

Ubuntu sustainability - a necessity in the design process

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Sustainable design, sustainable living and our impact on the Earth's fragile resources should be a concern for all humanity. Now, more than ever, as we reach a critical stage in the wellbeing of our planet, sustainability should be a conscious discussion we take to preserve and maintain our natural resources.



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In design terms, sustainable design should not become a stylistic approach, but one that showcases a much-needed lifestyle change. At New Urban, we consider sustainability and human impact when approaching each new design. Our African continent is unique in its environment, not just for the way buildings will behave in our climate and how our citizens will use them, but for the resources available to us to create a considered, sustainable design for future generations.

These practices and innovations are available to all designers but are often overlooked. So how can our local design and architecture industry change their behaviour towards this subject?

Understanding our carbon footprint

We need to first know and understand our carbon footprint. If we know our impact on the Earth's resources, we can then design accordingly and plan for a future that is rooted in its context. To apply this thinking, New Urban co-creates with communities rather than designing for communities in a vacuum. This is known as socio-economic sustainability – designing for the essential needs of a community and how it lives and breathes.

Economic sustainability is a way of thinking that considers not only the investment cost over time but the life cycle and environmental cost (the life span of the building). It considers the possible return for future generations and how this return will be equally distributed.

Then, of course, there is the commonly known environmental impact, where we consider our natural resources and their availability. We have to preserve, protect and restore our environment with every project. What kind of future do we want to give our children? The answer is one that is better than what we inherited.

Sustainability design and architecture

On our continent, sustainability design and architecture is on the right track, with governing bodies such as the Green Building Council and our access to solar renewable energy. Unfortunately, most architects use sophisticated computer tools to create sustainable objects, which misses the human connection and intuition. We need to break this monotony of “un-building”. It is our responsibility as designers to think about sustainable communities, neighbourhoods, districts and cities and design architecture that people can relate to. We could have world class sustainable buildings, but if our citizens have to drive to their places of work, stuck in traffic for hours then does sustainability work? Think of their carbon footprint and the answer is “no”; we should be addressing the issue for sustainability more broadly in South Africa.

At New Urban we are fortunate to work on both urban design projects and architectural design builds, giving us a holistic view of the problems we face in design. Our ongoing project in Verkykerskop in the Free State, about 40km from the town

of Harrismith, was holistically planned through the socio-economic and environmental sustainability spheres. This is an excellent example of how context matters. Verkykerskop is a small-scale agricultural town, where the integration between urban design, architecture, technologies, food production, recycling, water management and building a fair community is at the fore. Thus, sustainable design should always aim to be built in harmony with physical and social contexts. It is as much about the landowners and developers as it is about poor marginalised farm communities.

Communal living is rooted in strong private, public spaces and the threshold between them. For example, to be able to sit on your “stoep” while talking to your neighbour and to have total privacy to read bedtime stories to your child.

Our urban design work involves understanding the land you are working with, the people living there and the problems they face. Technology, of course, plays a part in our sustainable design, but our designers make sure that the right level of technology is applied in the appropriate setting.

Small-scale interventions

We find local designers could give greater attention to local sustainable food production within the setting of new towns. Small-scale interventions and incremental growth projects are powerful, sustainable design tools for solving national issues. If your client doesn't have sustainable design top-of-mind, it is our job as designers to educate them on why it is so important, and the benefits to their company.

In our opinion, the ideal sustainable neighbourhood has the following characteristics – and they all are equal in design:

- They are compact, pedestrian-friendly, with a variety of mixed uses.
- Many daily activities occur within walking distance, reducing the carbon footprint.
- The concentration of civic buildings (post office and clinics), institutional services (school and crèche), and commercial activities (the corner shop) should be embedded within neighbourhoods.
- The economic health and harmonious evolution of our neighbourhoods can be improved through coding, rather than the current zoning policy.

Moving into architectural design, sustainability during construction and use is of paramount consideration to our planet, and the end-user.

With our project in Riebeek-Kasteel, the material used played as important a role in sustainability as the technology or energy use. Parts of the building were constructed using locally sourced stone, which was collected from the nearby farms where the stone was a by-product of agricultural field clearing. The farmer could get rid of his rock piles while deriving extra income from it. A local stonemason was also employed to construct the stone walls.

In terms of energy sustainability, various strategies were employed to reduce the building's carbon footprint and energy usage. This included the optimum orientation of the buildings and solar shading as well as the use of drywall construction in certain spaces to reduce unwanted heat storage and solar heating for domestic hot water use. Roof and wall insulation were used extensively to reduce the heat load.

Since Riebeek Kasteel is a dry area, a system of above and below ground rainwater harvesting was implemented to reduce the water usage.

Village character

One of the sustainability lessons with this project is the character of the village; the social context. The relationship of buildings placed close to the street created an urban village character that is very typical of the Swartland vernacular. The use of simple barn-like building shapes is very much part of the village character. Because of this approach, closer attention to detailing is a prerequisite. The architect must understand the regional, town and immediate site contexts (including the microclimate) to create responsive architecture with a sense of wholeness. The built forms create smaller-

scaled outdoor spaces, which are shaded and protected from the harsh climate.

Each project we work on adds more to our extensive knowledge of sustainable design and highlights the problems we all face as a nation dealing with every changing environmental factor. As African designers, we need to be far less wasteful without affecting the quality of our own lives, but rather improve the lives of others. We like to call this “ubuntu sustainability”.

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