERSHIPS FOR COMMUNITY DEVELOPMENT

Up until 2015, the local community of Prestea faced a longstanding problem of a large, uncontrolled garbage disposal site in the middle of the community. The site was a public health hazard and was a poor use of valuable land.

To help solve this problem, we partnered with Traditional Leaders, LOCOMS, and Maintenance Sustainability Africa (MSA), the community's first volunteer based organization, to rehabilitate the site. We were able to leverage our expertise in rehabilitation and reclamation to restore the site to a viable land use, which the community decided to use for a multi-purpose recreational facility.

The facility is equipped with multi-purpose outdoor courts, a training centre, and changing facilities. Eventually, the site will also include a restaurant, kiosks and children's play area.

In 2018, we partnered with another community development organization, Giants of Africa, an organization founded by the President of the Toronto Raptors basketball Team, Masai Ujiri. The organization is committed to providing opportunities for African youth through sport. We hosted the Giants of Africa basketball camp at the Prestea recreational facility, as part of the official inauguration of the facility.

The camp ran from 12 October to 14 October, and was attended by 54 of Ghana's most accomplished youth basketball players (aged 18 and under). In addition to basketball coaching and training, they received mentorship in life skills, such as leadership and self-discipline.

To see more about Giants of Africa and the history of the recreational park, visit our website.



PARTNERSHIPS FOR VIBRANT LOCAL COMMUNITIES

We recognize that the presence of our operations creates a wide range of local business opportunities, including direct and spin-off economic activity. By working in close partnership with local businesses, entrepreneurs, and industry associations we aim to maximize their ability to seize these opportunities and in doing so, increase local value retention and generate enduring social and economic benefits for our stakeholders. In turn, this helps create vibrant local economies and communities.

In 2018, we continued to support an innovative local procurement initiative based on partnerships and capacity-building. In addition to our ongoing support of Local Companies in Mining Services (LOCOMS), we undertook a program to bring other small and micro enterprises (SMEs) together into relevant trade associations. Through our provision of enhanced business-related machinery in late 2017, these groups have broadened their service range and output for enhanced incomes. These enhancements are important preparatory steps towards establishing business cooperatives that together may be positioned to win further mine contracts.

Another example of our targeted programming for local procurement is the Golden Star Learning and Earning Program (GSLEP). Trainees are trained in a variety of skills and simultaneously earn income through work on projects supported by Golden Star and our Development Foundation. The 2018 GSLEP pilot group constructed a second story classroom block for the Prestea Secondary School attracting great interest in the host community. These youth trainees are being supported towards the development of a business collaboration, with the view of deepening youth entrepreneurship in the locale.

LOCOMS itself is going from strength to strength. Since its inception in 2015, LOCOMS has earned over \$27M in contracts from our operations and during the year not only were invited to bid on other contracts in the West African mining sector, demonstrating the growing capacity of the business, but were also recognised with an award in the category of Mining Supplies and Services at the Ghana Mining Industry Awards for Best Performer in Local Content.

We are proud of the economic contributions we make to the Ghanaian economy. In 2018, we spent \$207M on procurement with Ghanaian firms and businesses including some \$27M in procurement to businesses based in our host communities.



HUMAN RIGHTS

Our business activities have the potential to impact – both positively and negatively – on a wide range of human rights of our stakeholders. As a responsible corporate citizen, we recognize our responsibility to respect human rights. This is in line with the UN Guiding Principles on Business and Human Rights, which forms the cornerstone of the international framework for business and human rights.

Our Policy on Human Rights outlines our approach to managing human rights across the business. The policy outlines our commitment to supporting and respecting internationally-proclaimed human rights to ensure we are not complicit in human rights abuses.

The policy was developed by senior leadership and was approved by the Chief Executive Officer (CEO). The policy is applicable across our business. We require all suppliers and contractors to adhere to the policy as a condition of doing business with our company.

Human rights impacts are assessed as part of our environmental and social impact assessments with management integrally linked to operational management plans.

