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**Assessment of Female Professionals' Participation in Construction Industry: A Case Study of Iconic Structures Designed by Women Globally**

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**BY**

**ARC. AKWAOWO, Dianabasi Reuben**  
**Department of Architecture**  
**Akwa Ibom State Polytechnic**  
**Ikot Osura;**

**OBAMOH, Hannah Yetunde**  
**Department of Architectural Technology**  
**Federal Polytechnic Ukana**

**AND**

**OBAMOH, Samuel Olaolu**  
**Quantity Surveying Department**  
**Federal Polytechnic Ukana**

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**ABSTRACT**

*This study was to examine the current level of female professionals' participation in construction industry: a case study of iconic structures designed by women globally. Today's construction industry is conventional in employing women due to extreme gender stratification. women working in construction industry carry out managerial, technical and specialized work. This study assessed the responsible for female professionals' in the participation of building construction industry with a focus on iconic structures designed by women globally. The employment of women at the professional level is very little even though the few employed perform creditably. Based on the findings made the study concluded that the barriers faced by female professionals' in the construction industry are enormous and this influences women globally in the course of developing careers in the construction industry. It is quite interesting to note that discouragement faced by the women does not deter them but rather encourage them to remain resolute in participating in the construction industry with great achievement marked, including designs and construction of various iconic structures not limited to the excerpt contained in this write-up. Therefore, one of the recommendations was that women should be given ample opportunities to show their technical knowhow and skills in the construction industry as many talents and potentials can be brought to lights if they are well integrated in the system.*

**KEYWORDS: Female Professionals', Construction, Industry, Iconic, Structures Designed and Globally**

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**Introduction**

The construction industry is globally seen as one of the major contributors to the economic development of the world. The industry is widely considered to be the world's largest industrial employer of labour, with an estimation in excess of 111 million construction workers worldwide in 1998 (International Labour Organization 2001). In Nigeria, the National Population Commission (2012) recorded that Nigeria is estimated to have 167 million people, with 49% of the active age group assumed to be women and the National

Bureau of Statistics (2006) revealed that about 70% of the women living in Nigeria are rural dwellers. In Nigeria, the population of women in the industry represents only 0.2% of those in the construction profession. Ginige et al (2007) argued that one of the problems facing today's building and construction industry is skill shortage due to its inability to attract young women to pursue careers in the industry. Increasing women representation in the construction industry is a reliable solution for bridging the skill gap.

Women generally face challenges as they advance in their careers, and this is most common in non-traditional occupations such as construction. Considering the perceived unattractiveness of the construction industry, a low number of women are choosing careers in the construction industry due to several factors that affect career choice, resulting in the poor implementation of the provisions of the Employment Equity Act in Nigeria, lack of women empowerment and a shortage of skills in the construction industry. In spite of the many initiatives and the awareness created over the past few years, with respect to the significance of women participation in the construction industry, coupled with the efforts to balance the diversity and inequality in the industry workforce, women still remain a small minority of those working in the construction sector. Today's construction industry is conventional in employing women due to extreme gender stratification. Most of the women working in the construction industry carry out managerial, technical and specialized work while the employment of women at the professional level is very little and the data are limited to zero, but in many countries, these represent one percent of the labour force (Clark, 2005).

Female professionals are needed at all levels, in management, design, trade skills and in all the various parts of the supply chain. Status of female professional in the construction industry (Adeyemi, Ojo, Aina and Olanipekun, 2006) revealed that women constitute only 16.3 percent of the workforce in the Nigerian construction industry, of which 50 percent are administrative staff, 10 percent employed as professional and management staff, and 2.5 percent as craftswomen. However, Construction Industry Training Board observed that women still constitute only 9 percent of the workforce in the UK construction industry, of which 84 percent held secretarial posts, nearly 11 percent are employed in a professional capacity and the remaining are craft and trade level employees. According to CIOB (2006), construction industry is facing a 'demographic time-bomb' that is, the pool of traditional male applicants is contracting and the current workforce is ageing leading to problems of skill shortage and recruitment. Therefore, there is a need to tap the talents of the 'other half' of the workforce, that is, the female professionals. This appears to be the driving both the individual and the organization.

