



# SDGs + Ashesi

How Ashesi University is supporting  
the UN Sustainable Development Goals



**Ashesi University’s mission is to propel an African renaissance by educating a new generation of ethical, entrepreneurial leaders.** Located in Ghana, Ashesi combines a multidisciplinary core with degree programs in Computer Science, Business Administration, Management Information Systems, and Engineering. All students take part in a 4-year leadership seminar series, as well as community service projects in the community at large. Recognizing the critical link between an ethical foundation and effective leadership, Ashesi was the first school in Ghana to institute an academic honor system. Voted into practice by the student body in 2008, this system sees each freshman class engage in rigorous debate on ethics and plagiarism. Students then pledge to hold themselves and their peers accountable for ethical behavior in examinations, which are thereafter administered without proctors. The collective Ashesi curriculum and experience results in an average of 94% of alumni finding placement in careers, graduate school, or starting businesses within six months of graduation — and 90% choose to stay and work for progress in Africa.

**1,174 students from 24 African countries live, work, and study together on our world-class campus.** Ashesi students come from diverse economic, ethnic, and religious groups. Women make up 48% of students, and 43% of students receive need-based financial aid. Ashesi graduates are an increasingly diverse representation of African leaders — all equipped with the tools to identify problems and seek solutions in their workplace, communities and the continent at large. The Seattle-based Ashesi University Foundation exists to fundraise for Ashesi University and raise international awareness about the school’s impact.

**Ashesi supports the Sustainable Development Goals (SDGs) — a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.** In 2019, Ashesi was recognized in the inaugural Times Higher Education global ranking of universities based on impact and contribution to the SDGs. The ranking acknowledged Ashesi’s main strengths in contributing to Quality Education (#4), Gender Equality (#5), Reducing Inequalities (#10), and Partnerships for the Goals (#17). The following examples highlight the ethics-grounded innovation and leadership by faculty, students, staff, and alumni required to achieve the SDGs.





## Goal 1: End poverty in all its forms everywhere

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Despite a decline in the extreme poverty rate in Sub-Saharan Africa, population growth means that 113 million more people live in extreme poverty today than in 1990. At Ashesi, Economics Professor Dr. Edgar Cooke researches the state and impact of poverty in Ghana and assesses the relationships between growth, poverty reduction, and inequality. Dr. Cooke has collaborated with UNICEF in this research.

Senior Lecturer of Entrepreneurship Dr. Sena Agyepong works to alleviate poverty in Ghana's cocoa-growing regions by providing entrepreneurship training to local youth. "The objective of the *MASO Business Academy* is to help participants identify and engage with local employment opportunities," Dr. Agyepong explains. "By so doing, they can earn an income and subsequently gain purchasing power to help boost economic growth in their localities." The program involves coaching, mentoring, and incubation for the entrepreneurs and their businesses. With expertise from other successful entrepreneurs, as well as Ashesi's faculty, the process allows participants to explore opportunity spaces, build and test business models, and receive grant support.

# 400

***MASO Business Academy*** students have received entrepreneurship training from Ashesi Lecturer Dr. Sena Agyepong. With their new skills and income, students boost economic growth in their communities.



## Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

Agriculture is a major driving force of the Ghanaian economy, contributing 25% of GDP and employing over 50% of the workforce. Still, most farmers struggle to make ends meet. "The onus lies on us, as diligent, committed global citizens to ensure that hardworking farmers are uplifted," says Audrey S-Darko '19 (pictured above), a member of an Ashesi student team that won \$10,000 for their sustainable agricultural intervention. The team's solution involves transforming bagasse, the main by-product of sugarcane farming, into bio-compost fertilizer. This fertilizer is now helping rural farmers in Ghana's Volta Region achieve greater yields, reduce crop losses, and ultimately overcome poverty.

Moses Yangnemenga '18 started the *Tieme Ndo* initiative, which provides improved seeds, pesticides, and fertilizers to Ghanaian farmers on credit. Over one hundred farmers across four communities are now enrolled in Moses' program. The results speak for themselves: One farmer's yield jumped 150% since joining *Tieme Ndo*.