We provide training to our employees and contractors so that they understand our role in respecting human rights. In 2018, 315 employees, representing 87% of leaders, received training related to leadership that included human rights elements.

In 2018, we set a variety of goals related to human rights in accordance with our UN Global Compact commitments. Details on progress are in the 'UN Global Compact' section of this report.

We commit to regularly reviewing and auditing our performance related to human rights management. We review our Human Rights Policy every three years or as required.



EMPLOYEES

We recognize that our success is dependent on the hard work and dedication of our people and teams. As such, we view our people as the foundation of our business success.

We are proud of the local employment that our operations generate for local communities. Employment is one of the most important benefits of our operations and one of our local stakeholder's key concerns. As such, we have local employment agreements and policies established with the host communities.

In 2018, we employed 2,257 people (employees and employees on contracts) representing some \$69M in salaries and wages. Almost 98% of our workforce is Ghanaian with 60% from the Western Region and 51% from local communities. Of our contractors, 88% are from the Western Region and 74% are from host communities.

We support our employees by providing a variety of training. In 2018, we provided over 87,000 hours of training covering a wide range of topics (e.g. health and safety, environmental, social responsibility, and leadership, among many others).

Key elements of our employee assistance include provision of accommodation or allowances, meals, education subsidies for dependents, worker and dependent national health insurance, and providence fund contributions. This is in addition to statutory social security payments.

Youth career development is advanced through programs in the host communities and directly within our business. Golden Star provides opportunities for youth through National Service placements, Apprenticeship Scheme, and Graduate Traineeship programs.

We recognize the value of diversity across our business. The inclusion of diverse backgrounds and viewpoints can strengthen decision-making and enhance business outcomes. Gender diversity is a particular focus given that mining has historically been a male-dominated industry.

We have a policy that outlines our approach to diversity on our Board of Directors and within our executive leadership. In 2018, 30% of our executive management team is female. To advance our business objectives with regards to diversity, in 2018 we started collating data on gender representation, parity, and systems. The program will help us better understand our diversity performance and identify supporting initiatives for inclusion, parity, and resilience. In 2019, we will consider the adoption of a Diversity Policy for the broader business.



LEADERSHIP

Following the tragic incidents in our business in 2017, we commenced a major program of safety improvement in partnership with our workforce.

To lead our culture change efforts, senior leadership developed for the first time a company-wide Safety Vision, Safety Strategy, and four-year Safety Plan. Focussing on culture change through enhanced systems, behaviours, and leadership, the Strategy sets a road map built on our values. To synchronise our leadership team, more than 300 leaders, representing 87%, at all levels in our business undertook safety orientated leadership training and competency assessments in 2018.

To support these efforts, our workforce subject matter experts have been engaged as champions to define the standards needed to prevent major incidents. In excess of 187 champions in specialisations such as ground control, cranes, heavy equipment operations, work at height, and drilling and electrical have been mobilised so far.

Within the business, management have set new proactive safety metrics and targets and are poised in 2019 to embed these approaches further through the development of department-specific safety plans.



WATER AND EFFLUENTS

Water management is a key business driver for our company. As our mines are situated in tropical West Africa, excess water and the potential to impact water resources is a significant risk for our operations. Water management is an important environmental concern for our local stakeholders as well as a global concern.

According to the World Resources Institute (WRI) Water Risk Atlas, none of our operations are located in high risk areas for water stress. The Bogoso / Prestea operations are located in a 'low to medium' risk area and the Wassa operations are located in a 'medium to high' risk area. Impact assessments and routine monitoring demonstrate that our operations have not had any impact on community water supply security.

We use water for our processing activities and our tailings contain excess process water than must be managed. Discharge of excess water from our operations to the receiving environment occurs seasonally, with discharges treated to achieve regulatory standards as defined by the Ghanaian Environmental Protection Agency (EPA).

To minimize water consumption, we reuse water where possible. Water is recycled from our tailings storage facilities, mine dewatering, and in our processing operations. Stormwater is directed around our operational areas to avoid impact and run off from within our operational areas is managed to ensure it is directed appropriately.

