UrbanFarm2021

Interdisciplinary knowledge for urban regeneration and sustainable food systems

UrbanFarm2021: Interdisciplinary knowledge for urban regeneration and sustainable food systems

Francesco Orsini, Elisa Frasnetti, Michele D'Ostuni, Andrea Tamburrini, Giuseppina Pennisi

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Text and editing:	Francesco Orsini, Elisa Frasnetti, Michele D'Ostuni, Andrea Tamburrini, Giuseppina Pennisi
Photos:	Archive UrbanFarm past editions
Design:	Michele D'Ostuni
Editor	Alma Mater Studiorum University of Bologna
License:	CC BY-NC-ND 4.0 Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International
ISBN:	9788854970540
DOI	http://doi.org/10.6092/unibo/amsacta/6707
Book series:	UrbanFarm
ISSN:	2612-7660
Volume:	5
Curator:	Orsini Francesco

The activities leading to this publication have received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 862663. The publication reflects the author's views. The Research Executive Agency (REA) is not liable for any use that may be made of the information contained therein.

We thank our partners and sponsors for their generous contributions.

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Enrico Sangiorgi

UrbanFarm
Targeting global sustainability goals through an international student competition

by Prof. Enrico Sangiorgi, Vice-Rector for Teaching and Education - University of Bologna

The Alma Mater Studiorum - University of Bologna has traditionally been an institution paying great attention to the education and development of its students, with 232 study courses designed to meet the needs of a constantly evolving society, increasingly focused on innovation and global challenges.

Opportunities to study abroad and collaboration with universities, institutions and research groups from all over the world are among the university's strengths. In addition to the five campuses located in Emilia Romagna region (Bologna, Cesena, Forlì, Ravenna and Rimini), the University of Bologna has an over-seas branch in Buenos Aires and well-established links with the other continents, thus ensuring a multicultural environment and support services to international students and faculty members. In this way, it plays as a pro-active part in knowledge alliances with the industry and public/private organizations, ultimately representing an influential hub for international networks.

Aware of its mission and its significant impact on the overall community, the Alma Mater Studiorum is engaged not only to invest resources in improving the quality of teaching, research and institutional structure, but it also pays particular attention to one of the core values of today's society: sustainability. The university is actively involved in the achievement of the 17 Sustainable Development Goals (SDGs) of the U.N. 2030 Agenda, and the International Student Challenge "UrbanFarm2021" is a clear example of this commitment. This kind of initiatives are extremely valuable and fundamental in our changing societies as they aim at the diffusion of a global and responsible citizenship where one's identity is placed inside a "global community", standing above the individual's national or ethnic identity. Schools and Universities therefore have the responsibility of equipping adults of tomorrow with knowledge, skills, competencies, tools and opportunities to improve their behavior and develop their mind-set, in order to become virtuous global citizens able to foster a fairer, peaceful and sustainable world.

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Giovanni Molari

Urban Agriculture
for interdisciplinary research and education

by Giovanni Molari, Director Department of Agricultural and Food Sciences (DISTAL) - University of Bologna

The sustainability of current food systems and their ability to cope with unprecedented population growth and urbanization trends are seriously compromised. Creating and promoting resilient urban environments is becoming, therefore, increasingly needed. Research into the efficient use of resources and plant growing solutions that are well adapted to urban environments (including rooftop greenhouses and vertical farms) may therefore play a crucial role toward the definition of future food security scenarios.

The Department of Agricultural and Food Sciences (DISTAL), the largest in the University of Bologna, with 14 degree courses and approximately five hundred employees and collaborators, is strongly engaged on fostering sustainable food systems. The commitment toward promoting the adoption of profitable, environmentally sound, and socially responsive agricultural systems resulted in the Department coordinating and contributing to a relevant number of European projects also in collaboration with institutions from several countries of the World South.

DISTAL brings skills and research expertise in horticultural sciences, actively contributing to interdisciplinary activities in the fields of sustainable urban horticulture and biodiversity. Within the framework of the EU H2020 project Food Systems in European Cities, coordinated by DISTAL, is currently under implementation the AlmaVFarm, the first experimental vertical farm in Italy (and one of the few in Europe) where interactive and interdisciplinary learning and research will take place, toward the promotion of accessible, safe and nutritious food environments.

UrbanFarm2021: student creativity for sustainable urban renewal
The functional integration of agriculture into the urban landscape needs to address multiple factors: not only the intelligent use of resources and opportunities provided by urban infrastructures, but also the creation of systems that are harmoniously integrated within cities, economically competitive in the global marketplace and capable to promote social cohesion, inclusion and development.
The student competition UrbanFarm2021 aims to allow fresh minds with different academic backgrounds and geographical origin to join forces and explore the potential of urban vacant sites, proposing innovative solutions for their sustainable regeneration. Innovation, reciprocal cross-fertilisation between concepts and skills, collaboration and international networking are the key points of the success of this international student challenge, now in its third edition.

I wish therefore to express my sincere gratitude to all participating teams who have put themselves on the line, bringing knowledge, enthusiasm and devotion into the design of the projects summarised in this publication. I also acknowledge the professors, lecturers and experts that engaged in the scientific committee and international jury works and all the companies and institutions that supported the realisation of this third edition of the UrbanFarm challenge.

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Francesco Orsini

Embracing multiple disciplines to shape future resilient cities: UrbanFarm student competition

by Francesco Orsini, Bologna University – Alma Mater Studiorum. Main organizer UrbanFarm -Chair Division Landscape and Urban Horticulture (ISHS), Coordinator H2020 - FoodE

With relentless urbanisation, urban agriculture (UA) has become a common form of land use in cities around the world thanks to its multiple environmental, social and economic benefits.
Given its strong multifunctional connotation and sustainable potential (resulting in a blend of agricultural purposes, social cohesion and business models pursued), it is crucial to facilitate a wider uptake of innovative UA-related policies by creating awareness on both institutional actors and the civil society.
This is the aim of the international student challenge UrbanFarm2021, which is intended to regenerate three urban spaces by bringing together young minds from different backgrounds into interdisciplinary and innovation-oriented teams. Target contexts of the third edition of UrbanFarm were located the cities of Bologna (Italy), Naples (Italy) and Romainville (France), and include:

- An urban site undergoing regeneration for social innovation in the City of Bologna, that

included the area and buildings of the former clinic "Villa Salus";
- A neglected park located in a highly populated district which only a few years ago was the most productive and industrialised area of the City of Naples.
- The Cité Maraîchère, a new multi-purpose space (market gardening, education, coffee-canteen and entertainment) built as part of an urban renewal program in Marcel-Cachin district, Romainville, and designed following ecological and low-tech principles.

As in previous editions, the teams had the task of bridging the latest innovations in urban farming design and technology with multifunctional planning of urban spaces. UrbanFarm2021 was thus an opportunity to show how through cross-sectoral knowledge, teamwork and intercultural dialogue it is possible to create cities that are more attractive, more liveable, more inclusive and overall more sustainable for all generations.

Beyond the challenge, an educational framework based on active involvement: the examples of UrbanFarm and the AlmaVFarm projects

Since its first edition in 2019, UrbanFarm has differentiated itself from formal education systems building on the Problem Based Learning (PBL) approach, where learners are actively involved in coming up with new ideas for facing everyday challenges. Within UrbanFarm, learning is therefore no longer confined to the academic sphere, as students not only have the opportunity to engage with peers from different origin and disciplines, but also to deal with private companies, administrations and legislative frameworks.

Considering its success, the University of Bologna decided to take inspiration from UrbanFarm's active approach and extend it to the participatory design of AlmaVFarm, the first Italian experimental vertical farm, dedicated to research and dissemination activities. Within AlmaVFarm, students will have the opportunity to be involved in practical activities, problem-based learning and testing and validation of innovative technologies for vertical farming. Not only, for its implementation students (and other stakeholders) were asked to co-design the innovative and sustainable elements of these space, including details on growing systems, management of resources and educational activities to be hosted.

UrbanFarm 2021, AlmaVFarm, and similar initiatives can therefore be effective teaching tools to stimulate individual and team skills of participants and to encourage them to apply their theoretical knowledge toward a sustainable societal development.

This publication summarises the main concepts, visions and approaches that student teams brought together with passion, enthusiasm and dedication in the UrbanFarm2021 competition. While some of the project ideas and concepts contained in this book will take form in the upcoming months within the framework of the European project Food Systems in European Cities (H2020-862663-FoodE), we also hope they will further inspire urban policies and push to improve the sustainability and liveability of our cities.

To boost urban renewal through urban agriculture, The University of Bologna Alma Mater Studiorum organized the Student Challenge, UrbanFarm2021

Young international minds teaming up to rethink urban spaces for the environmental, social and economic improvement of future communities

THE URBANFARM2021 CHALLENGE

The Challenge

The competition, involving international multidisciplinary student teams from Agriculture, Biology, Architecture, Design, Economics, Engineering and Social Sciences, aimed at designing innovative urban agriculture systems that integrate the best architectural and technological innovations for food production in urban environments. Three vacant spaces, identified in the municipalities of Bologna and Napoli (Italy) and Romainville (France), were studied and redesigned by the different teams, in order to propose the best strategies in the pillar of sustainability (economic, environmental and social). Teams were ranked based on their choices and building solutions related to the use of growing systems and climate management, as well as the strategies for water and mineral nutrition and integrated pest management. Interventions also had a strong social and business connotation, promoting the generation of new forms of employment for disadvantaged users. Now in its third edition, the competition UrbanFarm2021 involved 24 teams, totalling 166 bachelor, master and doctoral students from 26 universities in 10 different countries. Projects were evaluated by an interdisciplinary jury made up of 7 international experts in agricultural sciences, architecture, environmental sciences, economics and urban planning, as well as a large scientific committee accounting for 48 members from the global scientific community.

Opportunities

Ideas and concepts embedded in the projects will be further implemented through co-design activities in the three selected European Cities, partners of the EU H2020-862663 Project: Food Systems in European Cities (FoodE), led by the University of Bologna.

Background

The competition was organised by the Department of Agricultural and Food Sciences (DISTAL) of the University of Bologna. The initiative was also supported by Alma Mater Foundation (FAM), MIPAAF (Ministry of Agricultural, Food and Forestry Policies – Italy) and International Society for Horticultural Sciences (ISHS). Activities were supported by the Municipalities of Bologna, Napoli and Romanville. Media partners included SilvioFritegotto.it, Edagricole, New Business Media and AgroNotizie. Main sponsors included Flytech srl and The United Bank Of Egypt. The initiative was also supported by the association Aquaponic Design.

The main aim of UrbanFarm2021 challenge is to design innovative urban agriculture systems, along with promoting multidisciplinary and international cooperation between universities all over the world.

Home universities of students involved in the challenge

Countries of origin of students involved in the challenge

URBANFARM2021

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URBANFARM AT GLANCE

Visions and impression from former participants

Andrea D'Aprile

University of Bologna, Italy
Team FENICE - Green Symphony project (Lanuvio) - UrbanFarm2020

"If I have to explain this experience in few words I could use: cooperation, challenge and future. Urban Farm 2020 has been the start point of my experience inside the incredible world of international research and cooperation. This competition let me know how Science and Research could join different people by different culture. I hope to collaborate again with a foreign University!"

Giuseppe Calore

University of Bologna, Italy
Team FENICE - Green Symphony project (Lanuvio) - UrbanFarm2020

"UrbanFarm was for me the opportunity to act in a concrete project, where I had the chance to put into practice what I have been doing in all my years of studies and to meet people from different countries and with different backgrounds.
Thanks to this challenge I had the opportunity to being involved in the FoodE project for my university internship and thesis, which I started few months later the final challenge in Pordenone. I am currently working on it, but I am also enrolled in an architectural course and I am involved in a volunteering program about the environment of my country. UrbanFarm and other workshops influenced me on the choice to give an architectural footprint to my environmental studies, to look at the future cities not only from a modernization side, but also from an improvement of the environment around us, made of a better quality of life, well-being, social cohesion thanks to practices and structures that involve people to feel part of a community and a clean place to live in."