Wuyeh Jobe '19 and Muhammad Jammeh '19 are working to establish *GamFruits*, a modern fruit farm and learning hub for farmers in Gunjur, Gambia. "We hope to adopt organic means of production that will yield fruits that are healthy and nutritious. Above all, we want to sell these fruits at prices that will be affordable," say Wuyeh and Muhammad.



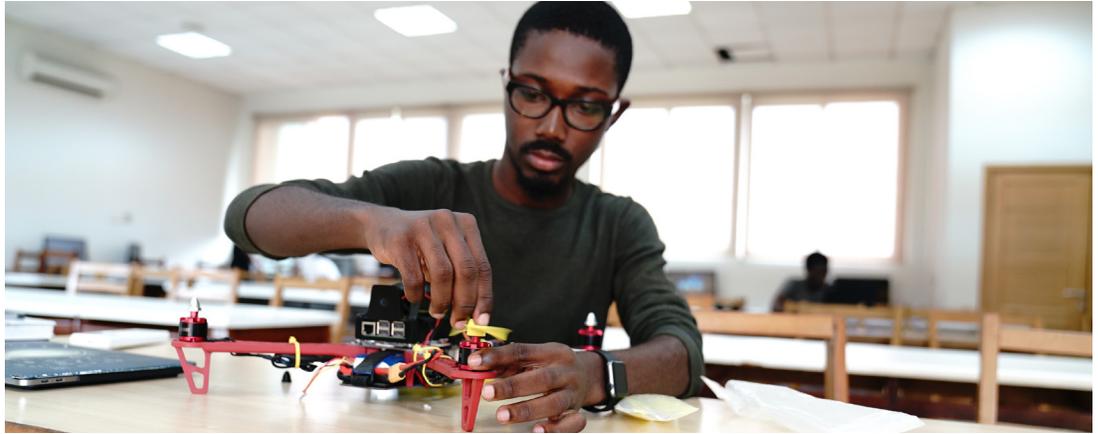
### Goal 3: Ensure healthy lives and promote well-being for all people at all ages

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Senior Lecturer in Engineering Dr. Elena Rosca (pictured above) researches how to use biologically inspired concepts to optimize cancer therapies and diagnoses in Africa by developing cost effective, non-invasive therapies and sensors. Dr. Rosca also advises Ashesi students in their cancer research. When Hudson Lekunze '17 learned from Dr. Rosca that low and middle-income countries like Ghana have little data available to properly understand local cancer situations, he was inspired to build a web-based app that streamlines cancer incidence data collection across Ghana. Hudson and Dr. Rosca are now working with oncologists in hospitals across the country to test the application.

Maxwell Aladago '18 dedicated his senior year at Ashesi to developing an algorithm for identifying the different growth-cycle stages of malaria parasites to help develop a low-cost tool for measuring the effectiveness of malaria drugs in rural areas. “The future of machine learning is in Africa,” Maxwell says. “We see different challenges like precision agriculture, or health monitoring and surveillance, that machine learning can accelerate solutions for. We are well-positioned to use machine learning to create incredible impact across Africa.” Maxwell’s research has gained broad interest, and he was invited to share his work at IEEE’s 2019 AFRICON conference in Accra. Now, Maxwell is pursuing a PhD in Machine Learning at Dartmouth College.

## 4 QUALITY EDUCATION



### Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

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Ashesi is committed to ensuring an inclusive, life-transforming education to Africa's brightest students. 48% of current students are women, 43% of current students receive scholarships, and students come from varied national, ethnic, and religious backgrounds. Our goal is not just about inclusion but ensuring that the perspectives of Africans of all backgrounds guide the solutions to Africa's greatest challenges.

Through the *Education Collaborative*, Ashesi offers a forum for higher education institutions in Africa to build programs and curricula that foster critical thinking and ethical, entrepreneurial leadership. Ashesi also offers educational programming to high school students. The *Ashesi Innovation Experience (AIX)* is a transformative two-week program centered on leadership, design, engineering, entrepreneurship, robotics, and the creative arts, and has impacted hundreds of students. In 2019, 132 high school students from 11 countries participated in AIX.

