

ASA Studio - Active Social Architecture In the African context: a socio-health facility in Rugerero

Abstract

The interview, edited by Sahar Taheri, concerns the project of the Rugerero Health Center in Rwanda designed by ASA Studio of Kigali through a participatory process that involved local actors. The functional program took into account national health guidelines, local input and architectural considerations. The typological concept favored open spaces, sustainability and integration with the local climate. The design used low-tech materials from the area, involving the community in the construction. The article highlights the positive impact of well-designed healthcare facilities on patient recovery, emphasizing the integration of local context, participatory design and sustainability in healthcare architecture.

Keywords

Health Center — Participation — Piazza

How did you choose the project area?

The place was not chosen by ASA. This project was designed for the Government of Rwanda, specifically for the Rugerero sector in Rubavu District. Local authorities selected the land based on its location, accessibility to a large number of people and proximity to other public facilities (sector office, police station, main asphalt road, etc.).

What relationships with other service structures in the urban context have been taken into consideration?

The Rugerero Health Center is located near a square that houses several other public facilities, including the sector office, the police station (with a temporary prison) and various shops. Furthermore, the main paved road connecting Kigali to Musanze in Gisenyi passes directly in front of the square making it easily accessible. After local authorities chose the land for the Health Centre, ASA conducted a thorough investigation of the area and analyzed the site constraints and potential uses. It turned out that the local community often gathered in the square. The Health Center would also attract community members, especially mothers with young children during vaccination campaigns. With this in mind, ASA decided to create an additional common space in front of the Health Centre, connected to the square but with a dedicated seating area. This project initially included a large avocado tree that existed in the square, which ASA integrated into the design. Unfortunately, however, the local authorities decided to cut down the tree, thus nullifying the effect intended by the design choice. Despite this inconvenience, the square remains an important meeting place for



Fig. 1
ASA Studio, Rugerero Health Center, Ruanda, Africa, 2017. Territorial localization.
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both the local community and the patients of the Health Centre, creating a strong connection between the entrance of the facility, the open area of the nutrition block and the existing common space.

Which factors and forms of the urban area in which the project is located influenced the design choices?

The urban fabric surrounding the Rugerero Health Center is dense, but composed mainly of small, one-story buildings. The main mode of travel for the local population, including to and from the health centre, is pedestrian. Some individuals may use bicycles or motorbike taxis, but cars are not used frequently as they are typically only accessible to wealthier individuals.

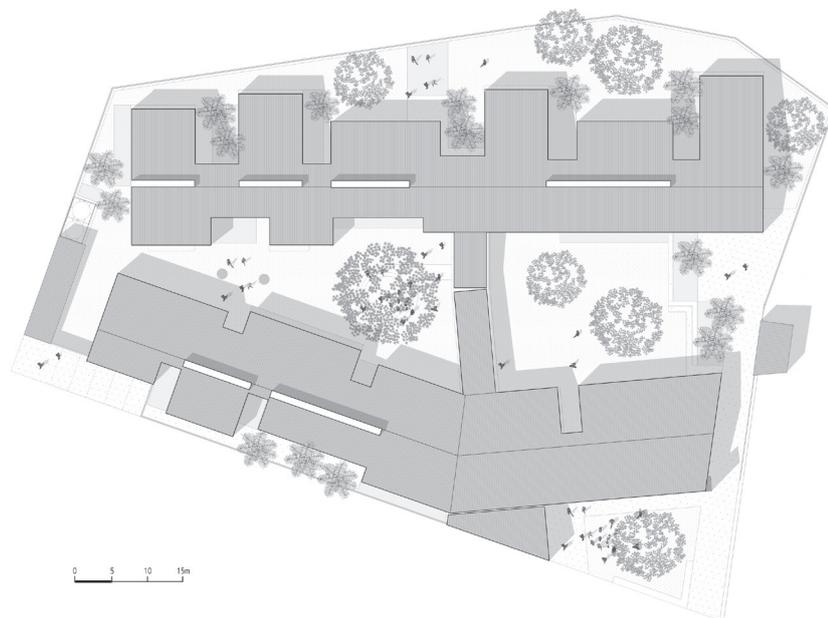
The center consists of a single-storey building with several blocks detached from each other, connected via covered passages. Inside the structure there is only a small car park that can accommodate four cars and, although an access route has been designed for ambulances to reach the maternity ward, it is currently not used.

Were citizens involved during the planning phase? In what mode?