### **Concept of Construction Industry**

The construction industry is the sector of the economy that builds, improves and repair buildings, structure, infrastructure and land features (Spacey 2019) construction industry is one of the largest industries in any economy. It makes a significant contribution to the national economy and provides employment to a large number of people. Construction is a general term meaning the art and science to form objects, systems, or organizations. Construction is an industry that includes the erection, maintenance, and repair of buildings and other immobile structures, and the building of roads and service facilities that become integral parts of structures and are essential to their use. In its most widely used context, construction covers the processes involved in delivering buildings, infrastructure and industrial facilities, and associated activities through to the end of their life. Construction includes structural additions and alterations but excludes the building of mobile structures such as trailers and ships. It typically starts with planning, financing, design, execution,

builds, and also covers repairs and maintenance and improvement work (Technofunc 2020). Construction industry is an important industry worldwide. The construction industry generally defined as a sector of the economy. The Industry is playing an important role in economic growth of the country, but it faces many challenges currently that lead to affect project goal and steady growth of the economy. Construction is a high hazard industry which comprises a wide range of activities involving plans, design, constructs, alteration, maintains, repairs and eventually demolishes of buildings, civil engineering works, mechanical and electrical engineering and other similar works (Editorialteam 2017). Construction Industry is one of the most booming industries in the whole world. The whole process of construction can be divided into various segments like

- ❖ Construction of buildings: Residential, industrial, commercial, and other buildings.
- ❖ Heavy and civil engineering construction: Building of sewers, roads, highways, bridges, tunnels, and other projects.
- ❖ Specialized activities like carpentry, painting, plumbing, and electrical work.

Construction Industry is the base of the world economy and this is achieved through the construction of residential and commercial properties, bridges, tunnels, roads, railway tracks, airports, etc. (Construction Machinery 2019). Construction is an industry that includes the erection, maintenance, and repair of buildings and other immobile structures, and the building of roads and service facilities that become integral parts of structures and are essential to their use. Construction includes structural additions and alterations but excludes the building of mobile structures such as trailers and ships (Vault 2020). Construction industry in Nigeria is neither organised nor controlled. There is no clear cut between the contractors and some of them are just in business to make profit irrespective of the nature of work (Oyedele, 2012). In 1985, Julius Berger Nig Plc, a major player in the construction market in Nigeria, supplied Mercedes Benz saloon cars to the federal government. Though major construction companies in Nigeria segregate jobs by scope, internationally, market segregation has gone from scope to specialisation in the industry. For example, Redrow, popular United Kingdom builders, will not go out of residential buildings construction and Lang O'Rourke will not do anything other than Public-Private Partnership (PPP).

According to Dantata (2008), the construction industry is a key sector for the Nigerian economy. The construction sector, according to DBIS (2013), is defined as: (i) construction contracting industry; (ii) provision of construction related professional services; and (iii) construction related products and materials". The construction industry is a system containing all the practitioners including the clients, the contractors, sub-contractors and consultants, and those in the manufacture, supply and distribution of construction materials. It also includes the construction training schools from technical to research institutes, to polytechnics and to universities. The construction industry can be divided into three major segments. These include; construction of building by Building Contractors, or General Contractors. These contractors build residential, industrial, commercial, and other buildings. The second category is the Heavy and Civil Engineering Construction Contractors that build sewers, roads, highways, bridges, tunnels, and other projects. Specialty Trade Contractors who perform specialised activities relating to construction such as carpentry, painting, plumbing, tiling, and mechanical and electrical works form the third segment. Those that lease heavy earth moving equipment, plant and machineries for construction purposes are also in this category (Austin et al, 2003).