Water management is a key component of the impact assessment processes for major projects. Standard impact assessment methodologies include detailed hydrological and hydrogeological studies by technical experts, which are used to understand existing conditions, assess potential risks, and inform the development of management plans. These management plans contain detailed action plans outlining management requirements, roles and responsibilities, budgets, and key performance indicators. We update the plans every three years.

Stakeholder engagement and consultation are key activities of environmental assessments. This ensures that stakeholder input and feedback are incorporated into the assessment.

We have extensive ground and surface water monitoring programs. At Bogoso and Prestea, we have 52 groundwater and 59 surface water monitoring points. At Wassa and Hwini Butre Benso, we have 44 groundwater and 49 surface water monitoring sites. All required statutory monitoring was conducted in 2018. We maintained 100% conformance to Ghanaian EPA water discharge guidelines at Wassa with 99.4% conformance at Bogoso. In 2019, our goal is to be 100% compliant with these requirements.

| Metric | Wassa | Bosogo | Total |
|------------------------------------|-------|--------|-------|
| Water abstracted (ML) | 504 | 163 | 667 |
| Water discharged (m ³) | 0 | 1,375 | 1,375 |
| Water recycled (m ³) | 3,252 | 1,400 | 4,652 |



TAILINGS

We view tailings management as a key priority given the associated risks and impacts to our business and stakeholders and as a key concern for stakeholders both locally and globally.

Our environmental management plans incorporate tailings management plans to support the tailings storage facility (TSF) operational plans. We design and manage our TSFs in line with Ghanaian regulations, the International Commission on Large Dams (ICOLD), the Australian National Commission on Large Dams (ANCOLD), and the Canadian Dam Association (CDA) guidelines. The plans outline roles and responsibilities for management actions, as well as associated budgets and review provisions. Review provisions include key performance indicators.

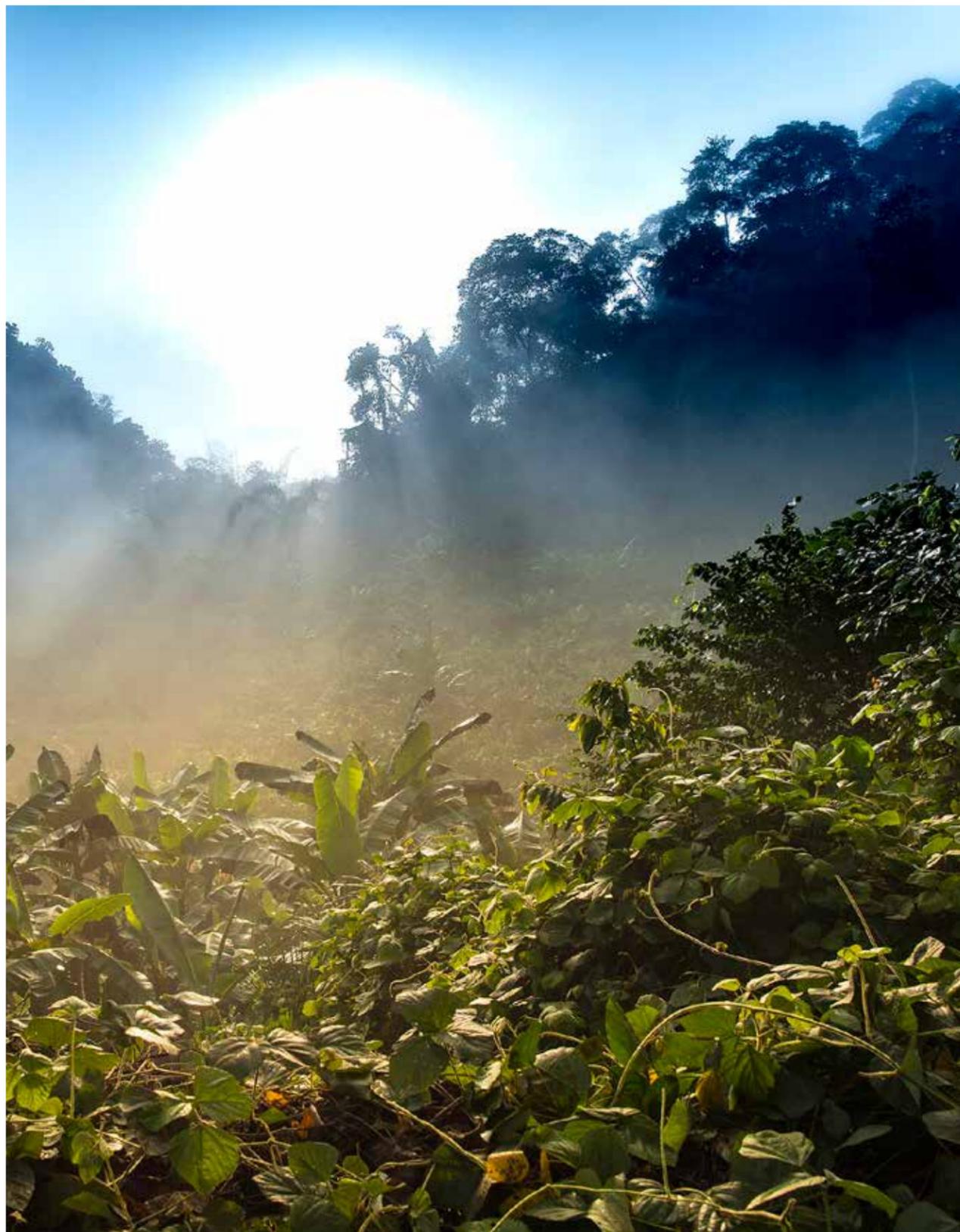
We have Standard Operating Procedures for our TSFs. Quarterly geotechnical inspections of the TSFs are conducted by qualified engineers in addition to independent third-party auditors.

