

## CORAL CITY: GOMMA design takes inspiration from corals to design a self-sustaining and disaster-resistant eco-village in the Philippines



Quezon City - Philippines

17 march, 2011

**CORAL CITY**, a self-sustaining and disaster-resistant eco-village in the Philippines, designed by [GOMMA design](#) (in partnership with [ITA Project](#)), was chosen among almost 300 entries from all over the world and awarded with the special **ENERGY AWARD** in DAtE - Design Against the Elements international competition.

[Design Against the Elements](#) was a global architectural design competition meant to find a solution to the problems presented by climate change. The project aimed to draw together the most innovative minds in the fields of architecture, design, and urban planning to develop sustainable and disaster-resistant housing for communities in tropical urban settings. The winning design will be built as a prototype disaster-resistant and livable eco-village in Quezon City, while all the entries will be compiled into an encyclopedia of architectural solutions that will be implemented for sustainable, environment-friendly civil works.

Starting from the idea that a conscientious development is the main challenge of our generation and that **natural structures** could provide the best role-models and inspirations to design new sustainable communities, GOMMA design's project was inspired by **corals**, self-organizing living systems which are highly capable of reacting and smoothly adapting to changes and external influences.

The project master plan aims to stimulate and guarantee **social relations** between tenants even in case of natural disasters, heavy rains and floods, while being at the same time a cutting-edge **eco-sustainable and green design**. Many technologies and strategies were implemented for this purpose, most of them inspired by biomimetic principles and energy-saving considerations. In details:

- Buildings have a proper **ring-like shape** which allows optimal structural performances in relation to stresses caused by earthquakes and typhoons.

- Cells are **permeable** and perforated. This minimizes the opposition of buildings to strong winds and allows them to pass through and flow away from the inner courtyards, which will promote natural and cross ventilation and will help reducing inner temperature.
- Precipitations are collected and drained out through an interconnected system of canals, in order to minimize the effects of heavy rains and flood and **re-use water** for domestic and public use.
- Buildings and main distribution paths are **detached from the ground**, on piles, in order to offer a safe and enjoyable environment even in case of massive flooding.
- Recycled and local materials (bamboo) will be used.

In addition, last but not least, one of the main purposes of the project was to achieve a high level of **financial sustainability and profitability**, two of the most important aspects of a “public housing plan”. For this reason roofs and parking areas are massively covered with **photovoltaic panels**, which assimilate solar energy and offer a sustainable and eco-compatible way to self-finance the construction process. About 1.600 sq/m of photovoltaic panels will produce energy which will be sold to the grid, generating this way an impressive stream of revenues. This approach will at first reduce the production of Co2 and then offer a sustainable and eco-friendly way to self-finance the construction phase.

All the features and strategies implemented and explained so far simply prove that **CORAL CITY** is truly a **self-sustaining community**.

That's why CORAL CITY was recognized by the DATe international jury as an example of (both financially and energetically) sustainable design and awarded with a special **ENERGY AWARD** (category professional).

## **PROJECT INFO**

TITLE: Coral City

TYPE: competition

SIZE: 3 ha

LOCATION: Taguig – Metro Manila, Philippines

YEAR: 2010

STATUS: Energy Award

## **CREDITS**

GOMMA design + ITA Project

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**GOMMA design** is an architecture and design studio based in Rome, mainly focused on the investigation of new design strategies, advanced and at the same time sustainable, through the strict integration between cutting-edge digital tools, technologies, processes, materials and eco-logic strategies for environmentally-aware design. ([www.gommadesign.com](http://www.gommadesign.com))

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