Passionate about making STEM education more engaging for young students, Professor Heather Beem launched *PEN*, a teacher training program where Ghanaian STEM teachers learn, design, and share hands-on activities to better engage their students. In the past two and a half years, *PEN* has impacted over 500,000 students.



## Goal 5: Achieve gender equality and empower all women and girls

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Ashesi has built a strong reputation around empowering African women through higher education. We maintain gender balance in our faculty, staff, and student body and actively recruit female students from across Africa. Women comprise 60% of the senior leadership team, 55% of the university's Board of Directors, and 40% of Engineering students.

The first female student government president in Ghana's history was Ashesi alumna Yawa Hansen-Quao '07 (pictured sitting). After graduation Yawa founded *Leading Ladies' Network*, whose for-profit women's career coaching arm funds mentorship programs for thousands of women and girls. "I want to provide [the women of Africa] the stepping stones to success, to prepare them to participate at every leadership table," says Yawa.

Many Ashesi alumni are working to achieve gender equality and empower all women and girls. Regina Honu '05 founded *Soronko Solutions*, a software company focused on producing software solutions to support local SMEs. Through Soronko, Regina supports *Tech Needs Girls*, a social enterprise she founded to help to teach girls in underserved communities how to code. Since its inception, Regina has enrolled over 5,000 girls in her program, and created a mentor network spanning 200 women in Computer Science and Engineering.

**48%**  
of Ashesi students are women; 52% of women students receive scholarships. We are committed to gender equality.

## 6 CLEAN WATER AND SANITATION



### Goal 6: Ensure availability and sustainable management of water and sanitation for all

“We have been committed to strengthening environmental sustainability at Ashesi since day one,” says Casper Annie, Ashesi's Facilities and Logistics Director. Since Ashesi is not connected to the Ghanaian national water pipeline, the university utilizes groundwater and rainwater to meet its water use needs.

Underground water tanks beneath Ashesi buildings harvest rainwater for use all across campus. Connected to a three-stage filtration system that pumps water to taps and drinking fountains, and with a current storage capacity of some 100,000 gallons, these tanks provide a steady supply of clean, healthy water for the community.

# 80,000

plastic water bottles are saved from waste every year thanks to campus water fountains.

In addition, Ashesi's biogas plant treats wastewater and generates effluent water for campus gardens (target 6.3). “We try to conserve and reuse as much as we can,” says Casper, “and our treatment facility is always being expanded.” Student-led community service projects have also brought clean water and improved sanitation to rural and urban communities.

Through these efforts, Ashesi is setting a new example for sustainability in large campuses.

## 7 AFFORDABLE AND CLEAN ENERGY



### Goal 7: Ensure access to affordable, reliable, sustainable and modern energy

Ashesi is actively increasing our investments in clean energy infrastructure and technology on campus. By installing 720 solar panels across campus in 2017, we took a significant step towards achieving our carbon neutrality goal. "The move to solar sets Ashesi on a path to energy efficiency and sets a mark for other institutions to follow. It makes sense for our continent to move into solar as Africa looks to welcoming the future," says Victor Hazel '18 who, along with other engineering students, played a role in each stage of the installation process.

# 720

solar panels provide Ashesi with a low-cost renewable energy source, support our carbon neutrality goal, and serve as a model for other institutions.

Ashesi is also training our engineering students to facilitate others' access to renewable energy technology. Members of the freshmen engineering class designed and built solar-powered smart irrigation systems that can potentially be scaled up to service agricultural irrigation needs across Ghana. Most small to medium-scale farms in Africa are exclusively rain-fed, due to farmers lacking access to technology to irrigate their land. Consequently, in the dry season, production is significantly hampered or comes to a standstill. Ashesi engineers hope to influence the industry in pursuit of affordable and environmentally sustainable options to address these challenges.