Mariam Shehata

Cairo University, Egypt
Team FENICE - Green Symphony project (Lanuvio) - UrbanFarm2020

"UrbanFarm competition is a very unique experience for students to learn and meet new people. Not only do you widen your perspective by researching further into solutions for the project, but it also adds value to your character by exposing you to a very diverse group of people. Pursuing my Architecture Bachelor's degree at the time of participation, I had the chance to dig deeper into the academic knowledge I was gaining from school and to implement it in a project. In addition, being multidisciplinary, it was an extraordinary opportunity to learn a little bit about other fields and to coordinate all our ideas together. This was particularly beneficial after graduation where I am more comfortable working in projects that include different professionals from different fields and cooperating with them to implement our solutions. Overall, I believe that UrbanFarm competition has positive impact on the social, academic and professional aspects of the participant."

Elisa Apolloni

University of Bologna, Italy

Team Future-A - DolomiNet (Belluno) - UrbanFarm2019

"The experience of Urban Farm represented an opportunity to test myself concerning organizational skills, design and management of a multidisciplinary project. In addition, thanks to the competition, I was able to deepen a theme of great interest to me: indoor and vertical agriculture. The interest has been growing during and after the challenge, until I decided to continue to deepen this topic. In fact, I'm currently doing a PhD and collaborating with the research group Rescue-AB, organizer of the Urban Farm contest. My research is related to the use of artificial LED lighting and I am also working on other aspects related to soil-less systems and vertical farming."

Francesco Lombardo, Luca Settanni e Gian Marco Tamborra

University of Bologna, Italy

Team ReGeniusLoci - Aquaponic Social Garden (Bologna) - UrbanFarm2019

"UrbanFarm2019 introduced us to. In particular, at the end of 8 months of work together, the current project SpinOff Aquaponic Design was born. United by the same passion, we had fun imagining the Fantoni Farm project, being able to freely express our ideas.

From the experience of UrbanFarm2019 we have learned a lot, especially: how to work in multidisciplinary teams bringing home excellent results. Surely it is an experience that we feel to promote and in which we believe as it gives students of any sector the opportunity to face a first experience of innovative design with high social and environmental impact.

For us at Aquaponic Design it was the first project together and we always remember it with happiness because it was thanks to UrbanFarm2019 that we realized how much fun we would have working together to transform the city of Bologna into the first Urban Farming hub in Italy."

Matteo Landolfo

University of Bologna, Italy

Team Symbiont Society - Ecological, environmental, energy and food challenge of the world's northernmost city (Longyearbyen) - UrbanFarm2020

"UrbanFarm is not just a challenge, but an all around experience that combines the educational, professional and personal experience of the participants in the competition and especially the members of my team.

In three months you have the opportunity to know new colleagues with a different culture from yours, interact with them and their knowledge. Moreover, a good friendship can be born within your team.

It is important to get out of your comfort zone and be open to new perspectives for your own growth, this experience makes it real.

Currently I'm continuing my studies in this field, which is constantly developing. Certainly the UrbanFarm challenge has contributed to increasing my passion for these subjects, and the desire to make the energetic ecological and food challenge my job of the future has grown in me."

Emanuele Durante

University of Bologna, Italy

Team Hop-E –SIEPE (Sustainability Inclusion Energy Production Environment) (Gallera) - UrbanFarm2020

"While during my BSc degree I was so worried about getting over and done with my exams that the idea of doing something different, like joining a Student Challenge, would have never crossed my mind, when enrolling on my MSc I decided to be more open to such things. In that sense, UrbanFarm2020 was the perfect opportunity for me. I left a post on the Facebook page of the Challenge, looking for a group to form or to join. I was struck by the enthusiasm of Brando, a student of agronomic science who was very carefully looking for truly dedicated team members. We decided to go for a big team of nine, as we wanted to work on a very large site near Bologna, the ex-SIAPA in Galliera. The team was very diverse and counted two Environmental Engineering students (myself and Michele), two Agronomy students (Brando and Patricia), a Resource Economics and Sustainable Development student with work experience in the social sector (Laura), a Management Engineering student (Luca) and three Architecture students from Cairo University (Yasmina, Sherifa and Mohamed). We realized right after our first meeting we were a solid team, all very driven and excited about the project. Of course, it wasn't all sunshine and rainbows. There were a few communication issues along the way and even some arguments as deadlines approached. Everyone had to find her/his own place in the team and "bring balance to the force" (quoting Starwars). We didn't have the chance to meet in person until the last round at Pordenone Fiere. So, after months of online meetings with our colleagues from Egypt, it was such an awesome and unusual experience to see each other for the first time. The architects brought an amazing wooden model of the project and we started presenting our work to the public. I remember someone commenting "It's nice you are talking about it as if it was already out there in the real world". Yes, we loved our project, but we were also amazed by the quality of other projects so, after a while, a bit of concern seeped through our minds. Of course, we were competing against other teams, but in a way we were all on the same boat, imagining and shaping sustainability for abandoned places and the people living around those. In the end, we presented our project to the jury and we were awarded first prize. We were over the moon. We partied right after with all the other teams and went on our own to eat pizza and celebrate. A year after I can definitely say that UrbanFarm had an important role in my recent life. My team and I continued working on the project, which got also accepted for the World Renewable Energy Congress in Lisbon. We are still in contact with the municipality of Galliera, which is willing to implement a lot of the aspects we proposed for the site. As for myself, I am now working as a research fellow for the Department of Agricultural and Food Science at the University of Bologna, studying sustainability assessment of food production systems."

Yasmina Ragab

Cairo University, Egypt

Team Hop-E –SIEPE (Sustainability Inclusion Energy Production Environment) (Gallera) - UrbanFarm2020

"We were nine participants from three countries, studying five disciplines working on a real existing brown field in Bologna. We had to communicate not only our diverse fields of study but also our cultures which made the experience quite unique. Exploring revitalization through the eyes of urban farming was quite new to me at the time and it intrigued me. We ended up creating a social-learning and agriculture-based center in the midst of the urban setting, and I was filled by an endless amount of pride and fulfillment. I am a junior architect as well as a master student. The competition was the main reason that today I am studying revitalization of historic city centers. Working on the Ex-SIAPA industrial site made me realize the value of the past and the value of what's forgotten and the fact that history can teach us a lot. I came to understand the significance and urgency of revitalization nowadays, along with the value of incorporating urban farming in the midst of urban settings and its crucial impacts on city's resilience and mobility. UrbanFarm helped guiding me with my first step right after my bachelor, I really hope it does the same to you."

Sherifa El-Haggan

Cairo University, Egypt

Team Hop-E – SIEPE (Sustainability Inclusion Energy Production Environment) (Gallera) - UrbanFarm2020

"This competition was an eye opener to me, and one of the best experiences I've had in my life. I was an Architecture Student at Cairo University when I joined the competition, and Urban Farming was a new notion to me. I started gaining lots of insights on the importance and the technicalities of urban farming. Furthermore, the project included other complementary and diverse aspects such as: social, environmental, urban and economical, which made our experience and knowledge quite holistic. Moreover, working in such a diverse team was a great simulation of a real life project that expanded my perspective.

I graduated in August 2020, and started working in December 2020 in a multidisciplinary architectural design studio in the architecture and engineering department. My target is to explore different architecture scopes in the next couple of years, such as Interior Design, Landscape Design, and Heritage. However, I am currently working on WREC's competition: HOME Kit, which targets self-sufficiency in energy. My team and I are implementing some learned strategies such as green roofs, rainwater harvesting, green walls, and a few others. We are more than grateful for being ranked first in Urban Farming 2020, such a big stepping stone!."

Haidy Takieldin Adel Ali Mousa

Cairo University, Egypt

Team The Wanderers – GILGAMESH (Conegliano) - UrbanFarm2019

"I am Haidy Mousa, an award-winning architect. UrbanFarm created a transition point in my life, as it was a great starting point to find a solution to return life to the city. I used to walk in the streets and keep watching the city and people. I was always asking myself how can I get back life to the city, and if I will have a role in achieving this dream or see it from afar. After winning UrbanFarm, I was awarded by the President of Cairo University and Director of the Library of Alexandria for the best student project in Egypt. Furthermore, I was awarded by the President of Egypt at the Arab and African Youth Forum from World Youth Forum 2019 for my role in shaping the future. I was also awarded for the best scientific research in the 5th Med Green Forum 2019, which is organised by the World Renewable Energy Network WREN, UK. The research has also been selected for publication in an international book from Springer Nature. I have a TEDx talk entitled: "Planting the Art" based on my winning in UrbanFarm. I see this competition is the future of enhancing our life and the planet."

Ricardo Souza

Montepellier SupAgro, France

Team Phoenix – L'Azienda Zanussi (Conegliano) - UrbanFarm2019

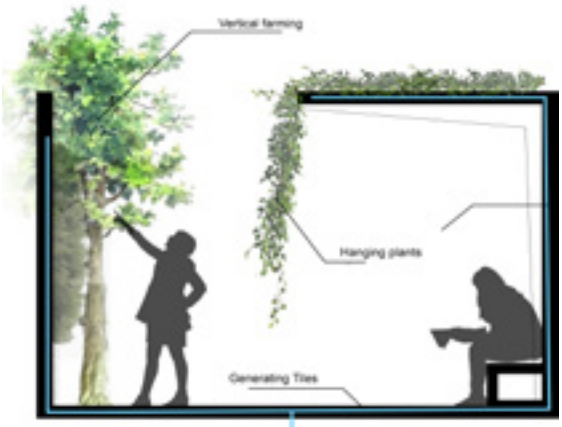
Team GreenID – Green Cycle Urban Farm (Galliera) - UrbanFarm2020

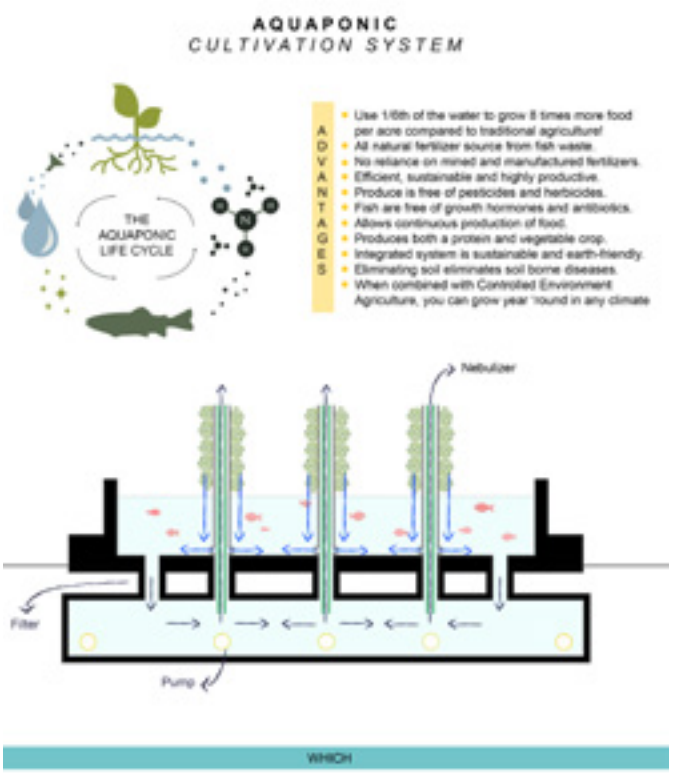
"I was part of UrbanFarm for three years! I started as an undergraduate student in 2019 in Brazil. I heard about this challenge, and together with some Brazilian colleagues, we proposed the project L'Azienda Zanussi. The architect didn't collaborate with the project, still, we were selected for the Grand Finale. We did fundraising so one of our team could represent us during the final in Pordenone (Italy). A few days before the Final Event, we got the money we needed, and my colleague took a 23h flight to Italy. That year we won the ISHS Young Minds Award. This award and the participation in an international student challenge fitted well in my application for a scholarship in a European Master.

