The Architectural Review

Competition: Kiribati Floating Houses

25 November, 2019  By Merlin Fulcher

An open international contest is seeking ideas for a new floating village for the Pacific Ocean republic of Kiribati (Deadline: 22 January)

Architects and students are invited to submit concepts for a series of new self-sustaining living units which could be connected together to form a new settlement capable of withstanding the many environmental threats facing Kiribati’s 110,000 residents.

The contest aims to identify a range of solutions for the republic – formed of 32 isolated coral reef atolls – which could eventually be inundated by rising sea levels in the future. Dwelling proposals must host up to 16 residents and should include a water collection and storage system along with sanitation and energy production facilities.

According to the brief: ‘Knowledge and scientific realism are needed. In all likelihood, the Kiribati of the future will not be the Kiribati of the present. Large areas of the island will be covered in water, vegetation will decrease, living conditions will be more complex and precarious but not impossible. Architects will have to imagine life in an extreme context with limited resources.

Yet, this place will still be joyous and splendid. Kiribati Floating Houses invites architects to continue to imagine Kiribati as a paradise. The new Kiribati will not be an artificial obstinacy made of innovative and yet unrealizable technologies. It will rather be a skillful integration of nature – remaining and transformed nature – with human intervention. The competition will award projects that propose feasible solutions and real technologies able to guarantee a life bursting with beauty and passions.’

Kiribati – one of the world’s lowest lying island nations – is spread out over 32 coral reef atolls which reach into all four of the world’s hemispheres. The islands have poor soil quality limiting the potential for local agriculture and they are also being slowly encroached by the ocean. two small uninhabited islets disappeared completely underwater twenty years ago.

More than half of the republic’s population live in the capital Tarawa which consists of a number of islets connected together by causeways. Flooding and the contamination of ground water with seawater pose an existential threat to Kiribati which has so far tried to manage the situation by building concrete dams and planting new mangrove forests.
Alongside rising sea levels caused by climate change, tropical cyclones and the Pacific Ocean’s oscillation between periods of La Niña and El Niño weather have also threatened residents with periods of increased devastation due to high winds and rising sea levels.

The contest, organised by Bologna-based Young Architects Competitions (YAC), seeks feasible low-cost solutions for a new floating settlement which harnesses locally available technologies and materials.

Units should be fully storm-resistant, self-sufficient and capable of harnessing renewable energy and conserving drinkable water. Along with domestic spaces – proposals for a community area, vegetable garden, livestock shelter and fish stock pond may also be submitted.

Judges will include Kengo Kuma of Japan’s Kengo Kuma and Associates, South Korean architect Moon Hoon, Giuseppe Zampieri of David Chipperfield Architects, and Cristiana Favretto from StudioMobile in Italy. The overall winner, to be announced on 2 March will receive a €8,000 first prize and a second prize of €4,000 and third prize of €2,000 will also be awarded.

**How to apply**

**Deadline**
The deadline for registration is 11:59 (GMT) on 19 January and submissions must be completed by 12pm (GMT) on 22 January

**Fee**
Standard registration from 25 November to 22 December: €97.60
Late registration from 23 December to 19 January: €134.20

**Contact details**
Email: yac@yac-ltd.com

View the competition website for more information
Oceanix City case study: Q&A with BIG

The Danish practice discusses lessons learned designing a 75-hectare floating settlement for regions of the world at risk of rising sea levels

How will your project protect at-risk communities from rising sea levels?

By 2050, 90 per cent of the world’s largest cities will be exposed to rising seas. The vast majority of coastal cities will be impacted by coastal erosion and flooding, displacing millions of people, while destroying homes and infrastructure. Designed as a man-made ecosystem, Oceanix City is anchored in the UN Sustainable Development Goals, channelling flows of energy, water, food and waste to create a blueprint for a modular maritime metropolis.
Oceanix City is designed to grow, transform and adapt organically over time, evolving from neighbourhoods to cities with the possibility of scaling indefinitely. Modular neighbourhoods of two hectares create thriving self-sustaining communities of up to 300 residents with mixed-use space for living, working and gathering during day and night time. All built structures in the neighbourhood are kept below seven storeys to create a low centre of gravity and resist wind. Every building fans out to self-shade internal spaces and public realm, providing comfort and lower cooling costs while maximizing roof area for solar capture.