## Concept of Iconic Structures in the World

Iconic buildings or structure are a powerful tool when it comes to marketing cities with such buildings as tourist destinations. Such buildings are highly photogenic and have undoubted seductive power when it comes to fueling arch-tourism. Attention grabbing sleek images combined with celebrity architects are a powerful tool for generating publicity and luring visitors. After regeneration projects which render a place a new identity, the images of iconic buildings usually become the symbol of a city's new identity for example how the Burj al Arab has been a symbol of Dubai. As cities struggle to position themselves as destinations, use of architecture helps in giving them a visible distinction. Iconic buildings have often been described as spectacles but when it comes to architourism, the goal is to produce the ultimate spectacle. Abu Dhabi is another example of cities using contemporary architecture to market themselves as the architourism capitals of the world. The US\$27 billion Saadiyat Island development is fronted as a cultural district that fuels one's imagination and as the only place in the world where five of the top architects in the world have come together to produce the biggest ever architourism spectacle. Many architectural critics are of the view that the end of the iconic building is upon us. According to some critics, iconic structure is primarily about image and ostentation, not context. Iconic buildings are a disassociation of place and culture and an expensive architectural jewel. With such views, the question of where this leaves architourism and whether such thinking will affect branding strategies and destination marketing arises. Budget is an important issue when it comes to iconic buildings because contemporary architectural jewels do not come cheap (Westley, 2006). With many economies still reeling from the economic slowdown, the rate at which cities can afford to construct iconic buildings is lower and only wealthy states or states with access to big money can afford to embark on such projects. Iconic buildings will be effective as branding tools considering the overexposure becomes another issue of concern.

Many cities commissioned iconic buildings with the hope of emulating Bilbao but the fact is, when the same formula is used many times, market saturation occurs. Building iconic structures requires enrolling the services of world famous architects, with a reputation for producing architectural jewels elsewhere. When many different cities hire the same architects to design their iconic buildings, does it not create standardization rather than differentiation. The iconic structures around the world increased tourism and economic status of the of host cities. Iconic structures stand out and attract the attention of the general public due to their daring structural limits and aesthetic forms (Ede et al 2019). Iconic buildings or structure have been successful and effective in raising public awareness about places and also demonstrating the role of contemporary architecture in tourism within urban environment. such iconic structure developments take into consideration culture, lifestyle and values of the locals so as to fit in and be able to achieve their full potential (UK Essay 2015). Iconic structure of architecture today is the new mimetic technology of the contemporary city, via the proliferation of the digital rendering that immortalises the building-to-come in a magical forever space behind the computer screen, which, as I will demonstrate, conceals architecture's regressive project toward modernist history. The ritual duplication and circulation of digital imagery surrounding iconic architecture seen in close succession, quite apart from the actual, and often as yet unbuilt buildings, forms a new hieroglyphics of architectural culture, a Persistence of Vision that spawns the illusion of aesthetic velocity and acceleration, just as it conceals the social reality of the real buildings and rigidity of their ideology. Iconic buildings or structures are the ones that have their place in social memory and acted as centers of attentions throughout the history. They carried importance with their qualities like being religious, functional, etc. they had in their time, then they became icons through time (Lökçe 2003). Architectural icons like Eiffel Tower, Taj Mahal, Pisa Tower

recall the cities they are found, while being defined on our minds as city icons. (Maralcan, 2006).



**Figure 1 & 2:** The Eiffel Tower and Taj Mahal

**Source 1&2:** <https://www.history.com/news/10-things-you-may-not-know-about-the-eiffel-tower> and <https://www.smithsonianmag.com/travel/eight-secrets-taj-mahal-180962168/>