In 2020, I was living in Spain for my first-year Master's. I was invited to join the GreenID team one week before the deadline of the first submission. They were looking for an agronomist with some experience in sustainable agriculture, and I was happy to join the challenge again. The second-year experience was harder. We were living in different time zones and in December the Brazilian university where the architect was from, closed for holidays. We couldn't finish the drawings for the second submission. Our project was well written, however, without good visual support we thought we didn't have a good chance to make it to the finals. In this process, some members of our team left, and the remaining ones had to work harder. A few weeks later, we got the email saying we were selected for the grand finale. That was my chance to travel to Italy and join two of my team members from Brazil. I saw with my eyes how engaged, and passionate the other students were about Urban Farming. This experience allowed me to make some networking with some of the professionals and academics who attend the NovelFarm. Nevertheless, the biggest challenge of that year was yet to come. The final was postponed a couple of days, and the leader of the team had booked her flight before that. So, her flight back to Brazil was on the final presentation day. Thus, I had to present the project by myself in front of the audience. I was shaking and very nervous. At the moment they call out our team and gave me the microphone I thought my heart stopped for a second. But when I was standing on the stage I gave my best. This experience is engraved in my heart and in my soul. It was life-changing for me. When I came back to Spain, everything changed in the world due to Corona Pandemic. But I wanted more challenges and tried to make the best of lockdown. So for this year's challenge, I decided to join the UrbanFarm competition differently. I used the Facebook group to find a motivated and passionate international student team. The experience has been amazing. Unfortounelly, everything went online this year. It has been a bit strange to everyone.

I am very grateful to all those who make this UrbanFarm Student Challenge possible. I think that without this challenge and all the good things that happened in my life because of it, my life would be a lot different. Now I'm currently living in France, writing my master thesis, and thinking about the grand finale in June. In the previous years, I came up with a tradition. Winning or not, my Prosecco glass will be full to toast and celebrate all the good things. Tchin-Tchin."

URBANFARM


Vertical farming
Hanging plants
Generating Tiles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THE AQUAPONIC LIFE CYCLE
ADVANTAGES
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No reliance on mined and manufactured fertilizers.
Efficient, sustainable and highly productive.
Produce is free of pesticides and herbicides.
Fish are free of growth hormones and antibiotics.
Allows continuous production of food.
Produces both a protein and vegetable crop.
Integrated system is sustainable and earth-friendly.
Eliminating soil eliminates soil borne diseases.
When combined with Controlled Environment Agriculture, you can grow year 'round in any climate
Nebulizer
Filter
Pump
WHICH

The International Jury

MOHSEN ABOULNAGA
Professor of Sustainable Built Environments, Cairo University (CU), Egypt

CHIARA CIRILLO
Associate professor in Ornamental and Horticultural Crops, University of Naples, Italy

RUNRID FOX-KAMPER
Head of research group on Built Environment, ILS-Research Institute for Regional and Urban Development, Germany

XAVIER GABARRELL DURANY
Director and Professor at the Department of Chemical, Biological and Environmental Engineering (ICTA), Universidad Autonoma de Barcelona, Spain

AGNÈS LELIÈVRE
Full professor of Agronomy and Cropping Systems at AgroParisTech, France

BERND POELLING
Researcher and teacher of Agricultural Economics at Fachhochschule Südwestfalen, South Westphalia University of Applied Sciences, Germany

GIORGIO PROSDOCIMI GIANQUINTO
Full professor of vegetable crops and urban agriculture, University of Bologna, Italy

Food Systems in European Cities (FoodE)

Scan Me

Scan Me

www.foode.eu

Led by the University of Bologna and financed under Horizon 2020*, FoodE brings together a highly qualified consortium of 23 organizations, including universities, research institutes, SMEs, NGOs, as well as city councils distributed across 8 EU countries.

The project aims to build and promote a "Think global, eat local" mindset with a view to accelerate the rise of City/Region Food Systems (CRFS) that are sustainable and resilient, thus able to guarantee food security while boosting local economies.

Cities and Regions represent the scale at which ecological, social, and economic interconnections may be fostered through co-governance and active involvement of urban and regional institutions and players, such as:

- Citizens;
- Food system start-ups and small businesses operating in the urban food landscape;
- Cities and regional authorities;
- Academia;
- Schools.

By increasing the relationships and interlinkages between the different actors of the food chains, FoodE will pave the way for job creation, enhance local economies, and enable local communities to contribute to the United Nations Sustainable Development Goals.

* The European Union Research and Innovation Framework Programme (2014-2020)

Q&A

We asked the participating teams to answer some of our questions regarding the challenge and their experience. In the next part of this book they will tell their stories and the relationships they built in their path to the Grand Finale

1 **Imagine your concept has been realized. A person walks into your final project place. What does she / he see, hear, experience? What happens there? Give us a guided tour through your concept.**

2 **Name and shortly describe main elements of your concept/ Unique Selling Points, including your key innovation**

3 **Highlight the most important sustainability aspects of your design**

4 **Share three lessons learnt from participating in the Challenge**

5 **Do you have any other remarks that you would like to share (related to the story of your team in the book)**

ROMAINVILLE, FRANCE
The Cité Maraîchère

The Cité Maraîchère is a systemic and multifunctional space located in the heart of the Marcel Cachin district, Romainville, and is the culmination of a vast urban renewal program operated between 2007 and 2017 in accordance with the principles of sustainable development.

Its aim is bringing together in one place the activities of gardening (vertical greenhouses and mushroom growing), composting, catering, sales, educational activities, experimentation and training. Through diversified proposals and audiences, the project seeks to strengthen the social and cultural diversity of the area and allow multiple exchanges between farmers, food industry professionals, consumers, residents, researchers, students, and all the actors operating in the district.

The goal of UrbanFarm2021 was to develop activities to be carried out within these spaces, building on the ecological principles on which the original project refers to and creating a solidarity-based food ecosystem centred on circular economy, re-employment logic and social inclusion.

Teams

GROWPRO

UNILASALLE

E-BUG

GrowPro

Edible Cité Maraîchère

Vision

A curious resident of Romainville walks into ECM. The first thing she sees is a vibrant sensory garden beyond the door. The green of vegetation and the purple/pink shades of the blooming flowers. She could smell the aroma produced by herbs and flowers, the earthy scent of the soil. She takes off her shoes and walks through the garden, her feet touch the soil. She picks the perilla and mint to taste their freshness. After the sensory garden, she arrives at the entrance of the building. Inside the building, she first sees an interesting display broadcasting infographic. It's the tale of food. She learns about ECM mission: to promote species and diet diversification and to tackle social and political factors involved in food production and consumption.

She takes the elevator and reaches the basement floor where different types of mushrooms are grown in buckets. There are woodears, lion's mane and more!

She goes then to the upper floor and she finds stands selling greens and fruits. There are rows of vegetables she could pick and buy for groceries. She sees some interesting plants she has never seen in supermarkets and she wonders: 'How can I cook it?' 'Learn more about recipes and try seasonal specialties on the 1st floor.' says a plaque placed near the 'special plant session'. She follows the sign and returns to the café on the ground floor. Following the smell of delicious and fresh food, she arrives at the café, meeting a new Tunisian chef who lives in the neighborhood. He is one of the incubates at the kitchen, utilizing his cooking skills to innovate with special crops. She tries some of his seasonal specialties and absolutely loves them! This is what ECM is about. Learning about our food system, an essential cycle that everyone needs to adapt and join the sustainable movement.

Concept

The Cité Maraîchère edible is a special place that promotes local and international ethnic food, bringing nature closer to citizens, both French and from all over the world. With its variety of outdoor plants and an active collaboration with the neighborhood, we aim to increase biodiversity through the provision of host plants for pollinators and, at the same time, to improve the quality of food consumed in the area by producing fresh local and internationally consumed vegetables to make immigrants and foreigners feel more at home. The local community will be empowered to grow its own food and will have priority access to diversified fresh produce. A special feature of the space concept is that the outdoor gardens provide a safe space for exploring food and herbs, encouraging people to interact with the soil and learn about plant cycles in a hands-on environment. In addition, as the plants grown will include ethnic crops, to make these products more attractive to customers they will be sold together with recipe books to enhance home

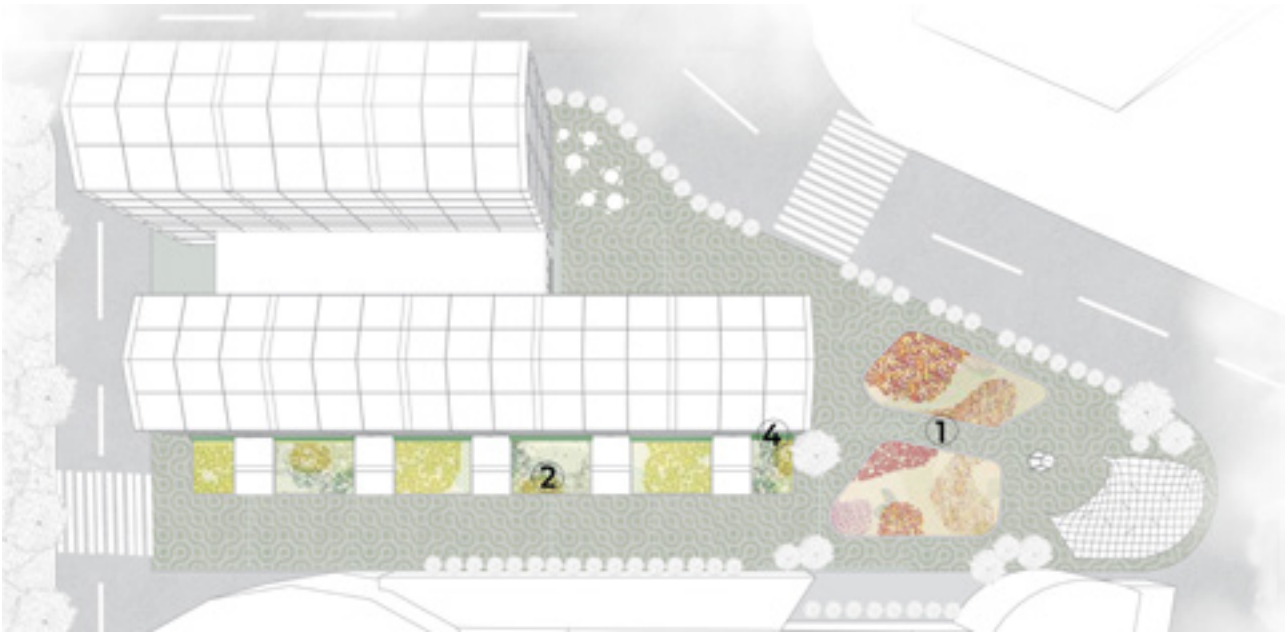
cooking with the new foods. Recipes will be created by chefs and nutritionists supported by the incubator, and customers can try the dishes also in the restaurants.

Moreover, the "Tale of Food" section, different from traditional infographic presentations in museums, may immerse visitors in the hunter-gatherer experience by prompting them to collect edible plants from the soil in different areas showing regionalized global specialties. In order to strengthen the food system within the city and beyond, conferences will be held for farmers from different areas to share insights on crop diversity and farming techniques, encouraging conventional producers to apply regenerative techniques such as nutrient recycling, biological control, sylvan grazing, etc.

Sustainabilty

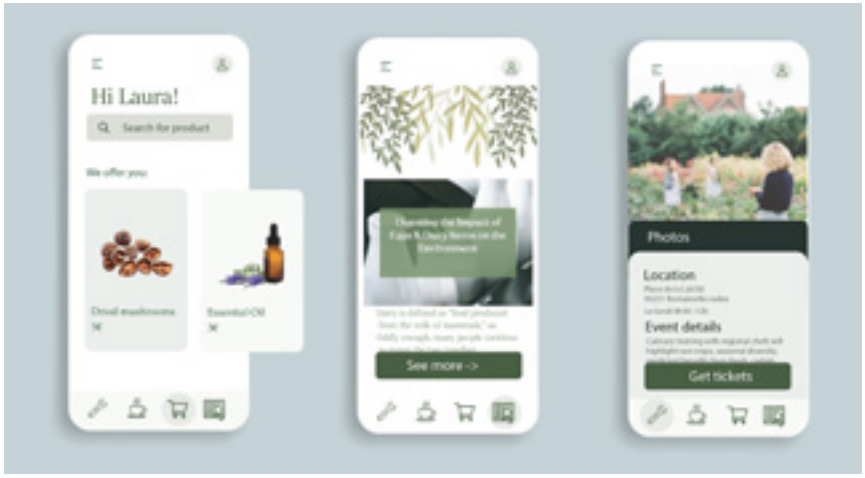
Taking into account that Cite Maraîchère is already using several sustainable methods, we decided not to eliminate or change most of the practices, but rather to complement them with additional ecological and energy efficient applications. From an architectural point of view, the material design of the Natural Pergola contrasts degradability and sustainability with responsibility. The sustainable materials chosen are lumber for the grid shell and plywood for the inner panels. The inner panels are intended to withstand a low level of soil for semi-intensive weeds. The choice of these materials was made so that their lifespan will not exceed the expected life of the structure, that is, once the pavilion has served its purpose it can easily return to nature without leaving behind any heavy building materials.