ASA, acronym for Active Social Architecture, firmly believes in the participatory design approach. Therefore, we always involve different local community stakeholders in our design process, including local authorities who train health center nurses and the local community itself. Furthermore, we ensure that a significant number of women are included in both the design and implementation process. In the case of Rugerero HC, ASA used data collected during community-level activities on design, spatial layout and programming preferences to incorporate local cultural heritage into the Health Center planning. Some examples of how our design choices were influenced by citizen input include: the creation of an open communal space where mothers with children can gather for vaccination campaigns and nutritional training courses while having direct visual control over their children; the secondary and more private entrance to the HIV laboratory and consultation room for patients who do not wish to be seen

**Fig. 2-3**

ASA Studio, Rugerero Health Center, Ruanda, Africa, 2017.
Roof plan and floor plan.
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seeking care (due to stigma); the open connection between the blocks that provides clear orientation through the use of colors and the direct visual connection between the blocks; the addition of a pit latrine (traditional toilet) outside the building so that people can use leaves instead of toilet paper (which would clog the toilets located inside the building); finally the design of a water kiosk accessible from the common area where people can refuel with 20 one-litre jerrycans (since most families do not have access to clean water) with collected filtered rainwater, among others, from the roofs of the building.

During the planning phase, what was the contribution of health and social workers? (doctors, nurses, social workers, ...)

Our local partners, an NGO called Health Builders, are made up of doctors, nurses and social workers who focus on training the local community. Their main emphasis is on coaching and mentoring individual health center workers. Instead of training individuals on generally accepted procedures, standards or best practices, their trained healthcare management con-