We conduct environmental impact statements (EIS) for the construction of tailings facilities and major expansions. The EIS include a range of issues, including environmental, social, and closure components. We develop extensive monitoring provisions to measure performance.

Our Wassa mine is fully certified under the International Cyanide Management Code (ICMC). Our Bogoso mine temporarily and voluntarily withdrew from the Code in 2016 to make infrastructure modifications. The mine is currently undergoing pre-audit reviews to re-certify under the Code.

In 2018, we produced 3.56M m³ of tailings at Wassa and 2.6M m³ of tailings at Bogoso (including the Prestea operations). For information on our innovative approach to tailings reclamation, see the 'Mine Closure' section of the report.





MINE CLOSURE

Our mining operations are one in a sequence of land uses. Just as the land could sustain our mining operations, we must rehabilitate so it can be used for a viable land use after mining.

We take a holistic approach to mine closure by integrating environmental, social, and multiple land use objectives into planning and implementation. This helps ensure the sustainable development well beyond the life of our operations.

We have a corporate mine closure and reclamation standard which outlines a framework for our operations to rehabilitate and close mine sites. As part of the standard, all operations develop mine closure plans.

Closure plans are developed as part of our EIS' for major projects. The objective is to establish post-mining landscapes that can sustain the next uses identified in consultation with landowners.

We have been globally-recognized for our innovative approach to mine closure. The Golden Star Oil Palm Plantation (GSOPP) is a multi-award winning social enterprise initiative based on the smallholder farming concept. To date, we have established 1,133 hectares of sustainable plantations in place of former, low-yield subsistence farms. We have invested over \$6.6 million to the project since 2006. GSOPP now employs over 700 farmers and farm workers, which represents more direct employees than either of our mines. In 2018, the project continued to evolve with the incorporation of a contribution-based micro-credit scheme. In addition, we began a farm succession planning program to improve the project's sustainability.

In support of our objectives for post-mining livelihoods we have over the last three seasons piloted an innovative aquaculture program in former mine pits. The pits, which have been engineered to integrate into the local hydrology, have yielded 5.2 tonnes of tilapia, sold to the workforce and our catering contractor for meals. In 2018 we began preparations to extend the pilot to a larger former mine pit and in parallel commence the development of a fish farming business plan.

