

# Floating Vertical Farms Could Provide Densely Populated Countries with Local Food

Source: [themindunleashed.org](http://themindunleashed.org)

Published: September 25, 2014



Featured image credit: Forward Thinking Architecture

Get the latest from The Mind Unleashed in your inbox. [Sign up right here.](#)

Architects from Barcelona, Spain, have designed a **system of floating vertical farms** that could give the opportunity to Singapore and other densely populated countries to produce their own food.

Having a population density of nearly 20,000 people per square mile, **Singapore is one of the densest countries in the world.** With the territory of just 716 square kilometers (276 square miles), Singapore does not have enough land for agricultural production and is compelled to **import more than 90% of its food from other countries.**

However, along with the lack of land, **the country has a vast water area surrounding it.** Now, architects at Barcelona-based design firm [JAPA](#) have come up with the idea of so-called ***Floating Responsive Agriculture (FRA)*** inspired by local floating fish farms that have been used in Singapore since the 1930s.

The design consists of **massive L-shaped floating structures** that could provide enough space to grow agricultural production. This shape makes the whole system **highly efficient**, maximizing sunlight exposure and minimizing shadows at the same time.

*“We used the sun as a design driver,”* said **Javier Ponce**, principal architect from JAPA. *“The loop shape enables the vertical structure to receive more sunlight without having significant shadows.”*

The FRA is designed to be **a network of the towers that would cover the whole Singapore** aimed to provide all the residents of the country with quick access to fresh agricultural production. Each tower would be equipped with **a networking system** that would communicate in real time with local networks and monitor how much food people are buying. This would allow to **adjust production to demand and thus significantly reduce waste**. Besides all the other advantages, the FRA would also help **minimize the negative environmental impacts of importing food**.

Despite the fact that till now the FRA is just a concept, the Spanish architects hope that the government of Singapore and local tech companies will be interested in implementing it. At the same time, the idea could be used in **other densely populated countries**, for example, China.

*“We believe these types of initiatives can be applied closer to the existing and new emerging urban centers in order to help mitigate the future food issue. This can transform a city’s nearby territories into more stimulating environments, capable of self-producing quality food in order to avoid massive imports from abroad,”* concluded Ponce.

Click here to watch “Floating Farms concept by FORWARD THINKING ARCHITECTURE”:  
[https://www.youtube.com/watch?time\\_continue=1&v=KLdCO1lmO4o&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=1&v=KLdCO1lmO4o&feature=emb_logo)

---