## 8 DECENT WORK AND ECONOMIC GROWTH



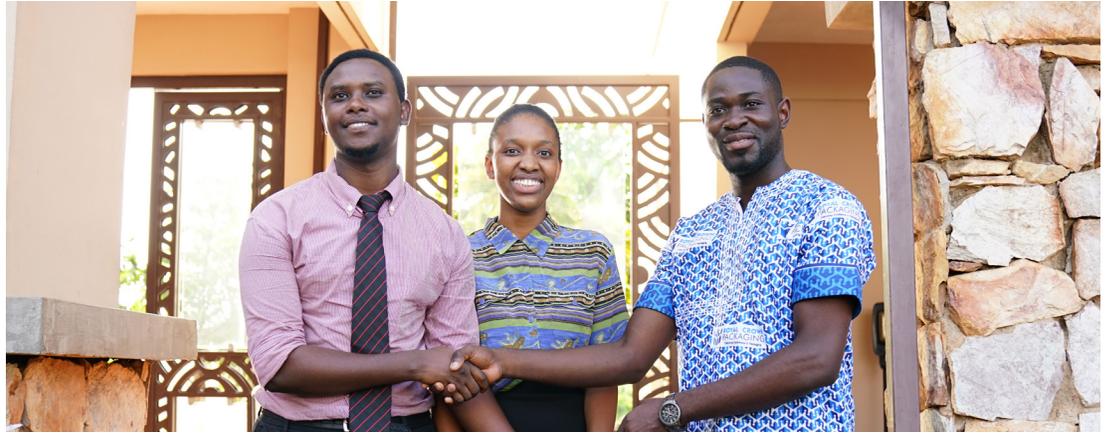
### Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all

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Whether Ashesi students join existing organizations or start their own, they act as job creators who carry forward entrepreneurial thinking in everything that they do. Ashesi maintains a goal for 20-25% of alumni to start their own business within ten years of graduating. Ashesi's entrepreneurship ecosystem includes the following programs and initiatives:

- **The Foundations of Design and Entrepreneurship course** prompts all first-year students to launch their own ventures to gain real-world experience in business development.
- **The Social Entrepreneurship course** guides students through the process of building a social enterprise.
- **The Entrepreneurship Capstone** teaches final-year students how to start a scalable business.
- **Ashesi Startup Launchpad** provides hand-on support and coaching to incubate student businesses.
- **Ashesi D:Lab** trains students in design thinking so that they may create, innovate, and grow their ideas.
- **Ashesi Venture Incubator** is a one-year alumni venture incubation experience in collaboration with MIT D-Lab, with funding from USAID. Fellows build their business through the incubator's provision of business coaching from local and global business leaders, business development sessions, and support services.

## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



### Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

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Target 9.3 aims to support small-scale enterprise development. The Ashesi entrepreneurship ecosystem includes the following initiatives which support SME development in emerging economies:

- **Ashesi Enterprise Fund** provides proof of concept grants and soft loans to student entrepreneurs to help them validate their business models, products, and services.
- **The Makers Skills' Lab** enables students to try their hand at everything from 3D modeling to building electric circuits. In a perfect example of the intersection Ashesi fosters between engineering and creative thinking, a student recently designed and built an operational drone. Inspired by Ashesi's growing size, he now hopes to teach the drone to fly independently – the first step towards establishing a campus delivery startup.
- **Ashesi's world-class facilities** are designed and built to inspire student learning and innovation. Opened in 2018, *The Fab Lab* offers students a dedicated space to design and fabricate new products for their startups.



## Goal 10: Reduce inequality within and among countries

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Ashesi is committed to educating and equipping young Africans who have the potential to excel and make an impact, irrespective of sex, disability, race, ethnicity, origin, religion, economic, or other status. We understand that for Africa to unleash its full potential, its future leaders must be as diverse as their continent. Further, our graduates start and join companies with the ability to compete on a global level.

### 43%

of current students receive scholarships. 52% of scholarship recipients are women. 25% of scholarship recipients receive full support for room, board, and tuition.