These two projects were highlighted as a key factor in winning the prestigious Prospectors and Developers Association of Canada (PDAC) Environment and Social Responsibility Award in 2018.



PARTNERSHIPS FOR INNOVATION IN MINE CLOSURE

We are implementing a Ghanaian first in innovation by progressively converting our former tailings storage facilities (TSF) to productive and commercial scale oil palm plantation. In partnership with GSOPP, by mid-2018 we had planted over 3,000 oil palm seedlings in two former TSFs. Whilst it is common to reuse mined land for low level agriculture, commercial scale production and yield is uncommon. Over the last decade we have completed trials to ensure the success of this valuable next land use.

We have also conducted an innovative program of pit lake engineering and aquaculture trials in former mine pits that are now a functioning part of the ecosystem. In a model approach, commercial scale fish cages have been used for three seasons of fish rearing and harvest, with a view to future commercial production.

To complement these activities we have nurseries to grow native endemic trees. Since 2010 we have propagated over 178,000 indigenous plant seedlings, many of special conservation value, for planting in former mined areas. This was supported by replacement of topsoil and broadcasting of over 18,000 kg of plant seeds.

80%

of participant's dependents are now in school

\$3.7M

in development foundation projects to date

\$6.6M

in sustainable agribusiness to date

ARTISANAL AND SMALL-SCALE MINING

Artisanal and small-scale mining is a widespread phenomenon in the Western Region of Ghana. Locally, illegal small-scale mining is referred to as *galamsey*. As it is unregulated, these activities are often highly-dangerous, with significant negative impacts on the surrounding environment. In particular, water bodies are severely impacted by *galamsey* resulting in widespread degradation of water resources for local communities.

Galamsey activities occur adjacent to all our operating sites in Ghana. The level of activity ranges from small groups conducting hand excavations and washing, to larger-scale operations employing blasting, large earth moving equipment, riverbed dredging/excavation, and/or underground operations.

In order to delineate our activities from those of others, we conduct extensive baseline studies and condition monitoring. Our water monitoring has shown that in some locales near our operations, illegal miners are employing cyanide for processing. We diligently report the activities and impacts identified by our monitoring efforts to regulatory agencies via monthly and other routine statutory reporting.

We support the Government of Ghana's efforts to regulate mining in all its forms. In 2012, following a multi-partisan engagement involving small-scale mining associations, a section of our Prestea concession was ceded to the Government, who subsequently released this land for authorised small-scale mining.

In addition to such actions, our community development programs focus strongly on alternative livelihoods initiatives. By investing in these programs, we aim to promote sustainable and productive land-uses that deliver genuine economic advancement and non-conflicting land uses, whilst simultaneously minimizing negative environment impacts. Our case studies on SDG 1 and SDG 8 discuss some of these initiatives.

PERMITTING

Our operations are subject to extensive environmental laws and regulations. We are required to obtain a variety of permits and licenses for our ongoing operations.

We obtain our permits following extensive environmental and social impact assessments (ESIAs). This process includes extensive stakeholder engagement to ensure a participatory process. We maintain comprehensive permit and license registers at our operations to help ensure ongoing compliance with all of our legal and regulatory requirements.

In 2018, we advanced our permitting with the submission of Supplementary ESIAs for the second cell of the Wassa TSF 2 as well as our Bogoso North Extension operations. Health impact assessments were submitted for the Prestea South, Mampon-Abronye and Wassa Expansion operations. Three-year updates of the statutory Environmental Management Plans (EMPs) were finalized for Wassa and submitted for the Bogoso/Prestea operations.

In 2018, we were not involved in any non-compliance matters related to environmental laws or regulations. We set a goal of 100% compliance to our air, water, and noise and vibration compliance requirements. We are pleased to report we achieved this goal for air, noise and vibration. For water, we achieved 99.7% conformance to the water guidelines.



GOVERNANCE

We are committed to the highest levels of corporate governance. Sound corporate governance helps ensure that we act and operate with integrity and in accord with our values.

