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## The Emerging Female Architects of East Africa



By [Hannah Wood](#)

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Victoria Heilman, Emma Miloyo, Devothe Mukeshimana, Assumpta Nnaggenda-Musana, Maliam Mdoko. Illustrations by Dev Aswala.

The East Africa region—which includes the countries of Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Seychelles, Somalia, Tanzania and Uganda—is currently in the middle of a construction boom that is transforming the region’s built environment. According to Deloitte’s 2018 [African Construction Report](#), the total number of building projects in [East Africa](#) rocketed up by 96-percent between 2017 and 2018, with a substantial increase of 167-percent in the total value of projects. The report also notes that China is directly funding 25.9-percent of the construction projects in the region, far outweighing investment from the various East African governments, which valued at 12.9-percent. How will this new wave of fast-paced development reshape the landscape of East African countries in the decades to come?

Since last November I have been living and working in southern Tanzania on a construction research project that looks into the effect of housing on family health. During a stay in Dar es Salaam, I caught up with Victoria Heilman, an inspiring architect leading a sustainable and ethical building movement in Tanzania while lobbying the government for construction industry reform. Inspired by our conversation, I went in search of other women from across East Africa, at different stages in their careers, who are making their mark on the future of the region’s built environment.

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Victoria Heilman. Illustration by Dev Aswala.

### Victoria Heilman, VK Green Architects, Tanzania

Victoria Heilman is a Tanzanian architect and educator who recently stepped back from teaching at Ardhi University in Dar es Salaam to focus on her own firm, [VK Green Architects Ltd](#), and the nonprofit she co-founded, [Tanzanian Women Architects for Humanity](#) (TAWAH).

“I landed in architecture without knowing what it really was,” Heilman recalls, “then during my master’s degree in the States I worked with Habitat for Humanity on a number of projects. When I came back to Tanzania, I found the same organization also existed here, so I worked with them on socially oriented projects in Zanzibar and Tanga. The most interesting part about architecture for me is to be out in the field working with people who need architectural expertise, but do not have high-end requirements.”



Pongwe Classrooms Project by TAWAH.

When Habitat for Humanity Tanzania changed their operational model from fieldwork to loan-based financing, Heilman took the initiative, alongside three female colleagues, to found TAWAH. “Our ambition is to keep the work Habitat for Humanity was doing alive in Tanzania,” she explains. “We mobilize women in architecture and engineering to go out there and meet marginalized groups. We want to make an impact on these communities while involving people in the process. For example, while working out in Arusha, I learned that Massai women also have relevant knowledge of architecture to share with us which we did not learn in class.”

*“The most interesting part about architecture for me is being out in the field working with people who need architectural expertise, but do not have high-end*

## *requirements.” —Victoria Heilman*

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Heilman holds a PhD in sustainable building practice with a focus on Tanzania and utilizes her research knowledge to push for legislative reform in the country's construction industry. Her involvement with industry decision-makers soon led her to realize that the construction sector was not being driven by design, but instead by other factors, such as material supply. She explains, “here in Tanzania, architects have to bank on what suppliers tell them about a product, as there aren't the building codes in place”.

Heilman is currently lobbying for the integration of green and passive design concepts in a new Tanzanian building code, which is currently paused awaiting ministerial review. “I don't want to see Tanzania left behind,” she urges, “Kenya has [a building code], Rwanda has one, and Uganda has one even though it doesn't contain too many green or sustainable design concepts. As an architect, I feel we can influence policy to get to the root of where things are going wrong. The code will help to validate or dispel these claims and prevent material suppliers 'greenwashing' the industry.”



TAWAH's Women in Construction Mentorship Program Launch 2019.

At work in her office in Dar es Salaam, Heilman aims to integrate sustainable concepts into every design proposal. She explains, “my main goal is to try and show how basic technologies and passive design can result in energy savings. We are currently working on a 7-story office building in Mwanza for the National Audit of Tanzania. We studied orientation and sun patterns to make sure we had maximum shading as a baseline, which will save on in-use costs such as air conditioning. Our energy analysis enabled us to see how the sun will affect the building over time, so we could use this information in our design process.”

It can be argued that sustainable design concepts and passive techniques have yet to hit the mainstream construction industry in many East African countries, which Heilman suggests is partly due to the translation from design thinking into practice and lack of client uptake and long-term vision. “There are a lot of innovative ideas here in Tanzania and architects who are real specialists in their fields, but I do not see real change yet. Since the 1990s, concepts that don't really work in hot, tropical climates are still being imported from the West, such as curtain glazing. With the young generation coming through, I worry there is still a mentality of ‘get something from outside and bring it here,’ and unfortunately architects still think homegrown knowledge is not good enough.”



Emma Miloyo. Illustration by Dev Aswala.