### 48%

of current students are women. At Ashesi, we recruit high-potential women from across Africa as part of our commitment to gender equality.

### 24

African countries are represented by students. Ashesi is a Pan-African community. 17% of our current students come from outside of Ghana to learn, live, and innovate.

## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



### Goal 12: Ensure sustainable consumption and production patterns

Every day in Accra, waste pickers sort out and recycle metals, plastics, and cardboard from 1,500 tons of waste that is dumped daily at the Kpone landfill, one of the two major landfills in Ghana's capital city. While their work plays a vital role in helping to protect the environment, mechanisms have not been developed to adequately compensate these 'informal recyclers' for the services they provide. Earning an average of \$40 per month, most of these waste pickers are unable to make ends meet. Students from Ashesi and MIT recently collaborated to create tools that will increase the earnings of Accra's waste pickers and provide them access to financial platforms to help grow their savings. The financial inclusion model will thereby support continued recycling and reuse efforts in Accra.

"It's been a very exciting project," says Zoe Tagbota '20 of the *Ashesi D:Lab*. "We got to go into the field to understand how waste pickers actually operate, understand their importance to the society, and through design thinking, learn about different opportunities available to them. In addition, the exchange experience with the MIT team has also been exciting, taking advantage of the opportunity to learn about how they use their tools in projects they work on."

# 1.8 billion

people work in unregulated environments worldwide. The financial inclusion model codigned by Ashesi students offers important insights into appropriate banking mechanisms for the informal labor force.



## Goal 13: Take urgent action to combat climate change and its impacts

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Ashesi recognizes that universities have a major role to play in addressing climate change. This includes leading by example. At the inaugural summit of the U7+ in Paris, Ashesi committed to creating courses available to all students related to climate, biodiversity, and sustainability as a way to prepare them to address the key challenges and mitigation strategies with regards to the Earth.

**200,000+**

**African households have been impacted by businesses incubated at the GCIC. 83 businesses have been incubated, 27 being women-owned or led.**

Since 2016, the *Ghana Climate Innovation Center* at Ashesi (GCIC) has served as a green project incubation hub which helps entrepreneurs transform their innovative ideas into strong and viable businesses. The GCIC is funded by a grant from the Governments of Denmark and the Netherlands through the World Bank and is managed by a consortium led by Ashesi University, including Ernst and Young, SNV Ghana, and the United Nations University. Supported sectors include solar energy, domestic waste management, energy efficiency, climate smart agriculture, and water purification and management.

One GCIC incubatee is the *Ghana Bamboo Bikes Initiative*, a social enterprise addressing climate change, poverty, rural-urban migration, and youth unemployment by creating jobs for young people, especially women, through the building of bamboo bicycles.



## Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

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We understand that the SDGs can only be achieved by working together with partners. Ashesi supports the SDGs through cross-sector collaboration, the promotion of best practices, and the publication of data.

- **The Education Collaborative** convenes public and private higher education institutions from across Africa to harness best practices in teaching, management, and administration.
- **International university partnerships** enhance global cooperation in science, technology and innovation, and enhance knowledge. Ashesi signed new partnerships in 2018 with Connecticut College, Kenyon College, Arizona State University, Mälardalen University in Sweden, and Instituto de Empresa in Spain. In 2019, Ashesi joined the Association of Commonwealth Universities, which helps to connect universities in their work on the SDGs.
- **Government collaboration** is an important component of Ashesi's work to achieve the SDGs. Examples include the GCIC, funded by a grant from the Governments of Denmark and the Netherlands (see SDG #13) and the *Ashesi Venture Incubator*, funded by USAID (see SDG #8).
- **Faculty research** is tracked in relation to the SDGs and many publications include multi-national co-authors.



## JOIN US

To share ideas and learn how you can partner with us, please contact us at 206.545.6988 or [foundation@ashesi.org](mailto:foundation@ashesi.org).

**Ashesi University in Ghana · Ethical Leadership and Innovative Thinking for a New Africa**

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