The water catchment house design for Tanzania, Africa was introduced by Hong-En, Lin from Taiwan, as a Pure Power/Daily Combat Strategy for water collection in Africa, where water resources are often polluted, and where long distances to obtain water make the task difficult.

For many people in Africa, it can take up to three hours to get to a water source, but even then, the water is often muddy. Water pollution is a prevalent problem in Africa, and one of the primary causes of death is the consumption of contaminated water over time that contains bacteria and parasites. Given that poor environments prevent many people from accessing clean water, the designer's goal was to assist the people in that endeavor.

The designer used the local weaving culture as the basic idea, combining building with local materials and collection dew to create cleaner, more economical housing with a cleaner water source. For the of architecture, bricks and wood, which are easily available locally, were used.

The roof is a wooden structure combined with a woven structure to collect dew. The cladding of the roof is covered with a waterproof and a dew collection layer. The structure can extract moisture from the air in the early morning, and can also collect rainwater, both of which can be stored after passing through a filtration system.

As a result, the use of local weaving colors and simple construction methods can be leveraged and combined to create useful and interesting roof systems.
The roof's multiple layers are covered with structure, waterproof layer (PVC), and dew collection layer, which can collect the dew in the air in the early morning, and can collect the rainwater in the rainy day, and store it after filtering the water through the filtration system.
Fort 137
Las Vegas Valley oasis
The desert oasis on the edge of the Las Vegas Valley offers panoramic views of the surrounding Red Rock Canyon and the bordering government protected land: Fort 137, designed by Daniel Joseph Chenin, Ltd., a multidisciplinary design studio fostering an integrated and cinematic approach to the architecture.

Commissioned for a family embracing an active lifestyle of immersive environmental experiences, the studio was tasked to create a home that would be contemporary and warm, yet seamlessly blended into the rugged beauty of its natural surroundings. In addition to the interior program that included a primary suite, a secondary suite, three additional bedrooms, and a large communal living and dining space, the 15-month build prioritized an external focus that includes an entry rotunda, a shaded courtyard, and a view frame overlooking the surrounding landscape.

Port 137’s entry rotunda characterizes the firm’s experiential approach, with a modern interpretation of the fort structures of early settlements that once dotted the desert landscape of the Las Vegas Valley. The rotunda, rising 28 feet, serves as a transition between the external desert heat and the cooler interior.

The conical shape contrasts with the straight lines of the living spaces. Upon entering the rotunda, the sound of running water from the lower level’s stone fountain transitions the mindset from the arid desert heat to one of a cooling desert mirage. A winding staircase provides access to a rooftop lounge outfitted with a fire pit and expansive desert views.

The transition from the external desert to the home’s interior begins with a fully enclosed, shaded courtyard area, set against a backdrop that includes a 75-ton boulder that was excavated from the site. Inside the home, two dually purposed flanking walls run from north to south, providing protection against external elements, while also defining the boundaries of the layout.

Between the walls, gathering spaces include a large lounge area and dining room, a kitchen, an office, and a theater room, while more intimate spaces, including the bedrooms, are located on the outer sides of the walls.

The living spaces of Fort 137 are laid out in three complementary volumes, each designed to maximize comfort, efficiency, and ambiance. Within a steel frame and the stone walls, sliding glass panels provide panoramic views from both the north and south facades. The glass walls also serve multiple purposes and are positioned to provide cross-ventilation and to draw abundant sunlight into an interior designed with angular precision to offer protection against the harshest occurrences of desert sun and wind.

The central flow of the interior’s open living and dining area gives way to an adjoining subset of more intimate and private zones, including bedrooms and servicing areas. Each space, from its orientation to its comforts, is designed for tranquil moments alone, or for quiet moments spent with guests.

The modest luxury of the interior is framed by travertine floors, stucco ceiling, and reconstituted wood veneer panels, providing a warm embrace for the curated furnishings and art selections by Daniel Joseph Chenin. Stone, wood, and brass details are abundant, including in the interior’s custom door handles and detailed cabinetry.

To accomplish an integrated oasis of comfort and serenity in the desert valley, Fort 137 was built with limited environmental impacts. Daniel Joseph Chenin incorporated design strategies to offset the home’s carbon footprint and to reduce its dependence on the grid, including a photovoltaic panel infrastructure and ballast roofing that complemented other design elements along with passive cooling, thermal mass, and radiant heating.

Other sustainable considerations included a reconstituted wood veneer derived from the bi-product and waste of a sawmill, locally-sourced materials, and constructively repurposed rocks and earth extracted from the building site. Weathered steel, hot rolled steel, and travertine were used for their ability to age and patina with the desert sands of time, adding further color and textures to a built environment destined to integrate even deeper into its natural surroundings.
“The client is from out of state, and we were selected for our ability to provide a complete turnkey project. We provided the architecture and interior design, right down to the design, selection, procurement, and installation of the furniture, fixtures, and accessories.”

Daniel Joseph Chenin, lead architect and founder of the firm.
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"The project is robust and rough on the outside, and refined and detailed on the inside. But the lines are blurred by the singular vision of each element, including the mimicking of colors and textures that reflect the context of the Red Rock mountains."

Daniel Joseph Chenin.