Our Board of Directors is the highest governance body within our organization. The responsibility and mandate of the Board is to oversee the management and affairs of the company. The Corporate Responsibility (CR) committee of the Board provides oversight on matters relating to maintenance of a healthy and safe work place, environmentally sound and responsible resource development, good community relations, and the protection of human rights.

Business Conduct and Business Ethics requirements are defined by our corporate Policy, which outlines the high standards of behavior we expect of all employees, directors, officers, employees, consultants, and other company agents. This Policy is supported by several others relating to corporate responsibility including:

- Community Development and Support
- Community Relations
- Environment
- Human Rights
- Safety, Health, and Well-being

We review the policies regularly in conjunction with the Board. Typically, we review the policies every three years or as required.

Our Board Diversity Policy outlines our approach to achieving and maintaining diversity on the Board and in Executive Officer positions. As per the policy, we believe that Director nomination and Executive Officer appointment decisions should be based on merit. At the same time, we recognize that it is important to have a diverse pool of Directors and Executive Officers in order to retain a broad range of perspectives, skills, experience, and expertise for the stewardship and management of the Company.

The Board Nominating and Corporate Governance Committee reviews diversity needs and requirements annually. This includes assessing the effectiveness of the Board Diversity Policy and company performance related to diversity. In 2019, we will assess the company's needs for a diversity policy covering the entire business.



ECONOMIC PERFORMANCE

As a gold mining company, our primary purpose is to generate financial return for our shareholders and investors. As such, our economic performance is fundamental to the sustainability of our business. At the same time, we recognize that sharing the economic benefits of our operations is key to our ongoing success.

Our stakeholders derive economic benefits from our operations in a variety of ways. The Government of Ghana owns a 10% carried-free interest in our operations, and we pay royalties based on the amount of gold we produce. We also pay substantial taxes to the Government of Ghana.

We pay substantial employee wages and provide a variety of benefits to our employees and their dependents. We invest \$1 per ounce of gold produced in the Golden Star Development Foundation (GSDF), which is a key way we invest back into communities. We also support communities through some discretionary payments, which we make in accordance with our discretionary payments standard.

ANTI-CORRUPTION

We are required to make payments to a variety of levels of governments, including for tax purposes, royalties, and revenue sharing agreements. In order to establish public confidence and trust in these payments, it is essential that we publicly disclose them in a clear and transparent manner.

Our Business Conduct and Ethics Policy outlines our management approach to anti-corruption and bribery which is supported by our Standard for Facilitation and Discretionary Payments. In addition, we publicly disclose such payments annually in support of the Ghanaian Extractive Industry Transparency Initiative (EITI). As per Canadian legal requirements, we also disclose our payments to all levels of government annually under the Extractive Sector Transparency Measures Act (ESTMA).

Anti-corruption is a risk that we assess as part of our enterprise risk management review. We provide ongoing training related to our Business Conduct and Ethics Policy, including at the Board and senior management level. We communicate the policy to all our employees and contractors.

As part of our EITI commitment, our public payments are summarized in the tables following. Our ESTMA reports are available on our website.

BOGOSO

| | 2018 Q1 | 2018 Q2 | 2018 Q3 | 2018 Q4 | 2018 Total | Life to Date (as at end 2018) |
|-----------------------------|------------------|------------------|------------------|------------------|-------------------|----------------------------------|
| PAYE | 1,112,097 | 1,287,290 | 1,311,280 | 1,662,341 | 5,373,008 | 35,213,571 |
| SSNIT | 467,485 | 467,627 | 470,393 | 475,932 | 1,881,436 | 15,182,487 |
| Provident Fund | 474,646 | 505,872 | 541,545 | 524,248 | 2,046,312 | 2,046,311 |
| VAT | 896,379 | 903,694 | 803,351 | 694,440 | 3,297,864 | 39,041,992 |
| Import Duties | 214,046 | 391,815 | 218,005 | 108,926 | 932,792 | 12,661,605 |
| Royalties | 1,721,670 | 1,395,979 | 1,251,066 | 823,130 | 5,191,845 | 75,483,243 |
| Fees, Permits, Licenses | 429,345 | 142,654 | 94,935 | 45,108 | 712,042 | 2,613,673 |
| Withholding tax | 499,686 | 405,056 | 509,461 | 696,266 | 2,110,469 | 13,780,343 |
| Stamp Duties | - | - | - | - | - | 173,501 |
| National Stabilization Levy | - | - | - | - | - | 0.00 |
| TOTAL | 5,815,355 | 5,499,990 | 5,200,036 | 5,030,391 | 21,545,771 | 196,196,729 |