The term “iconic” is defined as “widely known and acknowledged especially for distinctive excellence,” according to Merriam-Webster dictionary. When it comes to buildings, iconic structures are game changers representing nations, religions and economies. They interlace past societies with current cultures. They facilitate transportation and invention. From physical design to behind-the-scenes technology, these features make a building iconic. Architectural critics assert that iconic buildings are not only absurdly expensive to construct but also that their design is based on marketability (Klein, 2004). They are basically highly visible images that are set in urban landscapes with no sense of community, meaning or place. They capture the Zeitgeist of media attention celebrity and brand obsession of this era and are therefore more of architectural manifestation of celebrity endorsement. Iconic buildings create a spectacle but fails to create a sense of authentic experience which brings us to the question, what next? Architecture does benefit tourism but the focus should be on “good architecture” rather than “expensive architecture”. The pool of star architects (starchitects) with the kind of appeal to make big budget cities seek their services in a bid to outdo other cities in terms of iconic structures is awfully small. There are however a lot of contemporary architects out there who are creating good work and it is perhaps a good idea to let such architects shine rather than overshadow good work with overhyped starchitect’s creations.

### **Iconic Structure Designed by Female Professional Globally**

Architecture has often been seen as an extremely male-dominated field. However, there are female architects who are changing the construction industry and are also working to ensure that young female architects feel inspired to keep going, keep dreaming and to not be afraid to forge their own journeys in the field of architecture. Since human settlements stopped living in caves around 10,000 BC, women have always built houses, cities, and contributed to their civilizations in immeasurable ways. However, they didn’t always get the credit for it. Despite some of the recent efforts to achieve gender equality in the building and construction sectors, women in architecture are sorely underrepresented. In 2017, the design magazine Dezeen conducted a survey of gender equality and inclusion within the top architecture firms (Ossenbach 2020). The researchers described the results as “shocking”: Just three of a 100 surveyed firms had female CEOs, while 16 firms had no women at all in their senior

management teams. Only 10 percent of the women employed in these firms held leadership positions, whereas most others had administrative roles. What makes these results especially striking is that about 50 percent of the students graduating from architecture schools are women. To highlight the talent and vision women bring to architecture, we are showcasing seven women architects which have and will surely leave their marks on history and on the skylines of the world. These visionaries, and hundreds more, continue to pave the way for younger generations to have an easier time to fulfill their dreams.

**Aqua Tower:** Architects Jeanne Gang is an American architect. She is the founder and leader of Studio Gang, an architecture and urban design practice with offices in Chicago, New York, and San Francisco. She is known for her Aqua Tower design in Chicago in 2010. (ccc). She also designed the University of Chicago Campus North Residential and Dining Commons and two boathouses on the Chicago River (Pearson, 2014). Her Aqua tower in Chicago is currently the tallest woman-designed building in the world. Her newest design is the Vista Tower.



**Figure 3:** Aqua Tower in Chicago

**Sources:** <https://www.iaacblog.com/wp-content/uploads/2018/10/aqua-tower-730x668.jpg>

Aqua tower was designed by Studio Gang Architects, led by firm principal and founder, Jeanne Gang, and it was the firm's first skyscraper project (King, 2006). The project was the largest ever awarded to an American firm headed by a woman (Novak, 2010). American architect and MacArthur Fellow Jeanne Gang as one of the most exciting architects in the world today. As the founding principal of Studio Gang, she has literally raised the ceiling of what it means to be a female architect. That fact was evident when she designed the Aqua Tower (pictured), an 859-foot tall skyscraper that was the third tallest building in the world to have a woman as lead architect.

**Heydar Aliyev Centre:** In 2007, Zaha Hadid was appointed as the design architect of the Center after a competition. The Center houses a conference hall (auditorium), a gallery hall and a museum. The project is intended to play an integral role in the intellectual life of the city. Located close to the city center, the site plays a pivotal role in the redevelopment of Baku. The Heydar Aliyev Center represents a fluid form which emerges by the folding of the landscape's natural topography and by the wrapping of individual functions of the Center. All functions of the Center, together with entrances, are represented by folds in a single continuous surface. This fluid form gives an opportunity to connect the various cultural spaces whilst at the same time, providing each element of the Center with its own identity and privacy. As it folds inside, the skin erodes away to become an element of the interior landscape of the Center.