A further ecological solution are permeable pavement grids. They are made of recycled and environmentally friendly materials, thus reducing the amount of waste in the system and limiting the energy needed to purchase new products. The decision to design natural sound barriers made of wooden grids overlaid with vegetation and accompanied by dense shrubs was another eco-conscious approach. Nest is the implementation of motion sensors that will reduce electricity consumption by eliminating the possibility of lights being left on unnecessarily. As energy consumption requires fossil fuels and produces environmentally damaging CO2 emissions, a small step such as switching to a motion sensor switch will add to the efforts already underway and reduce carbon emissions. With a view to environmental sustainability, the solutions envisaged are minimizing energy inputs and metering the water system in order to control the daily use of proximity and not lead to over-consumption. To limit water usage and contamination of the water supply in general, the ECM will use low-flow taps and toilets, as well as organic, chemical-free and biodegradable soaps and detergents.



Lesson learnt

- How to present design concepts in a way that achieves the client's objectives and makes it clear which aspects relate to which objectives;
- Being respectful and empathetic toward team member's schedules. With COVID's distancing measures and different time zones or availability, we had to work to communicate each other what tasks needed to be done and be realistic in dividing them between us;
- Good design starts with a strong concept, which must be established from the beginning, before planning the finer details of a project.



Remarks

When we signed up for this competition it was perhaps the second week any of us knew each other, all from different countries and united to explore a topic we are passionate about. We are grateful for this opportunity not only for all the professional experience it required, but also because it gave us a reason to stay in touch, get to know each other and work on something that interests us deeply, while COVID lockdowns kept us apart. This project really brought us together and inspired us on our career path!

UniLaSalle
Agri-Cité de Romainville

Vision

L'Agri-Cité de Romainville is a project inspired by the community and for the community. It will be self-sufficient, working in harmony with nature and reflecting the vital spirits of the neighborhood while integrating the locals to be part of the activities held in the place. Starting with the green welcoming wall that immediately connects people with nature. From the lateral entrance you can see the energetic social movement in the community garden and the collaborative work in the compost area that invite you to discover more and to be part of this extraordinary experience.

Entering through the front entrance, where the doors open automatically for hygiene and comfort, the green walls will guide you through the tour reflecting our vision of how nature should be aligned with all the activities on the site. The café and canteen are the heartbeats of l' Agri-Cité Romainville. The products grown on the upper floors, and served in the dining areas, will be of high quality and in line with the innovation goals of high-tech agriculture. All visits will be guided, with explanations of each process and the reasons behind it. You will have the opportunity to be part of workshops, discuss the latest technologies and present your vision and ideas for the community. In addition, our volunteer team will amaze you showing how the collaborative work is perfectly implemented in the common areas.

After visiting the indoor farms, you can learn more about our species, techniques, and upcoming events by consulting the notice board next to the exit area. Don't forget to check out our botanic garden on your way out! Once you will finish exploring, you can relax in the surroundings of the site, have a coffee

and enjoy the greenery in the middle of your community.

Concept

The main aim is to set the foundation of a local food system in the direct and indirect surroundings of L'Agri-Cité. This local food system will act as a network of activities connecting people to the food and the environment, considering the following objectives:

- Healthy food access and security: Produce quality fruits and vegetables and provide access to these products to the local population.
- Innovation with vertical farming in a controlled environment: pesticide-free, requiring little water and space to produce, offering flexible supply dynamics, short grow cycles, year-round production, and easy product traceability.
- Retrofit existing buildings: create a high-performance building that ensures all the design concepts are met, implementing energy sources, and achieving water efficiency.
- Generate new job opportunities and integration: Create employment (temporary and permanent) for community residents. Develop a market for the sale of products at affordable prices for the community, taking into consideration the most vulnerable households.
- Educate, support, and train: Offering courses, seminars, and workshops on agriculture and gardening. Promote the culture of the region through the products grown within the project. Carrying out different events that will take place inside or outside the facilities of L'Agri-Cité.
- Improve social ties: Creating a new neighbourhood living space as a place for residents to live and meet; as well as fostering social diversity and living together coexistence by embracing urban agriculture as part of their culture. Also, opening up the district to make it the heart of the city and welcoming for visitors.
- Go green and raise awareness: Active role in the transformation of urban spaces and the integration of nature in the city. Raise awareness on the main environmental issues (climate change, scarcity of resources, accelerated loss of biodiversity, food wastage, waste) to move towards new ways of consuming and producing food, working, and living together.

Sustainability

L'Agri-Cité de Romainville revolves around management of resources like energy and water.

- Optimize Energy Use: Reduce heating, cooling, and lighting demand through

passive strategies such as climate-responsive design, daylighting, and conservation practices.

- Protect and Conserve Water: By recycling the grey water and creating a system to manage the water used in an efficient way, we aim to reduce it consumption.
- Optimize Building Space and Materials Used and waste management: optimizing building performance by employing energy modelling programs and collecting wastes for compost and other recycling initiatives will be applied during building's design towards resource economy & management.

Lesson learnt

From this international challenge, we learned to work together for a joint project named L'Agri-Cite de Romainville, which is inspired by the community and for the community. We are students from different nationalities with diverse backgrounds such as architecture, agribusiness management, economics and agronomy. We all worked online together, applying our past experiences to design a project that addresses all the fields we study with different and unique solutions. Working together on each topic makes our project better encompass all the aspects most relevant to the public.

Secondly, we also learned how to design a sustainable urban farm and business model by adopting different agricultural techniques, increasing the economy, and increasing employment opportunities. These things are useful for our working future.

Lastly, we get a chance to work on a real project that improved our creativity. We had to connect our previous knowledge, review topics on agriculture innovations, think in a different perspective and imagine new scenarios, with the final purpose to create a unique and innovative project. With this, our problem-solving capacity also increased and it will boost our career.

Remarks

We are the UniLaSalle team, a group of international students looking forward to mastering new agriculture innovations for green cities programs and the development of communities guided by a healthy lifestyle.
Moreover, we have improved our experience in architectural design, sustainability and planning. Also, we have mixed our diverse knowledge of architecture, agriculture engineering and Business management to reach our shared goal.

Participating in this challenge, remind us the importance of environmental, economics, architectural, social and educational aspects. Focusing on these aspects helps us to find innovative ideas that may care for the resources, communities, and environment.

E-Bug

Vision

E-Bug has the goal to make Romainville a new city. But let's forget about our idea of the city, with the polluted air, the sound of car horns and the kiosks selling hot dogs. Let's now imagine that we are entering a vertically developed city, with fruit trees around us and the smell of freshly cut grass. All around us are just happy people looking after the common good, harvesting vegetables, fruits and herbs or taking care of new people arriving. Here a new structure appears in front of our eyes, a structure that we have never seen before, connecting the vertical greenhouses and making them one harmonious and shiny building. It is the E-Bug structure, a roof that connects the two greenhouses and creates a productive space that did not exist before. As we approach, a strange noise for a city reality reaches us: it is the song of crickets, the real protagonists of the E-bug project. The space we created is in fact, a real "protein-farm" that uses agricultural production waste as food for crickets that, once completed their life cycle, are used to produce flour and other products with high protein content. So we see not a farm, not a factory, but a place where innovative practices, techniques and ideas are shared, combining the traditions of agriculture with the innovation of the protein farm, the most efficient way to produce protein food for alimentary use with a very low environmental impact. Around it, the E-Bug team, ready to make this dream come true.

Concept

E-Bug wants to change people's mindsets and culinary habits. An increasing number of consumers cares about the environmental impact of groceries and the diet. However, the market response to the need for more sustainable consumption is often limited to expensive, "niche" products. We want to share with the citizens of Romainville the vision that saving the planet requires bold actions, but we also want to allow people to buy healthy and sustainable products at a fair and competitive price.

The whole production process at the Cité Maraichère will revolve around the concept of circularity. Cricket farming is inserted in the circular production process of the Cité Maraichère. Organic waste from the greenhouses is used to feed the crickets, and the frass from the insects will be used as fertilizer. Crickets and vegetables will be produced and processed locally, and then served in the cafeteria or sold in the shop.

Visitors will get access to the production site and be educated on all the steps of crickets' production, to familiarize themselves with the idea of eating a more sustainable protein source: insects. Culinary and cultural workshops and educational activities will also be offered, to create an open discussion with citizens on the need for a more sustainable diet.

Sustainabilty

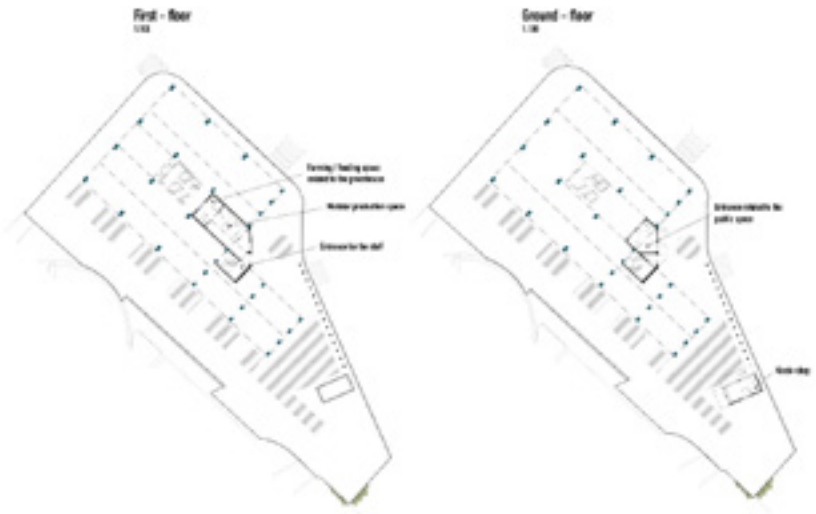
Sustainability is divided in our project into four different aspects: agricultural aspect, architectural, economic and social aspect. First: for the agricultural aspect, sustainability is shown in the integration of a low-tech greenhouse with an innovative insect rearing for high quality and environmentally friendly protein production. Using insects as a protein source can have a significant and positive environmental impact on climate change, ozone depletion, terrestrial acidification, freshwater eutrophication, agricultural land occupation, urban land occupation and natural land transformation. Second, for the architectural aspect, sustainability is shown in using sustainable material which is saint maxim stone; as it has no embedded carbon, it is a long-term building material, it doesn't require chemical treatment and it is a recyclable material. In addition, implementing green and smart solutions in the building will save energy. Third, for the economic aspect, our value proposition is to create a self-sufficient system aimed at producing long-term sustainable value. At E-Bug, we offer sustainable and affordable solutions for the customers of Romainville products. We want the transition to a sustainable economy to be inclusive for the whole society, building an "urban farm" that can create jobs for local unemployed people and produce affordable and healthy food. Finally, for the social aspect: our suggestion is that the project should ultimately be able to generate social value. This will mainly be the result of encouraging citizens to switch to a more sustainable diet, introducing and "normalizing" the idea of eating cricket derived food. To achieve this, educational projects for students, workshops, training courses and similar activities will be offered.

Lesson learnt

Being part of UrbanFarm2021 was quite a challenge. One of the most important things we learned during the past months, was to work in a multidisciplinary and multicultural team. Different time zones, various languages, and contrasting points of view made this a remarkable experience. Another special lesson we learned was during the conception of the project. The challenge of combining the idea of rearing insects into the concept of a low-tech greenhouse and incorporating the principles of the circular economy seemed impossible. But combining efforts, a lot of research, and active communication, we were able to find a solution.

