Davos Baukultur Alliance

INNOVATIVE PRACTICE CASE STUDY

The Ellen DeGeneres Campus of the Dian Fossey Gorilla Fund

The Ellen DeGeneres Campus provides cutting-edge gorilla research, education and conservation facilities, serving as a model for biodiversity protection and community engagement in the face of climate change.

GEOLOCATION	Kinigi, Musanze District, Rwanda
TIMEFRAME	Completed in 2022
PRESENTED BY	MASS Design Group

HIGHLIGHTS FROM THE DAVOS BAUKULTUR QUALITY SYSTEM

Definitions

GOVERNANCE	DIVERSITY
FUNCTIONALITY	CONTEXT
ENVIRONMENT	SENSE OF PLACE
ECONOMY	BEAUTY

Situated at the base of the Virunga Mountains in East-Central Africa, The Ellen DeGeneres Campus of the Dian Fossey Gorilla Fund is an initiative that addresses the urgent threats facing the critically endangered mountain gorilla. The 12-acre campus, completed in 2022, serves as a hub for gorilla research, education and conservation efforts, using state-of-the-art facilities and innovative techniques to protect biodiversity and engage local communities.

The campus has been designed as a laboratory and classroom in response to the biodiversity loss caused by climate change and urbanization. It provides an avenue for testing new techniques for biodiversity conservation, rewilding and reforestation of the gorilla territory. Local labour and materials were used throughout design and construction to minimize the carbon footprint, develop an immersive reforested landscape, and ensure job training and economic return to the local community while creating a modern facility for public use and education.

Photographer: Iwan Baan

Key outcomes

ENVIRONMENT This project is an ecological restoration of an agricultural plot into a reforested biodiverse landscape supporting four key native ecologies found in the Volcanoes National Park (mixed forest, bamboo forest, hagenia forest and meadow).

The buildings' materials are mostly locally available and sustainably harvested, and most of the furniture come from within 500km of the site. The design prioritizes natural daylighting and ventilation while rainwater is harvested and collected from the green roofs on campus for reuse.

The campus provides educational opportunities for visitors, students and local communities, raising awareness about gorilla conservation and inspiring future generations of African conservationists. The campus serves as a training ground, providing hands-on experience and practical skills to address the complex challenges of biodiversity loss and climate change.

ECONOMY The project invested over $15 million and contributed to economic development in the region through labour and regionally sourced materials pipelines by employing over 1,500 people, with over 99% of employees hired from Rwanda. It contributed to improving equity in the local construction sector, with 23% of the workforce being female. In addition, during the construction, almost 600 construction workers were trained and certified in construction trades, and formal certifications were given to over 400 workers. All the campus furniture and accessories, over 1,600 items, were made in Rwanda by artisans and design cooperatives.

BEAUTY From above, the buildings' green roofs blend into the surrounding landscape. The buildings' footprints integrate seamlessly into the landscape topography, encouraging a natural flow from interior spaces to the exterior through a series of covered patios and connected path networks, all taking advantage of the surrounding volcanoes. The main campus buildings contain different scales of interior and exterior gathering spaces in response to the diversity of programmes and inspired by the campfire gatherings at the original Karisoke Research Center. Encouraging interaction between visitors, staff and researchers, the gathering spaces are designed to provide connection to the landscape.

Stakeholders

CLIENT

The Dian Fossey Gorilla Fund

FUNDER

The Ellen Fund

LOCAL PARTNERS

Rwanda Development Board

PARTNERS

Architecture and planning
MASS

Landscape and wetlands
TenxTen Studio, MASS, Sherwood Design Engineers and Jacques Nsengiyumva

Engineering
MASS, Oak Consulting Group, BuroHappold Engineering and Transsolar

Construction
AEGIS Development Solutions, MASS.Build, MASS and Turner & Townsend (owners representative)

Interiors and exhibits
MASS.Made, MASS and Formula D Interactive

Tech and mediA
HabitatXR, TECHNO Engineering Company and MASS

Training
DeveloPPP GIZ IPRC Musanze, Dian Fossey Fund and MASS

Replicability

This project offers helpful insights for addressing climate change through innovative approaches to biodiversity conservation, ecological restoration and reforestation and pollination planting methods. The experimental landscape and green roofs are grounds for testing species adaptation at lower elevations and methods for sequestering carbon on site. The constructed wetlands are a low-carbon naturalized wastewater treatment system, which promotes ecological system health and resiliency. The system, the first of its kind in Rwanda, is gravity-fed, reducing overall energy use. Finally, local natural materials, such as volcanic stone found onsite, pine wood and clay tiles, are used throughout the campus, reducing waste and the need for new quarried material.

In addition, the project partners continuously engaged with the local community from the early stages of the project and continue doing so today. Furthermore, workforce development and capacity-building strategies were employed by the project team and contributed to increased community pride in and commitment to the project's mission.

> "The Ellen DeGeneres Campus embodies innovation in conservation and education, addressing the urgent need to protect biodiversity and inspiring future generations of African conservationists."
>
> MASS Design Group

Photographer: Iwan Baan

Lessons learned

Key aspects which were key in delivering impact included:

- Taking a "purpose-built" approach that considers how an organization can make systemic change and align the design to support the mission through a comprehensive feasibility study.

- Early financial planning and thorough capital preparedness assessments to ensure financial sustainability throughout a project's duration and joint fundraising efforts diversified funding sources and increased support.

- Close collaborative relationships and shared alignment with partners about the project's goals and intended impact from the beginning. Similarly, promoting meaningful engagement with local communities to build trust and support.

- Defining and measuring impact through ongoing evaluations. MASS Design Group conducted three surveys of construction workers throughout the project, including one survey a year after opening. In a survey conducted after construction was completed, 85% of workers reported sustained and increased incomes. To maintain a learning cycle across all projects, MASS developed, implemented and continues to use a measurement framework that evaluates mission-driven impact, as well as indirect impact related to environment, education, equity, economy and emotion.

The most significant challenge arose after the project started construction in late 2019, shortly before the COVID-19 pandemic. The pandemic caused supply chain limitations, delays and cost increases, which required the project stakeholders to raise additional funds to complete the project.

Sourcing sustainable, low-carbon, affordable solutions in the region was not easy and required creative thinking. Finding a more sustainable/low-carbon structural system available in the region for this scale of building was challenging. Hence, the project needed to rely on steel and reinforced concrete for the main buildings. The project aimed to offset the use of materials through innovative, sustainable design solutions.

Next steps

This project was developed as a first step for many initiatives:

- The Government of Rwanda is using this research to pilot their ambitious plan to expand Volcanoes National Park, setting new precedents for conservation efforts globally. This will invest in the richness of this biodiversity, reclaim agricultural lands and reduce the overlap between human and gorilla territories so they can thrive.

- The project partners are exploring other opportunities to collaborate to support conservation efforts in East Africa and beyond.

- Learnings from this and other related projects, if funding is made available, would be published to help inform others.

Read more

Explore more studies in the full publication:
Innovative Practice

Read the Eight criteria for a high-quality Baukultur:
The Davos Baukultur Quality System

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Cover image and opposite: Iwan Baan

WORLD ECONOMIC FORUM

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