### Emma Miloyo, Design Source, Kenya

Emma Miloyo, the first female president of the Architectural Association of Kenya (AAK), studied architecture at Jomo Kenyata University of Agriculture and Technology outside Nairobi. Twelve years ago she co-founded a corporate firm with her husband called [Design Source](#), specializing in hospitality, commercial and energy projects across East Africa.

“At Design Source, we work on the principle that architecture isn’t only shelter, but that it should inspire and evoke emotion,” says Miloyo. “We make an extra effort to think about how our buildings interact with the end-user and their context. Our buildings shouldn’t just be buildings, they should make people walk past and take a second glance.”



Habitat Nairobi by Design Source external view.

Her Nairobi-based office puts Miloyo at the epicenter of the East African construction explosion—according to Deloitte’s 2018 [African Construction Report](#), Kenya has the largest number of projects in the region, with an estimated overall project value of \$38.2 million.

“It’s the fad now, everybody’s putting up a highway or a railway line or something, and it’s having a huge impact on how cities develop. In Nairobi, we are witnessing the urban sprawl that comes along with such fast expansion”, explains Miloyo. “In many projects, the focus is vehicular movement and developers are not thinking about the human scale, which has a huge impact on the projects’ future success. You see this again and again, especially in projects by Chinese developers and clients, both here in Kenya and across East Africa. Projects are not being designed for longevity or in our local materials and styles.”



Habitat Nairobi by Design Source pool view.

At Design Source, Miloyo and her design team favor the use of homegrown materials and techniques in their buildings. Like Heilman, she sees similarities between sustainable design and concepts in traditional African construction. “We Africans stumbled on these concepts in our traditions: you build models around you and build with your hands, we didn’t have to think too much about heating and cooling systems. We must not lose the basic principles we have inherited, and keep these ideas alive in new African buildings.”

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*“To realize architecture, you have to have a lot of emotional intelligence. You’re leading teams, you’re conducting an orchestra, and there are all these dynamics. So you’re realizing that it is a lot about drawing, but that in fact the major part of it is how you interact with people.” —Emma Miloyo*

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As her career has progressed, Miloyo has often found herself in positions of leadership, both managing construction teams and now as president of the AAK. She warmly tells me that her journey has been one with many challenges along the way. “Something they don’t teach you in school is that architecture needs to respond to people’s needs and how to manage that respectfully. In trying to meet the client and end user’s needs, the solution is never all about you, and as an architect, you need to be very responsive. Very few architects can get away with anything else, only starchitects like Zaha Hadid and the rest can say, ‘this is who I am and this is what I do,’ and people come to them for that kind of work. To realize architecture, you have to have a lot of emotional intelligence. You’re leading teams, you’re conducting an orchestra, and there are all these dynamics. So you realize that while architecture is a lot about drawing, the major part of it is in fact how you interact with people.”





Devothe Mukeshimana. Illustration by Dev Aswala.

### Devothe Mukeshimana, Journeyman International, Rwanda

Devothe Mukeshimana is part of the first cohort of East African architects who graduated from the new faculty building at the [University of Rwanda School of Architecture and Environmental Design](#), completed in 2018. During her studies, Mukeshimana focussed on sustainable materials, energy efficiency, and low-cost construction, and hopes that since graduating earlier this year, these ideas will continue to drive her practice.



Dream Village Center Rwanda by Devothe Mukeshimana and Patrice Uwizeyimana internal view.

As in Heilman's career development, the presence of the voluntary sector in East Africa has shaped Mukeshimana's skill-set and social approach to design. Mukeshimana worked as a student assistant on the IMBUGA city walk, a masterplan for the pedestrianization of a key street in Kigali and as an intern at [Journeyman International](#) (JI), where alongside Patrice Uwizeyimana, they proposed a new design for a vocational training facility for victims of HIV at a site in Muyumbo, near the Rwandan capital.

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*“The most challenging part as a young female in architecture so far is that in my country you can’t find professional women architects who can motivate us, advise us and inspire us in our career.” Devothe Mukeshimana*

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“The most interesting thing for me about working in East Africa right now is the inspiration that comes from

collaborating with people with different skills, experience and diverse backgrounds and learning from each other," explains Mukeshimana.

"After completing secondary school, I was confused between architecture and engineering because most of the people around me did not know much about architecture due to it being a new faculty at the University of Rwanda. For me what matters most is learning to use my architectural skills to serve society." Now her studies are complete, Mukeshimana plans to continue at JI to further develop her practice and help design sustainable and low-cost projects in Rwanda.



Assumpta Nnaggenda-Musana. Illustration by Dev Aswala.