**Figure 4:** The Heydar Aliyev Centre (Baku, Azerbaijan)

**Source:** [https://upload.wikimedia.org/wikipedia/en/d/d3/Heydar\\_Aliyev\\_Cultural\\_Center.jpg](https://upload.wikimedia.org/wikipedia/en/d/d3/Heydar_Aliyev_Cultural_Center.jpg)

An internationally recognized architectural work, the building of the Heydar Aliyev Center has become a signature landmark of modern Baku due to its innovative and cutting-edge design. Extending on eight floor levels, the center accommodates a 1000-seat auditorium, temporary exhibition spaces, a conference center, workshops, and a museum. The building was nominated for awards in 2013 at both the World Architecture Festival and the biennial Inside Festival (Montgomery, 2014). In 2014, the Center won the Design Museum's Design of the Year Award 2014 despite concerns about the site's human rights record (Wainwright, 2014). This makes Zaha Hadid the first woman to win the top prize in that competition.

**Sumida Hokusai Museum:** Kazuyo Sejima is a Japanese architect. She is known for designs with clean modernist elements such as shiny surfaces, squares and cubes. Along with and Ryue Nishizawa, she has worked on several projects in Germany, Switzerland, France, England, the Netherlands, United States, and Spain. Many of their designs like the Rolex Learning Center at EPFL the New Museum in the Bowery District in New York City as well as the Glass Pavilion for the Toledo Museum of Art involve large windows and public open space to interact with the world around the architecture. (Niesewand 2015).



**Figure 5:** Sumida Hokusai Museum

**Sources:** <https://upload.wikimedia.org/>

Kazuyo Sejima is the co-founder of SANAA (Sejima and Nishizawa and Associates). The studio is known for its airy, white architectural aesthetic which attracted projects like the New Museum of New York City, the Rolex Learning Center in Switzerland, Nagano's O-Museum and Kanazawa's 21st Century Museum of Contemporary Art. The duo has developed an interest in exploring the relationship between the inside and outside.

**Women opportunity center:** The founder and principal Sharon Davis is an award-winning designer whose work is driven by her belief in the transformative power of design. Following a successful career in finance, she redirected her professional pursuits to the built

environment, returning to graduate school in her forties and establishing a collaborative design practice dedicated to human-centered environments in 2007.

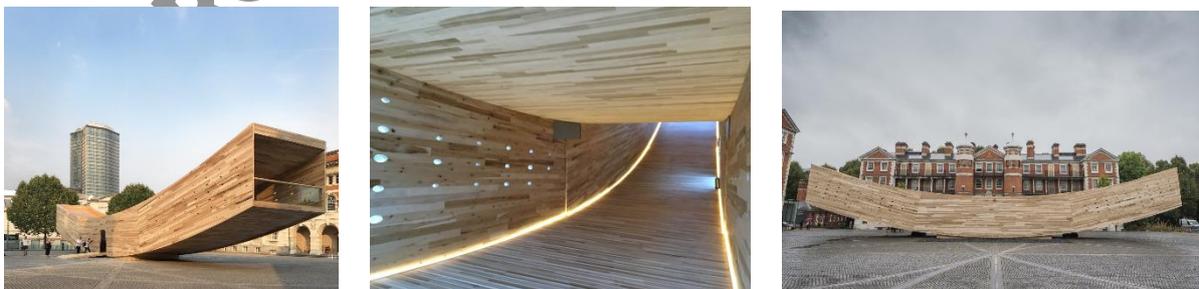


**Figure 6:** women opportunity center

**Sources:**<https://www.archdaily.com/433846/women-s-opportunity-center-sharon-davis-design/524af615e8e44e67bf000353-women-s-opportunity-center-sharon-davis-design-photo>

Although architect Sharon Davis's office is in New York City, she spends much of her time thinking about the rest of the world. One recent afternoon, she prepared a presentation for the World Architecture Festival in Berlin, where she is a finalist for her design of the Bayalpata Regional Hospital, in a remote region of Nepal. Sharon Davis used local materials and took inspiration from one of, as she describes it, "the only historic buildings still standing in the country," the King's Palace in southern Rwanda. As opposed to Rwanda's mostly generic contemporary buildings, the palace is a low, round structure with an exterior made of elephant grass and an interior of woven bamboo. The circular buildings of the opportunity center were designed to mirror the palace's traditional building style. The design and construction process reflects a central tenet of Davis's work: Create more than just a building, with a holistic approach that intimately includes the people using it.