Oceanix City by BIG
Oceanix City by BIG

Which architectural, material, visual and other methods did you harness in your design?

Communal farming is the heart of every platform, allowing residents to embrace sharing culture and zero waste systems. Below sea level, beneath the platforms, bio-rock floating reefs, seaweed, oysters, mussel, scallop and clam farming clean the water and accelerate ecosystem regeneration.

By clustering six neighbourhoods around a protected central harbour, larger villages of 12 hectares can accommodate up to 1,650 residents. Social, recreational and commercial functions are placed around the sheltered inner ring to encourage citizens to gather and move around the village. Residents can easily walk or boat through the city using electric vehicles.

Oceanix City by BIG
Oceanix City by BIG

Aggregating to reach a critical density, six villages connect to form a city of 10,000 residents with a strong sense of community and identity. A larger protected harbour is formed in the heart of the city. Floating destinations and art, including six specialized landmark neighbourhoods with a public square, market place and centres for spirituality, learning, health, sport and culture create destinations drawing residents from across the city and anchoring each neighbourhood in a unique identity. All communities regardless of size will prioritize locally sourced materials for building construction, including fast-growing bamboo that has six times the tensile strength of steel, a negative carbon footprint, and can be grown on the neighbourhoods themselves.
Floating cities can be prefabricated on shore and towed to their final site, reducing construction costs. Pairing this with the low cost of leasing space on the ocean creates an affordable model of living. These factors mean that affordable housing can be rapidly deployed to coastal megacities in dire need. The first Oceanix Cities are calibrated for the most vulnerable tropical and sub-tropical regions around the globe.

Oceanix City by BIG

Q&A with YAC

The organiser discusses their ambitions for the contest

Why are your holding an international ideas contest for floating structures for the people of Kiribati?

We are holding a call for ideas for floating structures because we feel the world is becoming particularly sensitive to the impact of climate change and believe that everyone should get more involved in this topic. We recently read some articles about the delicate and fragile situation of places like Kiribati which have been increasingly affected by rising sea levels. Therefore, we decided to contribute by raising awareness of this issue through an international ideas competition focused on Kiribati.

What is your vision for the new houses floating in the pacific ocean?

The competition brief is very specific to Kiribati where the family identity is very important and local activities are crucial for the well-being of the population. For that reason, designers are asked to conceive houses for big family groups and also new facilities for self-sustaining activities, such as fishing and farming. Of course, environmental and energy sustainability will also play a key-role for these types of structures.

Kiribati

What sort of architects and designers are you hoping will apply?
Our competitions are always open to any architect, designer or creative who wants to propose an idea. Any talented mind in the architectural and design field, whether they are a student or a professional, is more than welcome to take part in this creative challenge as well.

According to the competition rules, it is mandatory to not include in the submission any reference to the author’s identity because the jury will evaluate submissions anonymously in order to guarantee total impartiality. When the winning projects are selected by the jury panel, YAC will then match up the submissions with the teams that designed them.

**Which other design opportunities are on the horizon and how will the architects/designers be procured?**

At the moment, Kiribati Floating Houses is an ideas competition and the actual realization of a winner project is not envisaged. Nevertheless, we don’t exclude that there might be an opportunity to realize one of the winning projects in the future, although this doesn’t depend strictly on YAC. As mentioned in the competition’s brief, two significant events related to the oceans will take place in Italy in 2020: a monographic exhibition at the Sanctuary of Santa Maria della Vita in Bologna and an exhibition about exploring oceans held by National Geographic at Palazzo Blu in Pisa. Both exhibitions will include some projects chosen from the submissions to this competition.