### **Assumpta Nnaggenda-Musana, TECO, Uganda**

Assumpta Nnaggenda-Musana balances running a design studio and teaching at [Makerere University Department of Architecture and Physical Planning](#) in her home city of Kampala, Uganda. As a student, she drew inspiration from her international education, studying for her Architecture degree at Kharkov State University in the Ukraine then later moving to Stockholm, Sweden, to complete her PhD at KTH. In 2008, Nnaggenda-Musana became the first Ugandan woman to receive a PhD in Architecture.

Her current academic interests stem from her PhD research, which explored urban housing formations in Kampala. "In my PhD, I was looking into how Kampala could be densified, yet allow low-income groups to go about their day to day business, for example integrating indoor and outdoor living. My prototypes included two- to three-story buildings as part of an overall upgrading strategy," explains Nnaggenda-Musana. "Today, my research is focused on low-income housing and settlements in Kampala, and I have also begun to take an interest in gender issues, which I see as being indivisible from life in the home."

Studying for her PhD revealed new perspectives on housing informality to Nnaggenda-Musana. At the time, the mainstream approach she had witnessed in Kampala was to 'wipe the slate clean' and rebuild informal housing from scratch, which had led to many housing projects being rejected by their occupants. "There are many positive aspects to the architecture of these informal settlements that are often disregarded in formal urban planning and should be celebrated," she tells me. "In Kampala, the majority of housing projects have been built on Western models, which cannot be directly translated to African cities."



Nnaggenda-Musana checks works on site.

The crossover of her research and studio time has arguably shaped Nnaggenda-Musana's approach to built projects. "Teaching African traditional architecture, I would say that I enjoy buildings which do not rely on artificial environmental control, such as air conditioning, but work with the climate," she explains. "When working on urban planning projects, I generally advocate mixed-use development. Kampala could be a 'garden city,' full of biodiversity, where people live closer to their workplaces."

In response to the time pressures of balancing teaching, research and practice, Nnaggenda-Musana joined Technology Consults (TECO), a practice initiated by former lecturers at Makerere. TECO allows academic staff to work together while offering students valuable experience working on live projects. Currently, TECO are working on two master planning projects: a development plan for Mengo Hospital and the establishment of a "Free Trade Zone" around Entebbe Airport. Established by Albert Ruskin Cook in 1897, [Mengo Hospital](#) is the oldest hospital in Uganda, which is said to have housed Africa's first X-ray machine. The masterplan designed by TECO alongside around twenty architecture students proposes to redevelop the site based upon principles of sustainable design and social cohesion between different medical departments. The historic colonial buildings will be retained as part of the project and a museum is also proposed on the site to celebrate its unique architecture.

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*"I always tell my female students to be assertive, especially when doing site visits, and to shape your own place in the industry" —Assumpta Nnaggenda-Musana*

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When asked what the biggest challenge she faces working as an architect in Uganda today, Nnaggenda-Musana responds, "the hardest thing to overcome is that the profession has been historically seen as a male speciality. I notice it when, as a female architect here, you say something on site or in the workplace, and the men do not give you the right audience. Getting accepted is a challenge even today. But I think that this makes female architects resilient. I always tell my female students to be assertive, especially when doing site visits, and to shape their own place in the industry."





Maliam Mdoko. Illustration by Dev Aswala.

### **Maliam Mdoko, Press Trust, Malawi**

Maliam Mdoko is Projects Manager at the [Press Trust](#), Malawi's foremost local charitable institution that works on buildings offering public benefit, such as in the education, health, social welfare and housing sectors. She worked her way up at the organization after being hired as a Project Officer in 2010. While Malawi isn't strictly in East Africa, it is experiencing a comparable expansion of the construction industry that can be seen in the rest of the region.

"For me, architecture is beyond a profession, it's a calling," says Mdoko. "As an architect, I take every day as an opportunity to make the world a better place. I try to embrace each day with an open mind and I'm always eager to meet new challenges and new opportunities. Architecture to me is a tool to soothe my mental capacity and create solutions for society in a way that leaves a positive footprint. My profession has helped me to meet and serve different cadres of people from decision makers to grassroots communities."

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*"As an architect, I take every day as an opportunity to make the world a better place. I try to embrace each day with an open mind and I'm always eager to meet new challenges and new opportunities." —Maliam Mdoko*

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After Mdoko graduated in 2004, she joined a local architecture practice called Kanjere and Associates, where she worked until after her professional practice exams. At Kanjere and Associates she was exposed to major public infrastructure projects across Malawi, working with clients such as the Malawi Government, World Bank, DFID, and the European Union. It was here Mdoko first adopted a supervisory role in infrastructure projects, and began managing disciplinary teams.



Apartments in Lilongwe City under construction by Mdoko.