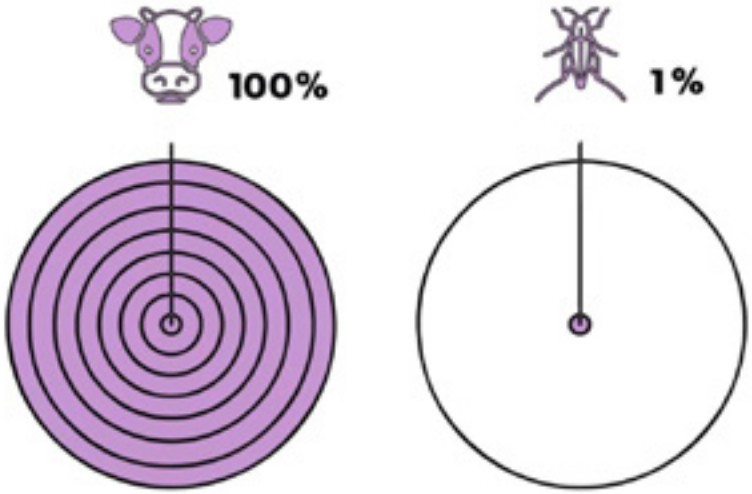
One of the most threatening moments we lived as a team happened at the beginning of 2021. Our team was falling apart. Important members had to leave the challenge, and we had a lot of work to do, and the final deadline was coming soon. We thought about giving up. But the feeling we

grow inside us about being a part of something truly special brought us together. The feeling we shared about creating something new, believing in our idea, and sharing it with the world was the glue that made us until the end. And acknowledging and believing our purpose and not backing down when we face challenges was the most important thing we learned as a team.



Remarks

Participating in this challenge was a unique experience to learn from each other and teach others what we knew. The possibility to develop an innovative idea was at the beginning challenging for us, we passed through hard moments (it always happens when you co-work on technological/innovative topics!), but in the end we came out all satisfied with our job. This is why we are grateful to the commissioner and the organizer of the challenge; in this period, we really needed the possibility to grow and UrbanFarm2021 was a great opportunity.



Cité Maraîchère

Participating students

GrowPro

Julia Hani (Institut Polytechnique UniLaSalle, Rouen, France), Marley Sansom (Institut Polytechnique UniLaSalle, France), Mihaela Vasilevska (Institut Polytechnique UniLaSalle, France), Ching Fung Janice Wong (Institut Polytechnique UniLaSalle Rouen, France)

UniLaSalle

Vivianne Cardoze (Institut Polytechnique UniLaSalle Rouen, France), Auriane Floret (Institut Polytechnique UniLaSalle Rouen, France), Ada Kubik (Institut Polytechnique UniLaSalle Rouen, France), Fahim Shaikh (Institut Polytechnique UniLaSalle Rouen, France), Rémi Vincendont (Institut Polytechnique UniLaSalle Rouen, France), Reham Zeino (Institut Polytechnique UniLaSalle Rouen, France)

E-Bug

Yomna Kathib (Cairo University, Egypt), Ricardo Felipe Lima de Souza (Montepellier SupAgro, France), Davide Mattarolo (IUAV University of Venice, Italy), Francesco Scarazzato (Alma Mater Studiorum University of Bologna, Italy), Dario Zanella (Alma Mater Studiorum University of Bologna, Italy)

COMUNE DI
BOLOGNA

BOLOGNA, ITALY
SALUS Space Garden

The SALUS W SPACE project is an ambitious urban regeneration plan of a peripheral area of Bologna (Savena district), that won the first European call for proposal of U.I.A. project (Urban Innovative Actions). The purpose is to give this space back to the community by creating a multifunctional centre with several public facilities: from residential buildings to cultural, recreational and work spaces. Citizens have participated in the co-design process, and expressed their need to create a place for active participation with cultural and social opportunities, environmental quality and recreational and aesthetic gardens for the community wellbeing.

As of May 2020, the area of the former "Villa Salus" clinic, in state of abandonment for more than a decade, has been renewed through the construction of a new residential building made of wood (X-Lam), the total restoration of the former hyperbaric chamber and the addition of three reusable temporary buildings, made with shipping containers.

However, green spaces are still to be designed. Under UrbanFarm2021, students were asked to plan a rooftop multifunctional vegetable garden on the top of the “hyperbaric chamber” building and some community gardens capable of creating a long-term sustainability with food production activities incorporated within the ecosystem, through a viable integration of technological and social innovation.

Teams

ECOSALUS

SOUL FARMERS

URBAN BEES

URBAN MSA

RELEAF

EcoSalus

Pursuing organicity

Vision

Walking in Salus Space means being surrounded by trees, gardens and scents. On the softly curved paths, every spot is lush and colorful: not only can people learn new things in the educational and international gardens where community members can watch plants blossom in spring and enjoy fruit ripening, but they can also relax among the scents of the sensory garden. With a guide, people can explore innovative techniques such as the aquaponics system, the biogas machine, the laboratories in the containers and the greenhouse next to the cohousing. Each element is designed to work together with the others to create a self-sufficient environment, and in short period of time it will become so! At the cooking workshop, community members may learn how to create a delicious vegan dish that they can enjoy for lunch in the cozy dining room of the restaurant. Then it's time for manual work: thanks to a good teacher everyone is enabled to build a solar dryer, which is small, but perfect for any urban balcony. While waiting for the next theatre performance to start, visitors can take another tour, buy some vegetables at the store and borrow seeds at the seed library. People can also have a drink while sitting outside or climb up the study center to admire the beauty of Salus Space from above. Once the artistic performance has begun, community members can take a seat in the open-air amphitheater.

Concept

The central element of the whole project is the polycarbonate greenhouse, in which vegetables will be cultivated vertically to save up space, create a polished interior environment, facilitate the application of organic fertilizers (e.g. compost and effective microorganisms) and enable workers to easily lay down straw mulching. Another crucial element is the hydroponics and aquaculture system, which will be placed in a greenhouse next to the restaurant. In this way, not only fresh crops and fishes (for flexitarians) can be easily collected and brought to the kitchen, but also the temperature of the whole system can be easily controlled. Furthermore, the small-scale biogas machine, which will be placed in a greenhouse next to the hydroponics system, represents a powerful Unique Selling Point. The machine will be powered with electricity obtained from solar panels and it will transform the byproducts of agrarian activities into biomethane and fertilizer, thus boosting the circularity of our project by using biomethane to fuel the stoves in the kitchen.

Moreover, another essential element of our project is the design of a communal garden that intertwines its parts in an organic fashion. In particular, the design is meant to be aesthetic through the creation of sinuous paths that interconnect the amphitheater, the international garden, the sensory garden and the communal gardens. The amphitheater is the beating heart of the garden where people can meet, educational

seminars can be organized and art performances can take place. In addition to what has been said, the arrangement of the containers represents a further innovation as more of them can be added to expand the structure. In the aforementioned containers we want to set up a seed library and a small shop, an educational area with microscopes and pH-meters and an upper part which can be rented by community members.

Sustainabilty

The most important sustainability aspect of our project is the implementation of innovative cultivation techniques such as aquaponics and synergistic agriculture, which are based on closed production cycles, allowing a high yield of quality goods using a limited amount of space. First, our project includes a small-scale biogas system to recycle organic waste produced on the site. This benefits the whole project in two ways: it produces fertilizer for the gardens and biomethane for the restaurant kitchen, creating a circular system of upcycling. Second, rainwater in Salus Space will be collected from the roofs of the buildings and channelled in water tanks. These tanks will be placed in different parts of the site, for example, at the productive greenhouse and next to the residential building. In the production area, rainwater will be used for drip irrigation, while water consumption will also be minimized through mulching, drip irrigation, biochar, good compost intake, and soil-friendly techniques (e.g. no-tillage). The aquaponic system needs only a minimal water supply to compensate for minor evaporation.
Third, solar panels will be widely installed at Salus Space to produce a decent part of the electricity needs.
Fourth, all new materials used in Salus Space had to go through criteria of sustainability (e.g. reclaimed wood, polycarbonate greenhouses, Low-E glass that creates thermal comfort and increases energy efficiency).
Fifth, in order to promote low-emission transport and reduce congestion, parking and charging station for electric bikes will be created in collaboration with, for example, Mobike.
Sixth, the restaurant will also be environmentally friendly by using biomethane produced by the biogas machine: we will use it as much to cut down the economic and environmental costs of importing and consuming methane. The majority of the vegetarian restaurant's food will be supplied by Salus Space's greenhouses.

Lesson learnt

Firstly, it is essential to have a clear plan in mind but, at the same time, to be flexible to inputs from team members. A clear structure and goal are necessary. Be confident in your aim. However, work with the given circumstances, adapt and adjust accordingly. Working in a group creates unexpected moments and inspirations, don't waste them, but benefit from the energy of others. With a bunch of ambitious minds working together, everything becomes possible.

Communication is a key aspect. The most important thing is to have clearly defined work areas, which however, need to be in great exchange. Make sure everyone is up to date, working on the latest file, while sharing their ideas and thoughts with the group. A good leader should be able to listen to everyone's inputs, by being a 'sub-commander'. It is essential to listen to the needs of the group members before acting or speaking, since listening has to become an active process through which you shall transform yourself. Through UrbanFarm2021 we got to engage with different people who inhabit this planet. The UrbanFarm project connects countless scientific and working realms with each other. To create an innovative urban farming and green living space, it takes architects as well as construction workers, economists, waiters, agronomists, farmers and finally people from the neighborhood to fill the place with life. Finally, the contacts made here are fabulously international - working with so many nice and friendly people from all over the world has been a pleasure!

Rermarks

We would like to add that the key word to describe our project is 'organic ecosystem' as we believe in the possibility to completely integrate all the functional areas of Salus Space. Each section has been developed to ensure cohesion and connection with the rest of the 'living organism'. One of our main aims is to build a community space that reconnects local people with their territory. We offer a new sustainable idea of healthy food production and consumption and the possibility to get back in touch with nature and its rhythms. Our project proposes the construction of an area where sustainable production, education and social inclusion finely intersect and interact. In so doing, local people can benefit from a carefully designed urban environment. A sustainable and circular economy is the foundation of our project, therefore achieving the several Sustainable Development Goals, such as Sustainable Cities and Communities and Reasonable Consumption and Production. We have a holistic perspective, aiming to establish a collaborative and efficient ecosystem between living beings and their basic needs, by weaving together the economic, environmental and social spheres.

Soul Farmers

Soul Farm

Vision

Soul Farm brings the beauty of art, the serenity of nature, the enthusiasm of people, and the warmth of home in one place The first area that welcomes visitors is the Renaissance Garden. An inspiring artistic zone that makes people feel, think, and connect through the universal language of art. They can look at masterpieces but also watch the process of their creation.

Few steps forward, an active zone is introduced: The Lively Hub. Users feel enthusiastic and energetic to work on their tasks or to interact and make new acquaintances. Salus Space products can also be found in a dedicated temporary market there. A unique transition is made once stepped in the Sensory Forest in the central garden. A feeling of serenity and relaxation dominates. With colourful flowers and aromatic plants, this area entices the senses and a healing horticultural therapy can be practised. Rainwater flows down the transparent tree-like structure and is collected and temporarily reused in a rain curtain water feature to create a calming waterfall effect. The Recreational Field gives a sense of freedom. People can relax on the grass or enjoy a picnic on a sunny day with family and friends. Visitors can reach the rooftop of Camera Iperbarica to find the Spiritual Channel, a greenhouse equipped with vertical shelves to grow aromatics. Warm and cosy during winter, it can host meditation and yoga classes. Cyber addicts here can transform their skills into a powerful tool to teach digital literacy, and rediscover their senses spending time in farming crops like ginger that, with its beneficial properties, reflects the vision of the Soul Farm. A walkable pathway connects all the zones together, and allows to experience curiosity and diversity as one passes by, but also encourages physical activities. Salus Space nurtures your body, your mind, and your soul.

Concept

- Nowadays, the issue of addictions related to technology is spreading in a worrying way. Our concept is to implement a prevention program for people who suffer from this kind of addiction, tackle the problem before it becomes serious, and use it to serve the community. To reach this aim, our beneficiaries will be engaged in agricultural tasks, then they will use their digital skills to serve the community. Moreover, we created a space where people can restore mental and physical health through yoga, meditation, and Art Therapy.
- To sell the products, we designed multipurpose market stalls for Salus Space, and started a collaboration with an extremely rooted farm in the territory of Bologna that will deliver our goods to final consumers. The company carries out its activity through the values of social and environmental sustainability.
- Insect farming is becoming a reality in urban areas where space for food production is limited and organic waste generation is elevated. Some insect species have a key role in connecting these two processes, converting organic material into protein rich body mass. Insect flour is a valuable resource to replace soybean in the poultry, bovine and swine diets and fish meals in aquaculture. Waiting for the Italian and EU regulation of this activity, we planned a rearing facility to be installed in Salus Space in the near future.
- Two tree-like structures harvest rainwater from the surface and store it in a rain curtain water feature to be used later for irrigation. They act as shading devices and provide a comfortable atmosphere.
- Ginger market trends show investments in research technologies to produce this crop in foreign countries like Asia and South America, to shorten the delivery chain up to the customer. This was our reason for choosing this crop.

