

Scaling up the dissemination of aquaponic systems through the conversion of brownfield sites in Italy

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Aquaponics is a production system combining aquaculture recirculation with hydroponic cultivation in a unique cycle. The main benefits of this System are the considerable returns in production, as well as a rational and wise use of water and soil (it requires 90% less water than traditional agriculture systems). In addition, aquaponics enables the control of pollution factors, ensuring the production of secure, high-quality food. Indeed, aquaponics does not require the use of chemical agents for fertilization, given that the plants' nutrition is provided by organic – and therefore sustainable – sources (i.e. fish waste).

In Italy, aquaponics is a growing business, but the public opinion remains little informed about such an opportunity, and awareness-raising activities in this field are still inadequate. To date, the main aim of the few aquaponic players is to sell expensive aquaponic facilities and obtain the related returns. However, the effective economic and environmental benefits of this system could be obtained only through a larger and well-established market.

Therefore, we want to promote the dissemination of aquaponic systems by upgrading unused urban spaces. In order to do so, we need to operate in several directions. First, the creation of community aquaponic gardens. Second, the use of such community gardens to supply farmed seafood to production facilities. Third, the promotion of aquaponic consciousness and its advantages among the public opinion, planning awareness-raising activities and involving volunteers from all over the world.

Through the use of urban farming techniques we have the opportunity of achieving many of the Sustainable Development Goals. In Italy, soil sealing is soaring despite the countless unused urban spaces. We trust that if we give the chance to communities to build and use aquaponic systems that don't require the conversion of agricultural land, we will reap the full range of environmental and social benefits. This system is an opportunity to improve local food availability in the face of a growing global population and of shrinking agricultural land.

Brownfield sites are abundant in many countries, including Italy, but their conversion to rural fields could be too expensive. Instead, by using recycled materials it is possible to make the installation of aquaponics relatively cheap and easy to move around the city, involving as many people as possible in the use of this technology. In turn, this will create the necessary conditions for the establishment of a network of loyal customers of healthy and safe food, as well as the provision of services including consulting and design of new facilities. Finally, shops and restaurant could be provided with an additional source of income through the sale of locally-sourced seafood products.

At this stage, our project is looking to establish connections among national and international stakeholders in this sector, as well as to receive support for the construction of our first aquaponics facility.