“To complete a public infrastructure project such as a health facility, I have to work with decision makers in the line ministry and central government and the municipal authorities' level, traditional leaders and other local government structures,” she explains. “This exposure has helped me to sharpen my interpersonal skills and has also exposed me to different cultures.”

Mkodo takes challenges in her stride. “Challenges in an architectural career, and life in general, are inevitable. But with the right knowledge, skills, capabilities, and of course the right attitude, challenges should be considered to be opportunities to grow, to be creative and innovative. If well-handled, challenges help you to be appreciated by the public as well as fellow professionals, and can open new doors for career development or advancement. I can look back with pride that I have supervised projects and handled challenging dynamics effectively because I chose to tackle issues head on and give a positive vibe, rather than being dragged down by stereotypes.”

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*“Architecture is a beautiful profession, yet challenging one. I encourage younger women not to limit their dreams by the trends they see today where the construction industry is largely male-dominated and viewed as the most corrupt industry.” Maliam Mdoko*

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Currently Mdoko balances projects supported by the Press Trust and architectural work for private clients; She is also outspoken regarding anti-corruption initiatives in the construction industry. “Malawi is a developing country with a lot of socio-economic needs as it aspires for growth,” she explains. “Like other countries in Africa, and around the world, we have capable architects who can change the built environment, who are striving to create safe and better living spaces. However, we need a space to do this with no political interference. I want to see a corruption-free construction industry, where people respect and appreciate the architectural profession.”



Mdoko supervising construction works.

In the next twenty years, Mdoko dreams of a different Malawi, one more advanced from what she sees today in terms of infrastructure development. “I see a Malawi where every developer would want to involve an architect in their projects,” Mdoko tells me. “We are now living in a global village and coupled with the ever-changing technology, I see increasing competition among architects. This should be viewed positively as it provides room for professional growth and development.”

### Learning from experience

I asked each architect what advice they would like to pass on from their own experiences to younger women starting out in the field. “As a woman, you need to exhibit extra skills to be accepted,” Heilman told me, as we discussed the challenges of working in a male-dominated industry. “For example, when the work is competition-based, you are presenting to all-male panels which can pose a problem. Male client teams may not wish to take advice from a female architect when they have already made up their mind on something. It can be a challenge to make them understand things that they don't really see at that moment.”

To provide support and guidance for young women starting out in architecture, this year TAWAH launched a [‘Women in Construction’](#) mentorship program, to connect female mentors working in architecture and engineering professions to mentees leaving education in Tanzania. “I would like to say to young women not to give up, to work extra hard so people can see you will deliver,” says Heilman. “Find someone you can learn from and understand how the environment works”.

It appears a similar program would not go amiss in other East African countries. When I asked Mukeshimana what had been the toughest thing for her to get started in the industry, she replied, “in my country you can't find professional women architects who can motivate us, advise us and inspire us in our career.”

Nnaggenda-Musana thinks the future is promising for young female architects in Uganda. “The proportion of female students that I'm teaching at the university is increasing,” she explains. “Since 1986, when the government put their focus on gender empowerment, equal opportunities have been prioritized in most workplaces. I'm happy to see women now taking up prominent roles in the industry, for example, the Ugandan Architects' Registration Board now has a woman in charge, and at regional symposiums and conferences, I now see more female architects.”

Mdoko also sees a future where architecture studios are more balanced than today and the architecture profession benefiting from a more level playing field. “Architecture is a beautiful profession and a challenging one,” she says. “I encourage younger women not to limit their dreams by the trends they see in the construction industry today, being largely male dominated and viewed as the most corrupt industry. Be focused and hold on to your dream even when the going gets tough. Most importantly, believe in yourself.”

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*“The way architecture is taught is one of the most powerful tools you can be given because you're learning to develop into a critical thinker, a problem solver, and by nature, you're learning that there is no right way to*

## *do something, there are many solutions.” Emma Miloyo*

“It could soon be possible that women in architecture in East Africa are no longer an exception but can hold their own and even lead design table discussions,” Miloyo continues. “Around 15 years ago, only 5- to 10-percent of architecture students were female, but now we’re looking at almost half, and that will have an impact. Having more women coming through is good for everybody, both for men and women. It will be interesting to see how many get absorbed into the profession and how many venture into other areas.”

Miloyo understands that whatever career young women choose to go into, an architectural education will set them up for the future job market. “I think architectural education, or the way architecture is taught, is one of the most powerful tools you can be given as you’re learning to develop into a critical thinker, a problem solver, and by nature you’re learning that there is no right way to do something, but instead that there are many solutions.”

“Due to the East African construction boom, this is the moment for young women, and when everyone sits at the table, it’s good for everybody. Of course, there’ll be some resistance along the way, but you have to keep soldiering on, and I think the sky’s the limit in terms of what you can do.”

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