Sustainability

- Materials' life cycle and carbon emissions are important aspects nowadays. We focused on responsible production and consumption, therefore we chose upcycled and recycled materials as WPC and straw panels; or durable materials that can make up for their embodied energy. For example, the precious plastic project has the objective to recycle the plastic waste generated in Salus Space. They could replace spare parts of buildings and machines, or cast gadgets to be sold in the weekly market and at the same time raise awareness about the importance of recycling.
- Water plays a crucial role, especially in an agricultural-urban system. In this regard, rain

water is collected by the innovative tree-like structures. Furthermore, we implemented a phytoremediation system that allows the greywater reuse and does not require energy to operate, thus no CO2 emissions. Wetlands as well provide a particularly good environment for carbon sequestration.

- Zero waste is the lifestyle we want to follow in Salus Space, so biogas generated form organic and crop waste can be used to partially substitute LPG/methane in the residence heating, that alongside the photovoltaic panels reduce the energy demand.
- Our Italian ginger is pesticide free and highly sustainable because heat from the biogas unit is directly conveyed into the greenhouse. Moreover, we used a dropwise micro-irrigation system, also for the hydroponics production of aromatic plants, of which we have a whole year-round production that requires low maintenance. These goods can be processed with the available tools to obtain valuable products.
- We thought to undertake collaborations with public and non-public bodies willing to contribute in the long term. Doing so we can minimize costs and create links with organizations well-rooted in the territory.

Lesson learnt

Being tilt-proof is the most important aspect for us to work under pressure. To do so, we helped each other and found new ways of thinking and new approaches when faced with a difficulty. We also allowed ourselves leisure moments to keep up the spirit. Indeed, it is fundamental to have good relationships with the other teammates. Moreover, all of the theoretical knowledge had to be integrated into the real surrounding context, which was challenging because we had to put aside some ideas and find new ones, but was also inspiring because we had a guideline to follow, and we knew that we were working for real necessities.

Collaboration and communication between departments was crucial to make Salus Space a liveable and functional area. From the social to the agricultural, passing through the architectural and engineering aspects. We had a tough time trying to understand and express our concepts to one another, due to the culture and language barrier. But at the end, this was the main factor that made our project really solid: sharing the different ideas and points of view. For example, to design the artificial tree, we had to share various information between engineers and architects, or again, the social project involves agricultural tasks, and, conversely, food produced here is sold through network platforms.

We realized how important it is to maintain an objective perspective, bringing our contribution to the discussions without losing the focus on the overall project. These competences will be helpful even in our personal future. So, we will remember this experience as sheer positive, by many points of view, regardless of the final result.

Remarks

Our team is mainly composed of two nationalities and in virtual meetings we learned how to know each other, not only by discovering new and old aspects of our cultures, but also by simply sharing moments of our everyday life. And we realized that we are not so different! Then, unfortunately, one of our members left while another got sick and could not continue to work. Despite the hassle, we pushed ourselves even in sickness and we managed to pass the difficult times, also by finding great teammates that really helped us. Working during the day or night, from the telephone or laptop, before or after the exams, from home, university dormitory, or an isolated shelter in the mountains: these all are examples of our full commitment to the project. We all are constrained into our houses in a period of doubts, and no other situation could better motivate us to imagine, design, and attempt to realize a new, sustainable, health-caring living area that is Salus Space.

Urban Bees

Urban Bees' Farm

Vision

Laughter, guitar in the background, "please stay in this position for 30 seconds, ladies!", clucking, and the smell of fresh grass, flowers and a delicious lunch is in the air. When approaching the Salus Space you see many interacting people of different generations living the space and the moment. You walk through the gardens and see families busy planting and harvesting. You cross the grass towards the main building and you see elderly people giving cooking classes.

In a container, you see young people getting their bikes repaired. In the restaurant, you see various groups of people that would not normally meet, sitting together at the long tables specifically designed for this interaction. In the camera iperbarica (hyperbaric chamber) building, students are studying throughout the day, taking breaks in the garden, and getting their coffee and cocktail on the rooftop bar, where they can decorate their food with the herbs grown on the roof. A community of all generations from all possible backgrounds are living, relaxing, and enjoying life in nature together: that is what the Salus Space is.

Concept

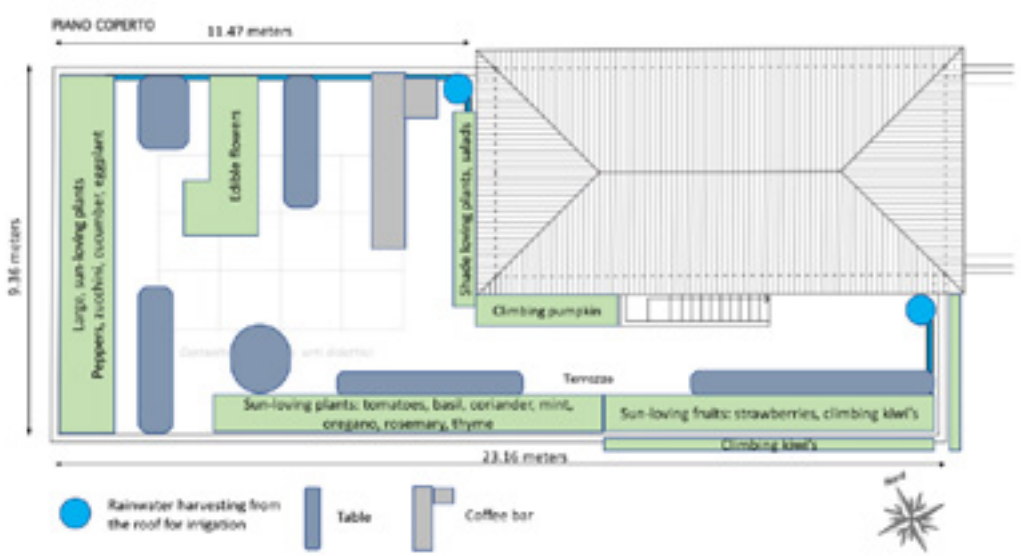
The main elements of our design for the Salus Space in Bologna are the central garden, the restaurant, the involvement of the people living in the area, and the many activities we have planned to take place in the buildings. The garden is a place where nature and people come together, merging in a beautiful ecosystem. The people take care of the garden, the garden takes care of the people through the provision of food and relaxation. The restaurant is the main place where people from the neighborhood are drawn into Salus Space, and where they can eat the food that is grown in the garden. The people that live in the Salus space, or visit it, are not just people living there, or visitors, they are an integral part of the Salus complex. They are part of the community. The many activities taking place include the farmers' market at which local farmers can sell their products, sustainable food festivals, workshops like pilates and cooking classes, and a bike repair shop. Apart from technical innovations that we have included, like aquaponic systems and plastic recycling machines on-site, our key innovation is in the business model: people can have a subscription to all of the activities that take place in the Salus Space. This subscription transforms the Salus Space into something more than just housing, or a market, or a restaurant: it creates a community out of the people. The people living in the area or tourists sleeping in the Salus Space automatically get a subscription for the period that they're there, and other people can get the subscription for a small fee. With the subscription, people with a diverse background can still choose their own activities from the broad range of activities that is offered, and still meet each other. In all its diversity, the Salus space can be a community.

Sustainabilty

The most important sustainability aspects of our design include its circularity, that is ingrained in every part of the design, the use of sustainable energy and the sustainable design of the garden. First, the circular design of the Salus Space covers all the materials used: from the cups in the restaurant to the garden utensils, all the materials are second-hand, and the users should know how to recycle them in case they are broken. There are three specific ways in which circularity is promoted in our design. First, the design includes growing mushrooms from coffee grounds. The coffee grounds are collected both from the restaurant in the Salus Space, and from restaurants nearby. They are the sole food needed to grow mushrooms that can be eaten in the restaurant. Second, all the other bio waste from the rooftop bar and the restaurant are re-used as compost in the vegetable garden, reducing their waste output significantly, and improving the fertility of the garden. Third, we install a plastic-recycling machine on the Salus Space. Of course, we aim for the amount of used plastic to be as low as possible, but in case there is plastic, we can recycle it. Also, plastic waste from partners and businesses in the neighborhood can be upcycled into useful products that can be used directly by businesses, by the Salus Space, or that can be sold. The use of sustainable energy ensures another aspect of the sustainability of our design. All the roofs on which it is possible to install solar panels are used for this purpose. Combining this with either a grid connection or a private battery ensures the stability and sustainability of the electricity supply. Finally, the garden is designed in such a way that permaculture is ingrained in it. So, the soil is used in such a way that the agriculture could take place forever and still enrich the nature instead of exhaust it. This can be done by introducing polycultures instead of monocultures, by matching the plants that naturally enhance each other's wellbeing, and through a smart water management system. All in all, Salus Space is designed to be a sustainable space for every living being.

Lesson learnt

We had great pleasure participating in this challenge even though it became very CHALLENGING at one point. Apart from all the interesting things we learned about how to design a sustainable urban farm and all the possible techniques and innovations we could use, we also learned a lot about how we work personally, and how we work together. A key lesson we learnt is teamwork and power of endurance: when we started this journey no one could imagine how many weekends and evenings we would spend to push further and that we would reach our drop-out points, but thanks to our great team work, reliability and mutual support we managed to keep going and we understood the value of a good team and how far you can go with it - even though



we were in different parts of Europe. Second, another key lesson learnt is timing: each one of us had to fulfill the assigned tasks and we had regular meetings for feedback, updates and creative and design thoughts to push the project further. So, we needed to plan out tasks in our already busy schedules even though we had exam period, were graduating or started a PhD. We all grew on a personal level and learned a lot. Finally the third key lesson we learnt is dedication and openness. This challenge was not a typical university task where we could find the answer in a book and replicate it in the exam. It taught us how life and work will be like and that you go as far as you put work in it. When you work you have to be flexible, the deadlines are much shorter, you need to dive into new topics and perform within a short period of time because other people rely on your result. This was and still is an exciting journey, just as life itself and we are looking forward to exploring it further!

Remarks

We, the Urban Bees, are three dedicated, diehard and motivated young women with a shared dream and passion: live and spread sustainability. This project and challenge gave us the opportunity to put our dreams, imagination and creativity to paper, to realise how much is possible and finally how difficult is to make a dream project reality, if you have to face regulatory frameworks and bureaucracy. Moreover, it showed us how much people depend on each other. After this exciting journey of more than half a year we have grown a lot together and are happy where we stand now. We would be so happy if our concept became reality and we would put everything we could into making it happen! We believe in dreaming big and planning big, to achieve how we imagine this place: the park of possibilities and freedom for as many people as possible. Urban Bees for Salus, Salus for Bologna and everyone that wants to be part of it!