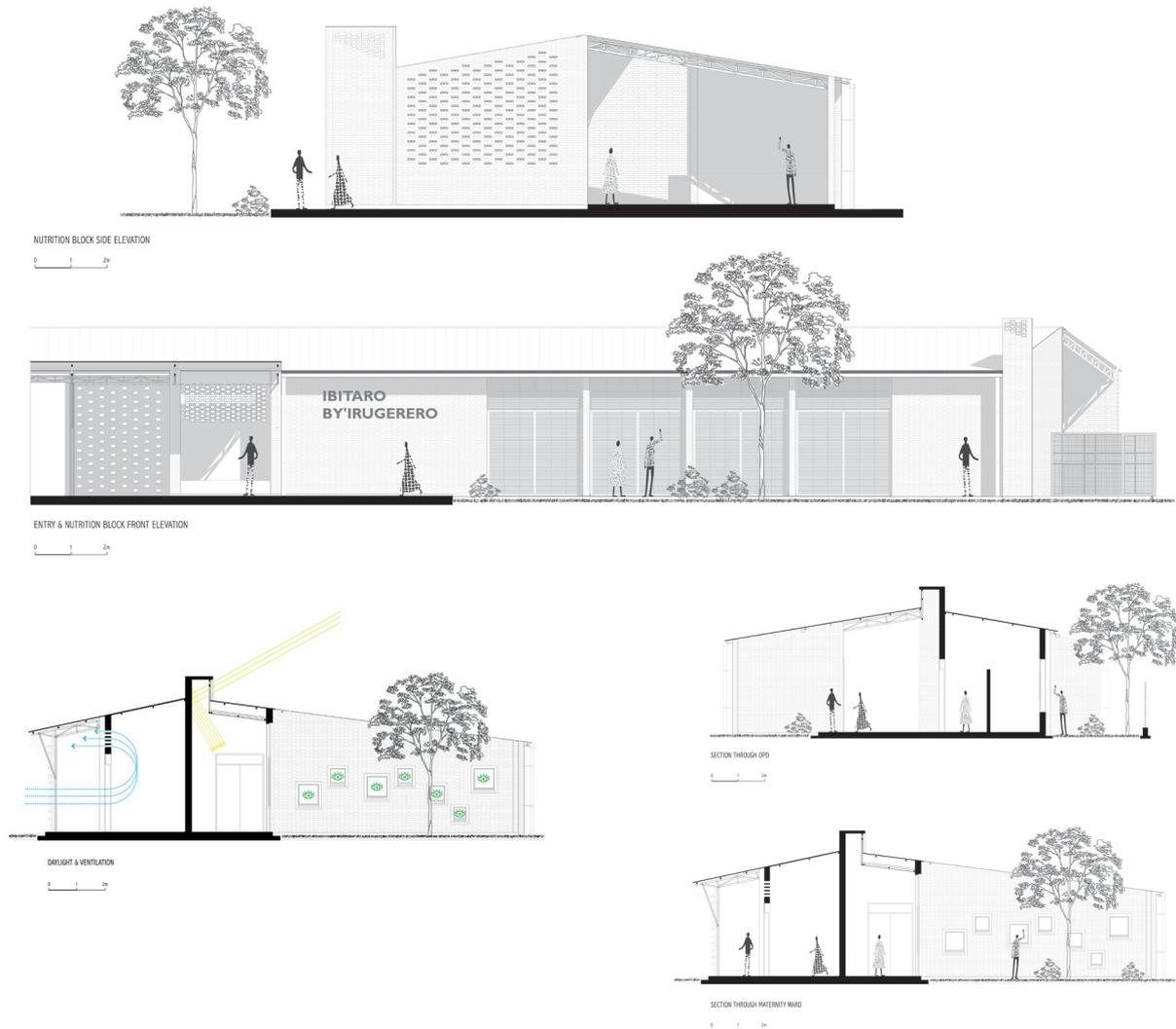


Fig. 4-6
 ASA Studio, Rugerero Health Center, Ruanda, Africa, 2017.
 Elevations and sections.
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sultants meet individually with healthcare professionals to address their goals. This process provides ASA with valuable information, design input and feedback that is continually integrated into the architectural product and implementation process.

How was the functional program defined?

The program was based on three main criteria. First, the national guidelines on health center facility requirements outlined by the Rwanda Ministry of Health. Secondly, the inputs received from local authorities and healthcare specialists, who are our partners, on how to make the space more efficient and what additional facilities can be added. These include a separate HIV laboratory, TB isolation room, maternity block design, rainwater filter room, among others. Finally, our design inputs as architects, taking into consideration the local community's way of life. This includes integrating open space, landscape and nature to speed up patient recovery on wards, designing skylights to use natural light to reduce running costs and prevent darkness issues during power cuts, adding of a water kiosk and paintings on the walls of the pediatric departments.

What typological and formal references were taken into consideration?

**Fig. 7-8**

ASA Studio, Rugarero Health Center, Rwanda, Africa, 2017. Internal and external views
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Throughout the conceptual design process, we considered various typological and formal references to ensure a well-thought-out design. One of the references we considered was the courtyard type, which emphasized the use of open spaces to connect different program areas while maintaining privacy for each space. However, after careful consideration of the specific needs of this project, we opted for a more linear system. Four blocks are connected on two lines and the center is connected via a “promenade” that runs through the place.

What are the reasons and fundamental characteristics of the typological choice of articulation of spaces?

The articulation of the spaces and the typological choice of this project were guided by several key factors. First, ASA prioritized local climate characteristics in the design process. In the northern region of Rwanda the climate is mild and constant throughout the year, with an average temperature of around 20°C. This allowed us to avoid expensive air conditioning and heating systems and adopt a more open design that integrated circulation and waiting areas into sheltered outdoor spaces. Secondly, we aimed to integrate sustainable passive systems into the design. Adequate cross-ventilation was essential to minimize the spread of airborne diseases, particularly in gathering spaces. As a result, we opted for a long, narrow block type that ensures cross-ventilation in all rooms and spaces. Patients circulate in sheltered outdoor areas overlooking the gardens: to minimize direct heat gain through the west facade, we arranged corridors along the west sides as porches, creating a buffer between the interior rooms and the gardens. Finally, it’s worth noting that ASA worked with a limited budget for construction. To keep costs low, we adopted a single-story block system with outdoor air circulation and minimized actual enclosed interior areas. We also used a cost-effective construction technology, with minimal use of reinforced concrete. These design choices ensured that the structure could be built within budget without sacrificing functionality, sustainability or user experience.

What role do the connection, distribution and waiting spaces and the reception areas play in the project?

Connections, distribution, waiting areas and reception spaces are an integral part of the project, facilitating the movement of outpatient patients, patients and staff within the structure. Additionally, these spaces serve as



multipurpose areas where patients can wait, move around, and community members can gather for education and awareness campaigns, depending on the time of day. In the Rugerero HC, space utilization and efficiency are maximized by using larger, multifunctional areas instead of actual corridors to connect the various functional areas, such as consultation rooms, laboratories and departments. These areas serve as reception spaces where patients can register for mutual assistance, undergo triage or be directed to different consultation environments. They also provide spaces for vaccination campaigns, training and movement between different blocks. These spaces are further connected to the surrounding gardens, establishing a strong link between the closed areas of the structure and the natural landscape.