*The smile:* Alison Brooks' was A+Award Jury Winner in the Pavilions category, is one of those projects that seems to be everywhere, its image proliferating in both print and social media years after its construction. Conceived as a "habitable arc poised on the horizon," the engineered wood structure was created as a pavilion for the 2016 London Design Festival. The building quickly garnered international attention, and has been viewed online by one estimate over 290 million times, a testament to the fact that great design still has the power to make an impact.



**Figure 7:** The smile

**Sources:** [https://www.archdaily.com/869703/the-smile-alison-brooks-architects/58f96748e58eceac31000a5e-the-smile-alison-brooks-architects-photo?next\\_project=no](https://www.archdaily.com/869703/the-smile-alison-brooks-architects/58f96748e58eceac31000a5e-the-smile-alison-brooks-architects-photo?next_project=no)

Alison Brooks Architects has collaborated with The American Hardwood Export Council (AHEC), Arup and the London Design Festival to present a cross-laminated tulipwood structure, 'The Smile' at the Chelsea College of Art Rootstein Hopkins Parade Ground from

17 September until 12 October. The Smile is one of the Festival's Landmark Projects, which can be inhabited and explored by the public. The spectacular, curved, tubular timber structure measures 3.5m high, 4.5m wide and 34m long and is effectively a beam curving up at both ends. Showcasing the structural and spatial potential of cross-laminated American tulipwood, Alison Brooks' concept is the first ever 'mega-tube' made with construction-sized panels of hardwood CLT.

**Zaryadye Park:** Architects Elizabeth Diller state that Few living architects have had as large of an impact on the field as Liz Diller, a founding partner of Diller Scofidio + Renfro, the firm that in collaboration with others to created New York City's High Line among many other iconic projects. In 2018, Diller was the only architect named on Time Magazine's Most Influential List. The A+Awards has also recognized the achievements of DS+R, giving a Jury Prize to the High Line in 2014 and shortlisting Zaryadye Park in Moscow in 2018. The latter project is just as dramatic addition to Moscow as the High Line was to New York: at 35 acres, it is the first large scale park to be built in the Russian capital in 50 years. Like the High Line, the park includes an elevated pedestrian walkway that helps give city dwellers reprieve from the crowded streets.



**Figure 8:** Zaryadye Park

**Source:** <https://www.theplan.it/eng/award-2020-publicspace/zaryadye-park-in-moscow-nature-and-architecture-act-as-one-diller-scofidio-renfro>

Zaryadye Park drew over 10 million visitors within its first year of opening. It has played a key role in Moscow's transformation into a cosmopolitan city: it was recognized in 2018 among the World's Greatest Places by TIME Magazine and contributed to Moscow's naming as the world's leading city destination by the World Travel Awards in 2019. The sectional overlay also facilitates augmented microclimates that seek to extend the typically short park season. These passive climate-control strategies included calibrating the typography of one of the park's landscaped hills and the amphitheater's glass crust to leverage the natural buoyancy of warm air. As a result, wind is minimized, plants stay greener longer, and the temperature rises gradually as visitors ascend the slope. Warmer air is retained during the colder months, while in the summer, motorized glass panels open to expel heat through the roof. These natural zones provide places of gathering, repose and observation, in concert with performance spaces and enclosed cultural pavilions. In addition to these programmed destinations, a series of vista points provide a frame for the cityscape to rediscover it anew. Each visitor's experience is tailor made for them, by them.