Urban MSA

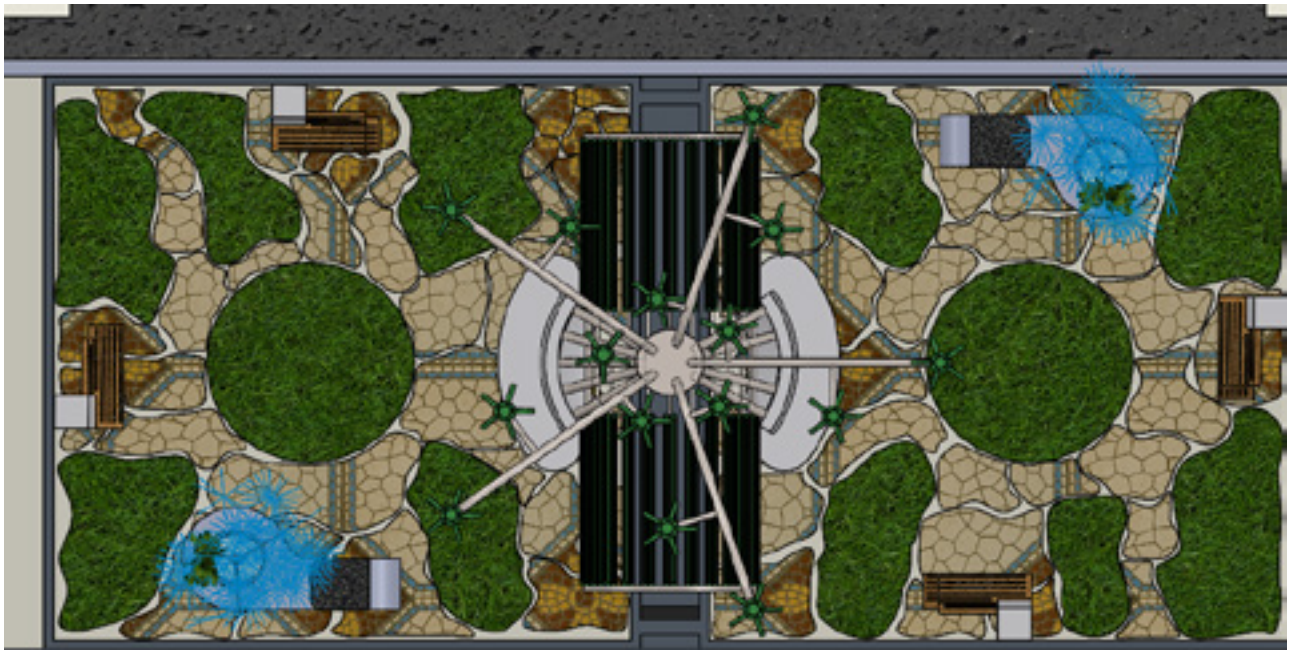
SALUS Space Garden

Vision

Gardens could teach us about the world, how plants and humans can interact, so we considered public cultivation in the community garden to provide healthy food raised by people. There is a roof garden on top of the study room, which helps individuals to use the space efficiently by growing vegetables, and there are also a few seats next to these small roof gardens for students to rejuvenate themselves by breathing fresh oxygen with the smell and atmosphere of vegetables. In addition, there are two big greenhouses providing a work opportunity for the inhabitants by nurturing various vegetables and flowers under controlling the growing conditions, water, soil, and compost.

In front of the main building, on the first garden, we designed the name of Villa Salus in a maze shape with boxwood-trees including entertainment facilities in the middle to not only provide an elegant view for the main building, but also to develop a space for children to have some fun. It is a versatile, classic hedge favored by many people for its dense and verdant appearance. In the middle, there are community gardens designed with various flowers, vegetables, and stone paths on the surface. There is a special structure like a tree with some small silent wind turbines to produce clean electricity. Under the wind tree, there is a horizontal cylinder corridor decorated with charming, aromatic flowers and plants to provide a great pleasure for those who take a walk through it.

On the last garden, a stunningly attractive fountain, which is a symbol of modern style with the sound of burbling water that lulls the mind into a meditative state, is designed in the middle of a maze garden. In conclusion, when you walk in the redesigned Salus Space you can sense innovation, sustainability, greenery, and healthy life.



Concept

Our project consists of four prominent concepts which are briefly described below:

- Wind-Tree: We designed a new modern wind-tree, with a shape suited for the environment, which can produce a significant amount of clean electricity for the entire space; therefore, the complex meets a considerable amount of its electricity need.
- Greenhouses: two greenhouses are considered critical in terms of employability, social interactions, and making money as they raise noticeable volume of vegetables and honey.
- Selling Salus Space Products: One of the main aspects to attract people to Salus Space is selling its organic products which could not only help in raising money for the residents, but also promoting people using organic food.
- Tourist Attraction: In order to increase the number of visitors and social interactions, the complex should offer people a unique feature which in this case corresponds to a beautiful atmosphere provided by the elegant community gardens including stone corridors and new-designed benches, a brand-new horizontal cylinder corridor decorated with lovely fragrant flowers and plants, and the modern stylish fountain.

Sustainability

Sustainability is simply everything that we need, either directly or indirectly from the environment, for our survival and well-being. Our team considered sustainability aspects in the design.

Firstly, we need to point out energy production sector. Our team has presented a project with the aim of producing clean and sustainable energy for the Salus complex, in which electricity is generated through wind and solar sources. We designed a tree-shaped structure which carries wind turbines and generates sustainable electricity, and we also included solar panels in our design. These plates, which are placed on benches and bicycle parking lots, are also responsible for generating electricity for the complex. It should be noted that in this design, we have considered batteries to store the generated electricity. In this way, the generated electricity, which is completely sustainable and based on renewable energy, is used for lighting, power supply for benches (e.g. people can charge their cellphones) and e-bike station, pumps in the complex, heating system, etc.

One the other hand, in order to reduce water consumption for irrigation of plants, we have illustrated a plan for collecting rainwater, which is directed into the reservoir through the gutters

of the building and stored in a tank. In this way, if necessary, stored rainwater in the tank can be used. It should be noted that the power required for the pump is supplied through wind turbines and solar panels. We tried to use the hydroponic method to grow plants in the greenhouses in order to reduce the water consumption.

Lesson learnt

Firstly, challenges like this remind us that we are stronger and more capable than we think. Most of us tend to underestimate our personal abilities, and tough times force us to respond in ways beyond what we thought. Challenges are an excellent opportunity for growth as they provide an environment to do our best, compete with other teams, and learn new ideas from them.

Secondly, this big challenge facilitated us to improve some of our skills, such as time management, patience, respecting others' ideas, and proposing opinions based on the total budget. Furthermore, we learned how to come to a unanimous conclusion to design a project in line with the final concept.

Finally, taking the challenge gave us the chance to see what it is like to do hands-on working in the field with people who have chosen that career path. We also experienced how similar and different we all are and grew together as a community.

Remarks

First of all, we are so delighted that we had the chance to participate in this marvelous challenge, and we hope to contribute in future competitions organized by the University or other organizations to show our talent and apply our skills. We are also enthusiastic to take on more technical responsibilities in the coming years and potentially even take the lead on some projects.

In addition, this competition challenged our minds to think deeply about what concepts to propose, not only to meet what was required, but also to include unique, attractive, and beneficial aspects to make the Salus Space a tourist attraction and once again revive the name of Villa Salus.

ReLeaf

Vision

Salus Space is meant as a place in which we can take time to be grounded to the earth. And breathe.

Entrance path

The visitor enters reLeaf by a 5 min walk on the bike lane - a transition from the urban environment to the natural and relieving habitat of Salus Space. Our guest is welcomed at the entrance by billboards keeping count of the results of our circular economy: raised funds, water saved, chemicals avoided, collected vegetables, new community members, launched activities etc.

Mazes, leisure and crops

The space opens up to the visitor with wooden mazes and a seating area where people can gather, rest in solitude, or walk around, experiencing the lightness of the structures in which new cultures are always being cared for by the residents. The community garden, the aquaponic system, the rooftop and the greenhouse are all accessible to the visitor. He will meet and interact with the local volunteers and community members and he will be welcomed to join the open-air ongoing activities.

Ateliers & bar

Our visitor's journey continues in the inside: a working space for creative initiatives, an exhibition area and a community area. Here the visitor can control the light setting and pick the music to play in the area. He can also join community tables or sit to enjoy solitude in the bar area, buy hand-made products or collaborate with the bartender to make fresh drinks and fruit salads with products from the garden and the other cultivation systems.

Kiosk and market-to-go

On the way out, the visitor walks through a market designed as a cross-over between an authentic local market and a museum gift-shop, where residents sell the locally produced vegetables and the art-pieces created during the workshops in the ateliers.

Concept

With Re-leaf we gave particular attention to the way in which visitors will interact with the surrounding environment. The Salus facilities will be created with recycled materials and they will generate energy thanks to solar panels and a revolutionary kinetic energy pavement system. They will also be realized to be inclusive of any sort of disability. We paid special focus on the way our visitors will come to Salus: encourage the use of bicycles, which already have an existing cycle path, and we will provide electric car users with charging stations that will work with solar panels. All electrical systems in the Salus Space will work within a single system which will be easy to control and enhance for proper energy management. The geothermal system will provide heating and ventilation in an environmentally responsible way. The agricultural system will consist of many different units, including an aquaponics system,

some beehives and a greenhouse. These, and other production sites, will serve the various gastronomic activities planned. This kind of transition is a cornerstone of the project because we wanted our guests to see the process of transforming nature into food and be part of it. Salus Space is designed as a center of cultural activities, community maker and a hub for learning how to respect the environment. It is an integration of many elements working together to create a living system that interconnects with the environment. The unique selling point is not the kinetic energy pavement or the EV charging stations, but the way all our systems work together for the benefit of the community and the environment. We integrated 1000-year-old technologies with new innovative ones for the benefit of the community. From economics, to agriculture and architecture, we have all worked together to create a space that can have a real positive impact and actually include and help everyone and everything around it.

Sustainabilty

Our project aims to find simple but effective solutions which, by means of sustainable architectural proposals, can boost the dynamism and productivity of the Salus Space. A first solution is, for instance, the installation of an electric car station, which motivates the use of electric vehicles in order to reduce atmospheric waste as much as possible. Other examples are the possibility of producing energy by walking (and thus burning calories) thanks to kinetic energy flooring; or showers for cyclists, to attract sports enthusiasts living in the area. These services are intended to attract a large number of people to the Salus space, especially those interested in environmental sustainability. Consequently, our architectural contributions focused mainly on designing for the public, in order to achieve the highest social sustainability through recreational/ entertainment spaces such as the open maze garden, art exhibitions, or relaxing seating areas, which are well suited to different target groups. All of this is combined with tactile paving, designed to facilitate accessibility and movement for pedestrians with visual impairments. Salus Space is also targeted and designed to have a strong educational purpose with workshops that will be held both indoor and outdoor and that will host lectures on urban agriculture and the latest innovations and agricultural techniques. Each of the structures that will be added will be built using environmentally friendly materials such as wood in landscape furniture and sheds and pre-used containers for the greenhouse, the bikers' showers and the added restaurant with roof. In addition, with regard to the systems used for ventilation and temperature control, the planned geothermal system will be very effective for most architectural and agricultural needs for cooling or heating water and air. Salus Space is aimed to reach the highest level or efficiency with the least interventions possible.

Lesson learnt

This challenge was an interesting and valuable experience for all of us. It was the first time that many of us had to work with people from different countries and different backgrounds to apply our knowledge in a practical project. It was difficult at times, but it was worth it because we all learned a lot from each other.

The first lesson learnt is that communication is the key. To make a project of this size, or larger, work, you need to be able to establish good communication in your team. This was a big initial challenge that we managed with regular zoom calls and the use of collaborative working software such as notion. The second lesson, which is related to the first, is that every part of a system has to work together for it to perform efficiently. The different parts of the project cannot be isolated and must intertwine and fit together perfectly. The final lesson is that diversity is important. The greatest strength of our team was having people from so many different backgrounds working together to create something great.

Remarks

This was a very insightful, challenging but also fun experience. Being able to work with different people, from different countries, universities and fields was particularly interesting and we have all learned a lot from each other. We really appreciated this project because it promotes topics that are essential for the implementation of business and social life.