WASSA

| | 2018 Q1 | 2018 Q2 | 2018 Q3 | 2018 Q4 | 2018 Total | Life to Date (as at end 2018) |
|-----------------------------|------------------|------------------|------------------|------------------|-------------------|----------------------------------|
| PAYE | 686,415 | 1,496,643 | 1,815,933 | 2,141,872 | 6,140,865 | 32,159,870 |
| SSNIT | 488,330 | 447,063 | 515,957 | 525,029 | 1,976,381 | 14,029,176 |
| VAT | 750,739 | 719,391 | 827,971 | 864,112 | 3,162,215 | 42,353,877 |
| Corporate Tax | - | - | - | - | - | 32,744,040 |
| Import Duties | 567,850 | 555,541 | 229,704 | 595,335 | 1,948,431 | 7,526,455 |
| Royalties | 2,096,606 | 3,249,757 | 2,317,379 | 2,517,645 | 10,181,388 | 73,704,567 |
| Fees, Permits, Licenses | 21,633 | 32,963 | 24,319 | 69,034 | 147,951 | 1,742,674 |
| Withholding tax | 348,419 | 443,947 | 948,824 | 350,810 | 2,092,002 | 12,836,485 |
| Stamp Duties | 247,981 | - | - | - | 247,981 | 312,896 |
| National Stabilization Levy | - | - | - | - | - | 4,922,041 |
| TOTAL | 5,207,976 | 6,945,309 | 6,680,091 | 7,063,840 | 25,897,217 | 222,522,084 |



| GSBPL | 2018 Q1 | 2018 Q2 | 2018 Q3 | 2018 Q4 | 2018 Total |
|--|---------------|---------------|---------------|---------------|----------------|
| OASL | | | | | |
| OASL Overhead | 17,511 | 13,569 | 12,351 | 3,352 | 46,783 |
| TRADITIONAL AUTHORITIES | | | | | |
| Bogoso Traditional Authority | - | - | - | - | - |
| Himan Traditional Authority | 19,242 | 21,955 | 11,530 | 3,830 | 56,556 |
| Bogoso / Beppo Traditional Authority | - | - | - | - | - |
| Wassa Amenfi/Private | 14,585 | 2,388 | - | - | 16,972 |
| Adaamanso Traditional Authority | - | - | 6,600 | 1,048 | 7,648 |
| Mbease Nsuta Traditional Authority | 5,574 | 6,188 | 9,660 | 2,664 | 24,086 |
| TOTAL | 39,401 | 30,530 | 27,790 | 7,542 | 105,263 |
| STOOL LANDS | | | | | |
| Bogoso Traditional Authority | - | - | - | - | - |
| Himan Traditional Authority | 15,423 | 15,306 | 11,570 | 3,408 | 45,707 |
| Bogoso / Beppo Traditional Authority (not yet defined) | - | - | - | - | - |
| Wassa Amenfi/Private | 11,644 | 4,076 | - | 169 | 15,890 |
| Adaamanso Traditional Authority | - | - | 3,870 | 634 | 4,504 |
| Mbease Nsuta Traditional Authority | 4,454 | 5,042 | 6,793 | 1,821 | 18,109 |
| TOTAL | 31,521 | 24,424 | 22,232 | 6,033 | 84,210 |
| DISTRICT ASSEMBLIES | | | | | |
| Prestea Huni-Valley District Assembly | 54,660 | 42,353 | 38,553 | 10,462 | 146,028 |
| Amenfi East District Assembly | 32,022 | 24,812 | 22,586 | 6,129 | 85,550 |
| TOTAL | 86,682 | 67,166 | 61,139 | 16,592 | 231,578 |