**Hamad International Airport Passenger Terminal Complex, Doha, Qatar:** A principal at HOK, Kimberly Dowdell collaborates with other members of the leadership team in the firm's Chicago studio to develop and implement strategic business development and marketing initiatives. In addition to cultivating and maintaining relationships with clients and partners, she is a frequent speaker at industry conferences and events and a mentor to HOK's emerging leaders. Dowdell is also the 2019-2020 National President of the National Organization of Minority Architects (NOMA).



**Figure 9:** Hamad International Airport Passenger Terminal Complex

**Sources:** <https://www.hok.com/projects/view/hamad-international-airport-passenger-terminal-complex/>

HOK's design of the passenger terminal complex at Doha's airport celebrates form, light and materiality while providing a highly efficient and inspirational travel experience. While contemporary in design, the airport pays homage to the nation's rich cultural heritage and natural environment. The dramatic, curving building silhouette recalls ocean waves and sand dunes to project a powerful image as Qatar's gateway to the world. "Doha's International Airport is arguably the most architecturally significant terminal complex in the world, as well as being the most luxurious," reported Wallpaper Magazine. Departing passengers experience an undulating super roof in the light-filled departure hall. The steel-framed glass wall provides unobstructed views from the curbside arrival area through the ticketing hall, enabling passengers to easily find their destinations. A vast wood ceiling in the longest concourse provides visual warmth that contrasts with the sleek metal and glass surfaces found elsewhere. The airport's two large transfer hubs are linked by an automatic people mover. Skylights and interconnecting glass ceiling "zippers" provide natural light and dramatic desert views. Reflecting Qatari hospitality, unparalleled guest amenities include a mosque, two hotels, duty-free shopping, and a spa and health club. An extensive public art program displays the works of acclaimed local and international artists.

**200 Eleventh Avenue:** With Annabelle Selldorf, it's all in the details. Paul Goldberger, former architecture critic for the New Yorker, described her style as "a kind of gentle modernism of utter precision, with perfect proportions." For her part, Selldorf describes her praxis as follows: "I seek a certain kind of logic that allows you to move in space and perceive it as beautiful and rational."



**Figure 10:** 200 Eleventh Avenue

**Sources:** <https://www.selldorf.com/projects/200-eleventh-avenue#content>

This new 60,000 sf residential building is located in New York's West Chelsea neighborhood, a former industrial zone and home to many art galleries. The nineteen-story building makes an iconic contribution to the neighborhood while establishing continuity with Chelsea's architectural traditions. Located at a busy corner with both vehicular and pedestrian traffic the building needed to relate at both scales. The base anchors the building to its surroundings by reflecting the low-rise scale and through a material palette (terracotta cladding and blackened steel window frames) that evokes the masonry façades and details of industrial Chelsea. Above the plinth, the tower energizes the neighborhood with a new architectural expression: the metallic sheen and organic form of its custom-fabricated stainless steel rain screen.

**Center for African American Culture:** Allison Williams, Over the course of her decades-long career, Allison Williams has worked on many major projects at some of the world's most high-profile firms, including San Francisco's Perkins+Will and AECOM, where she currently serves as the Design Director. Her best-known buildings, including the August Wilson Center for African American Culture in Pittsburgh, illustrate her commitment to maximizing the potential of the site. The August Wilson Center, for instance, is spacious, open and luminous despite the fact that it is situated on a tight street corner.



**Figure 11:** Center for African American Culture

**Sources:** <https://upload.wikimedia.org/wikipedia/commons/thumb/>

The August Wilson African American Cultural Center is a U.S. nonprofit arts organization based in Pittsburgh, Pennsylvania that presents performing and visual arts programs that celebrate the contributions of African Americans not only in Western Pennsylvania, but nationally and internationally. The August Wilson African American Cultural Center building is on Liberty Avenue in Downtown Pittsburgh's Cultural District. It includes galleries, classrooms, a 500-seat theater, a gift shop, a cafe, and many multi-purpose spaces for visual and performing art. The museum opened in 2009.