Fig. 9-11

ASA Studio, Rugerero Health Center, Rwanda, Africa, 2017. Internal and external views
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How was the internal-external relationship interpreted?

It is important to note that the natural environment plays a fundamental role in this structure. Green courtyards are strategically positioned between all built bodies to incorporate nature into the complex's environment while providing privacy and open spaces to families and children who visit inpatients or accompany outpatients. The traditional way of living in Rwanda involves spending most of the day outdoors and almost all routine activities take place in outdoor spaces. Our design embraces this practice, making users feel comfortable and "at home" while in a healthcare facility. Finally, the view of the greenery surrounding the buildings is offered to patients in the departments not only to improve their mood but also to speed up the healing process.

What is the solution to achieve spatial flexibility?

There are two solutions underlying the flexibility of the structure. Firstly, common spaces such as waiting areas and connectors have an open-plan layout that can be subdivided with furniture or used as a large collector as needed. Secondly, the modular system can be used for programs so that each space dedicated to a specific function (such as offices) can have a different use in the future if necessary (such as a consultation room).

**Fig. 12-13**

ASA Studio, Rugerero Health Center, Ruanda, Africa, 2017. Internal and external views
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What role did the choices of language and relationship with the culture of the context have in developing the project?

During the design process we give a lot of value to the heritage of local culture, lifestyle, traditions and beliefs. Our goal is to create a highly contextualized architecture that is efficient in serving users while respecting their culture and promotes a sense of ownership in the community. Our approach is community participatory and we conduct research based on it to develop a project that is accepted and used and which may have a different background than that of the architect.

What technological requirements were taken into consideration in the project? In particular, through which passive technologies suitable for dealing with local climatic conditions?

At ASA, we prioritize the use of local materials and technologies in our projects to minimize construction costs and reduce the carbon footprint from transportation. This approach is reflected in our design for Rugerero HC, where we used low-tech systems that were easy to implement, allowing the local community to participate in the construction process. We used locally sourced materials such as stone foundations and locally fired clay bricks for the walls, as well as a low-tech roof package made up of highly reflective iron sheeting, recycled sound insulation and local pine wood. Additionally, we collaborated with a local cooperative of women who assembled panels of woven eucalyptus branches for screens and door panels.

In addition to reducing construction costs, our design also integrates passive systems that minimize facility management costs and maximize user comfort. We focused on cross ventilation, orientation, use of daylight and mitigation of direct heat gain to guide our design strategy and overall volume layout. We have also installed solar water heaters, rainwater harvesting systems and skylights to reduce energy consumption and promote sustainability.

What are the key factors in the design of a healthcare building, specifically in your intervention context?

The fundamental key factors in designing a healthcare building in the African context are: the provision of improved toilet facilities and the provision of hand washing stations with clean water. These are factors that considerably improve public health and hygiene in areas where access to basic healthcare infrastructure is limited, and it is crucial to include a sanitation facility within the health center premises.

Is there a coherent methodology for tackling this type of project?

There is no single approach to tackling this type of design. However, through years of experience, we have learned how to increase the success of projects in this context. Our approach is to design with the goal of empowering communities, which means that the role of the architect is only a small part of a larger network of interconnected elements, including the community and its leaders, local governments, local partners and their outreach efforts. Our approach is to use our creativity to interpret space from the point of view of end users, while also positioning ourselves as tools for social improvement.

Can design and architecture contribute to the patient's recovery?

Yes, design and architecture can certainly contribute to the healing of patients. In healthcare settings, the physical environment can have a significant impact on a patient's overall well-being and recovery. Studies have shown that well-designed healthcare facilities, especially with integrated elements from the natural environment, can lead to better health outcomes, shorter hospital stays, reduced stress and anxiety, and greater patient satisfaction.

ASA, acronym for Active Social Architecture, represents the international firm's belief and commitment towards the social value of architecture. Based in Kigali, Rwanda, it was founded in 2012 by two European architects and scholars, Tomà Berlanda and Nerea Amorós Elorduy. As of 2021, ASA is operational across East African countries and Europe, with a variety of customers and a wide range of stakeholders. These include organizations such as local and international NGOs, social enterprises, United Nations agencies focused on local and global communities. ASA works in close collaboration with all stakeholders to achieve quality and excellence in architecture and design, focusing on elements that improve people's lives, strengthen and empower communities and their sense of identity. The resulting process is a constant interaction between stakeholder participation, architectural practice and research.