| GSWL | 2018 Q1 | 2018 Q2 | 2018 Q3 | 2018 Q4 | 2018 Total |
|--------------------------------|----------------|---------------|----------------|---------------|----------------|
| OASL | | | | | |
| OASL Overhead | 44,555 | 8,889 | 32,187 | 16,569 | 102,201 |
| TRADITIONAL AUTHORITIES | | | | | |
| Wassa Fiase | 80,200 | 16,001 | 57,937 | 29,824 | 183,963 |
| Mpohor | - | - | - | - | - |
| Ahanta | - | - | - | - | - |
| TOTAL | 80,200 | 16,001 | 57,937 | 29,824 | 183,963 |
| STOOL LANDS | | | | | |
| Mamponso | 100,250 | 20,001 | 72,421 | 37,280 | 229,954 |
| Mpohor | - | - | - | - | - |
| Manso | - | - | - | - | - |
| Pretsea | - | - | - | - | - |
| TOTAL | 100,250 | 20,001 | 72,421 | 37,280 | 229,954 |
| DISTRICT ASSEMBLIES | | | | | |
| Mpohor Wassa East | 220,550 | 44,003 | 159,327 | 82,017 | 505,899 |
| Tarkwa Nsuaem | - | - | - | - | - |
| Ahanta West | - | - | - | - | - |
| TOTAL | 220,550 | 44,003 | 159,327 | 82,017 | 505,899 |

MATERIALITY ASSESSMENT

In line with GRI guidelines, we conducted a materiality assessment to guide the development of this report. The purpose of the assessment was to confirm which topics are material to Golden Star and to ensure corporate responsibility strategy supports these.

An independent, external consultant was commissioned to conduct the assessment and validate the results. The methodology is used by multiple companies from within our peer group. The figure below provides an overview of the assessment methodology.

We used a weighted scoring system to assess topics for their impact on the business. We integrated our enterprise risk management review into the weightings, alongside peer and industry benchmarking.

Senior corporate and operations management completed a survey to rank topics according to their importance to stakeholders. The survey used a forced ranking mechanism to ensure relative importance was identified.

The matrix below illustrates the topics against defined materiality thresholds and reveal fifteen topics that we focus on in this report in conjunction with our UN Global Compact reporting requirements.



- 01 Health and safety
- 02 Water
- 03 Community relations
- 04 Local employment
- 05 Economic performance
- 06 Employees and people development
- 07 Artisanal / small-scale mining
- 08 Community economic development
- 09 Tailings management
- 10 Human rights
- 11 Anti-corruption and bribery
- 12 Mine closure
- 13 Permitting and compliance
- 14 Local procurement
- 15 Diversity and inclusion
- 16 Governance
- 17 Community health

NOTES

DISCLAIMER

The forward-looking statements made in this report are based on assumptions and judgments of management regarding future events and results. Such forward-looking statements involve known and unknown risks, uncertainties, and other factors which may cause the actual results, performance, or achievements of the Company to be materially different from forecast future results, performance, or achievements expressed or implied by such forward-looking statements. Such factors include, among others, the actual price of gold, the actual results of current exploration, development, and mining activities and changes in project parameters as plans continue to be evaluated, as well as those factors disclosed in the Company's filed documents.

PHOTOGRAPHIC CREDITS

Photographic credits: Natalie Raffield, Philip Mostert, and the Golden Star teams

GLOSSARY

- AIFR All Injury Frequency Rate
- EITI Extractive Industries Transparency Initiative
- LTIFR Lost Time Injury Frequency Rate
- PDAC Prospectors and Developers Association of Canada
- SDG Sustainable Development Goal
- MSA Maintenance Sustainability Africa
- UN United Nations

- FACEBOOK.COM/GOLDENSTARRESOURCES
- TWITTER.COM/GOLDEN_STAR_RES
- LINKEDIN.COM/COMPANY/GOLDEN-STAR-RESOURCES
- GOLDENSTARINTHECOMMUNITY.BLOGSPOT.COM