**Block 36, Cairo:** Fahmy is an architect whose work strives to make a balance between new spatial concepts and existing context: culture, tradition, urban morphology. The Cairo-based architect is leading the way for Egyptian architecture by demonstrating that architectural design can and should elevate the public realm, with a holistic approach that combines contextual analysis, playful experimentation, and an ethos of social responsibility. Block 36 is a block of residential apartments inspired by the patterns and forms of urbanized agricultural plots. Security and the separation between public and private areas are important social and cultural issues that have been taken into consideration for the layout of gates and boundaries.



**Figure 12:** Block 36, Cairo

**Sources:** <https://www.arch2o.com/wp-content/uploads/2017/01/Arch2O-women-in-architecture-10-successful-female-architects-you-should-know-15-700x493.jpg>

For more than a century, the world has come together on March 8 to commemorate the movement for women's rights. International Women's Day, as it is now known, is a global celebration of the social, economic, cultural, and political achievements of women. It is also a day to recognize the appalling gender imbalance both in status and salary between men and women in our society (Mafi 2018). Perhaps nowhere is this disparity more apparent than in the world of architecture. According to the U.S. Bureau of Labor Statistics, full-time female architects in 2016 earned 20 percent less than full-time male architects. And the fact remains that while nearly half of architecture school graduates are women, only around one in five becomes a licensed practitioner, which is due in large part to the lower salaries and fewer career opportunities for women in the field of architecture. Despite the inequalities, many women have not just survived in the male-dominated industry but thrived. AD rounds up seven of the boldest, most culturally significant buildings around the world designed by women.

### Summary of the Iconic Structure Designed by Women Globally

In the world globally women have design a lot of iconic structure despite the inequalities. Most of the culturally significant buildings and iconic structure around the world designed by female professional architect in the world are place in the table one.

**Table 1: Iconic Structure Design by Female Professional Architect in the World**

S/N	Iconic Structure designed by women globally	Name of Architect	Country	Year of Construction
1	Aqua Tower	Jeanne Gang	Chicago	2007 – 2009
2	The Heydar Aliyev Centre	Zaha Hadid	Baku, Azerbaijan	2007 – 2012
3	Sumida Hokusai Museum	Kazuyo Sejima	Tokyo	2016
4	women opportunity center	Sharon Davis	Kayonza, Rwanda	2013
5	The smile	Alison Brooks'	United Kingdom	2016
6	Zaryadye Park	Elizabeth Diller	Moscow, Russia,	2014 – 2017
7	Hamad International Airport Passenger Terminal Complex	Kimberly Dowdell	Doha, Qatar	2014
8	200 Eleventh Avenue	Annabelle Selldorf	New York	2010
9	Center for African American Culture	Allison Williams	Pittsburgh, PA	2009
10	Block 36, Cairo	Shahira Fahmy	Egypt	2008 – 2009

## Conclusion

This study examines the current level of female professionals' participation in the construction industry and the iconic structures designed by women globally. Barriers faced by female professionals' in the construction industry are factors which influence the women globally in the course of developing careers in construction and strategies that can be used to encourage women participation in the construction industry by designing the iconic structures. The study confirms that even though women perform creditably in the construction industry it is largely dominated by men, with women facing a lot of challenges in the profession. Moreover, most of the factors which influence women participation and the barriers that prevent women's entry into the construction industry are of high impact. Interestingly, the participation of female professionals has not been limited to improved and iconic building designed and constructed by our women but also extended to other areas like preparing building survey documents prior to any maintenance work, contract documentation process, preparing programme of work for specific projects and preparation of budget for construction work.

## Recommendations

Therefore, the paper recommends that

1. Women should be given ample opportunities to show their technical knowhow and skills in the construction industry as many talents and potentials can be brought to lights if they are well integrated in the system.
2. Existing female professionals in construction industry should help encourage the young women globally to build their careers in construction right from secondary school level for effective involvement in the profession by our female folk.
3. The Nigerian National Construction Policy should be revised in such a way that the female's professional is given special consideration due to their peculiar nature by making the hours of working suitable for the female professionals in the construction industry.

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