SALUS space garden

Participating students

EcoSalus

Atilla Yagiz Cermikli (Alma Mater Studiorum University of Bologna, Italy), Anton Froleyks (Alma Mater Studiorum University of Bologna, Italy), Michele Isola (Alma Mater Studiorum University of Bologna, Italy), Dina Khaled (Cairo University, Egypt), Selma Khounati (Alma Mater Studiorum University of Bologna, Italy), Eleonora Ledda (Alma Mater Studiorum University of Bologna, Italy), Valeriia Lymishchenko (Alma Mater Studiorum University of Bologna, Italy), Rana Mohammed (Cairo University, Egypt), Dina Mohamed Mousa (Cairo University, Egypt), Leonardo Poggi (Alma Mater Studiorum University of Bologna, Italy), Vanessa Regazzi (Alma Mater Studiorum University of Bologna, Italy), Rachele Sbabo (Alma Mater Studiorum University of Bologna, Italy), Doaa Mahmoud Ibrahim Sherif (Cairo University, Egypt), Yulia Sushkova (Alma Mater Studiorum University of Bologna, Italy), Maria Chiara Zucchini (Alma Mater Studiorum University of Bologna,

Soul Farmers

Mirette Aziz (Cairo University, Egypt), Beatrice Bellini (Alma Mater Studiorum University of Bologna, Italy), Giacomo Buldrini (Alma Mater Studiorum University of Bologna, Italy), Marco Coluccia (Alma Mater Studiorum University of Bologna, Italy), Aurora Cravino (Alma Mater Studiorum University of Bologna, Italy), Mostafa EL Kady (Cairo University, Egypt), Marco Monticelli (University of Camerino, Italy), Salma Mosaad (Cairo University, Egypt), Loay Radwan (Zewail city of science and technology, Cairo, Egypt), Licia Signoroni (Alma Mater Studiorum University of Bologna, Italy)

Urban Bees

Sophia Giovanett (Alma Mater Studiorum University of Bologna, Italy), Erika van der Linden (Delft University of Technology, Netherlands), Martine de Zoeten (Wageningen University, Netherlands)

Urban MSA (Urban Modern Sustainable Agriculture)

Mehran Razzaghi Ghaleh (Alma Mater Studiorum University of Bologna, Italy), Ali Hozhabri (Alma Mater Studiorum University of Bologna, Italy), Amirali Moradi (Alma Mater Studiorum University of Bologna, Italy) Vida Maghsoudlou Motlagh (Polytechnic University of Turin, Italy), Mattia Tommasi (Alma Mater Studiorum University of Bologna, Italy), Michka Zeynalnia (Alma Mater Studiorum University of Bologna, Italy)

ReLeaf

Yara Desouky (Cairo University, Egypt), Alessandro De Lucca (Alma Mater Studiorum University of Bologna, Italy), Merna Genina (Cairo University, Egypt), Poula Goda (Cairo University, Egypt), Sascha Greguoldo (Alma Mater Studiorum University of Bologna, Italy), Francesca Mus (Alma Mater Studiorum University of Bologna, Italy), Mohammed Ibrahim Kamaladeen (Alma Mater Studiorum University of Bologna, Italy), Simone Prospero (Alma Mater Studiorum University of Bologna, Italy), Mueed Sulaiman (King Abdulaziz University, Jeddah, Saudi Arabia)

NAPOLI, ITALY
Troisi Park

Created in 1981, the Troisi Park is located in the S. Giovanni district, on the eastern outskirts of the city, in an area that only a few years ago was the most productive and industrialised area of Napoli. It extends over 12 hectares, and accounts for built infrastructures and open fields, currently hosting Mediterranean plant species, some greenhouses and an artificial pond collecting rainwater. Despite the nearby presence of schools, NGOs and municipal offices, as well as a large number of neighbourhood residents who use the park for recreational purposes, it currently falls in a state of neglect, and particularly the area where the greenhouses are located.

The regeneration of the Troisi Park in UrbanFarm2021 targeted therefore the redesign of these structures and the surrounding spaces, with the aim of creating a system that, by producing food, would be able to improve the socio-economic condition of young people and families living in the area and, at the same time, create awareness over a correct and healthy food culture. As also recently requested by the local inhabitants, the integration of a farmer's market is foreseen.

Teams

AGRIVOLUTION

GREENHOOD

GREEN REV

CAMPANIA FELIX

V-SEED

Agrivolution

AGRiS (Agriculture Growth and Regeneration inspired by Sustainability)

Vision

Entering the redesigned Troisi Park, we find ourselves in a space transformed from the decay and abandonment that characterized it before. It is the weekend, and as we enter the area, we hear the noise of the market; the voices of the community members mingle with those of the vendors. This place, once grey and empty, is now full of people taking advantage of the market to enjoy the revitalized common space. While the parents buy fresh produce and other foodstuff, the children play in the surrounding area. People about to return to work have come to Troisi Park for a quick lunch break and a pleasant place to sit and converse. Someone is already starting to set up the space for the evening concert. The greenhouses have come to life as well: in two of them - the production facilities - the greenhouse workers tend to vegetable crops that celebrate the culinary traditions of the region and the world. Looking inside the teaching greenhouse we can see some young people studying together or reading in the sunshine. The following day, in this space, the recreational activities will give way to the educational ones and a hydroponic training course will be held for students from a local school. Teachers will try to capture the attention and arouse curiosity of the younger students with hands-on demonstrations and projects. For the older students, on the other hand, workshops in the conference room will enable deeper explorations into the study curriculum.

The tour ends passing by the community garden: the plots have been rented, and someone already reaps the benefits of his work, packing the fresh harvested produce into a bag for dinner that evening. An atmosphere of collaboration and participation surrounds the redesigned and revitalized Troisi Park: the agrivolution has just begun.

Concept

"*Simplicity is the ultimate sophistication.*" Leonardo da Vinci

This quote captures the grounding concept of the AGRiS project, in which straightforward design solutions are implemented with the goal of short-term and long-term functionality for the users of Troisi Park. In the light of this effort toward simplicity, it is possible to understand main elements and innovation points of the AGRiS concepts:

- Multi-use space: the AGRiS project envisions Troisi Park as a multi-use space that serves many functions for a diverse group of stakeholders. The integration of these functions stems from the joint effort between experts from different fields and the local community, in order to produce a design solution that effectively addresses all the project's needs.
- Financial feasibility: With the aim of enabling members of the local community to regain ownership of the Troisi Park site as

soon as possible, we propose an incremental approach to the renovation project that carefully addresses its financial sustainability, which is one of the main challenges for low-profit public initiatives. Furthermore, all the different design solutions are conceived taking into account this need for feasibility while focusing on sustainability.

- Respect: The AGRiS is a respectful project. It respects the environment in its efforts to limit resource waste and to re-use existing materials. It respects the Troisi Park space by proposing a transformation project in continuity with its original design. Finally, rather than 'community involvement' being just a label in the Troisi Park renewal, the AGRiS project respects people by putting them and their needs at the core of the design.

Sustainabilty

Sustainability is realized in the AGRiS design in several dimensions: environmental stewardship, social integration, cultural celebration, and financial feasibility. We based every design decision for the project considering these dimensions, believing that in concert they will create a lasting and meaningful role for the Troisi Park site in the community. First, we developed a framework for a comprehensive sustainability assessment utilizing multi-criteria analysis techniques which considered the environmental, social, cultural, and economic criteria involved in the renovation of each of the four facilities on the Troisi Park site. The multi-criteria analysis guided our incremental approach to the site renovation, and established confidence in the financial feasibility of the proposed project plan. The environmental sustainability of the AGRiS design implements the operation of the greenhouse facility along with some growing strategies centered on minimizing resource inputs (e.g., energy, water, fertilizers, materials) and negative environmental impacts (e.g., emissions, waste, pollution) and maximizing desired outputs (e.g., fresh produce, social engagement, horticultural education and trainings, etc.). To accomplish this, the greenhouse facilities are designed with built-in passive climate control systems, powered by on-site bi-facial photovoltaic arrays, and utilize a detailed inventory management system to optimize material cycles within the site.

In terms of social sustainability, we got buy-in from the local community for the redesigned Troisi Park based on our communications with community stakeholders throughout the design process, which involved feedback surveys, online meetings, and an interactive smartphone app for the Troisi Park project. The cultural sustainability of the project rests on the intentional incorporation of plant species native the region in the cultivation systems, as well as the cultural events and education opportunities that will be offered at the Troisi Park site.

Lesson learnt

The UrbanFarm challenge was definitely a unique experience for all the members of the AGRiS team because it enforced our knowledge and skills in Sustainable Urban Agriculture but mostly because the challenge became an opportunity to bridge our individual expertise into a common goal: we effectively managed to cooperate and coordinate with each other throughout the competition despite our different educational and cultural backgrounds and our extremely different working schedules.

Working as a team helped us learn to integrate our disciplines into the creation of a comprehensive and balanced design project that aims to fulfill all the aspects that each team member envisioned in the design. In addition to the fruitful team-work experience, we also learned how important the interaction and the collaboration with the local community is: social media and online surveys were essential to the team's decision-making process and to improving a final design that fits all the different social needs required by future users. Time management was also one of our most critical issues within the challenge: working with international teammates virtually, considering our different time zones and lifestyle, demanded a lot of dedication and sense of responsibility from all of us. Availability and flexibility of each team member beyond our individual duties were essential to go through the competition so that we were always ready to help each other in solving all the team members' tasks. Last but not least, along with the social and technical skills we acquired, looking at things from a different perspective and compromising with one another's opinions made it clear that there were multiple viewpoints to consider for each design decision, and yet they can all be oriented towards the same positive goal.

Remarks

Our team is composed of students with different backgrounds (e.g., plant science, horticulture, architecture, engineering, social science) coming from different parts of the world (e.g., Europe, Middle East, United States). Due to the COVID-19 pandemic and the need for social distancing, the project was entirely carried out remotely through weekly group meetings and additional subgroup meetings to discuss specific topics. During these meetings we tried to put together our knowledge, share ideas, mix our expertise, and organize the work, which was entirely conducted on Google Drive platform. In the end, we got to know each other quite well. In fact, the team building also took place online through networking during the "student rendezvous" and the Facebook group "Find Your Team- Urban Farm 2021" organized by the University of Bologna. Only the team leader knew two of the participants before the project started, so the team building was a crucial component of our success. In the end, the collaboration was so fruitful that it made room for future interactions, so that two of the members from different backgrounds and Universities (both PhD students) are presenting a project together and have involved their respective PIs to collaborate. The icebreakers were a fundamental part of our meetings and favored interaction between people with different backgrounds which is usually difficult and worsened by technical issues such as internet connection, different time zones, lack of knowledge in specific areas, and technical difficulties in communicating over distance. In the end we were all united and driven by a desire to renovate the Troisi Park site based on a holistic approach to sustainability. Thinking about it now, it seems strange that we never met in person.

Greenhood

The 4S Project: Creating a Self-Sufficient Socio-ecological System

Vision

Imagine yourself walking into Troisi Park, in Napoli. You have heard of the complex built there; you are curious about it. Some friends of yours have been there, someone in your family regularly buys veggies at the market set up there. You leave your bike in the parking and say hello to the workers at the entrance. There are pamphlets with all the activities taking place in the complex, as well as all the spaces available to you. On your right, you see one of the greenhouses, which is currently being used for a workshop, and you can see someone setting up the tents for tomorrow's market. As the pamphlet tells you, this will be the space for hydroponic cultivation in a few months, maybe a year. You see the pond a little bit ahead and quicken your pace to go check it out. There are some kids messing with the plants around it, until one of the volunteers from the complex stops them, talking about the importance of respecting our environment. You circumvent the pond, ending up in the phytodepuration areas, where you can see the door to the Laboratory where a friend of yours is working with hydroponics. Following the bio-waste treatment area, you reach "The Hive", where the Café is in rush hour. Your last stop in this

exploration finds you in the Healing garden, the central piece of the complex. You have heard a lot about it, how the scent of all the different species grown there spreads through the space creating a calming atmosphere, as well as how nice it is to grow with other people using permaculture practices. With all this information, what you do is look into getting involved as a volunteer at the complex.

Concept

The Massimo Troisi Park will regenerate the neighbourhood socially and economically. Our park will host programs to reintroduce "hard-to-employ" local people into the job market, thus catalysing the economic and social potential of the area. In addition, the area called "The Hive" will function as a home for community bonding intiatives such as workshops and agricultural activities. The Hive's architectural design is based on the shape of beehives. Therefore, it ensures a maximum optimisation of the space allowing for a myriad of different activities, while maintaining the social distancing required by COVID-19 protocols. The Hive is not the only bee-related element that we want to incorporate in the area. In fact, to promote the cultivation of aromatic plants in the neighborhood, beehive-shaped structures will be available in the park. This will enhance the community engagement in our farm and at the same time boost the biodiversity of the area. Biodiversity will also be taken into account in the selection of the crop varieties that will be cultivated, as local traditional varieties will be grown. The Healing garden is probably the most emblematic area of our project. The garden will be designed on the basis of permaculture techniques and it will offer a sensory pathway to provide visitors with an auditory, olfactory, tactile, visual and taste experience. This area will be enabled for people with disabilities including plant descriptions translated to braille.

Sustainability

In the design process of our Urban Farm in Troisi Park we ensured that the choices we made were always based on sustainability. This aspect of our project takes many shapes: we distinguished between environmental, economic and social sustainability, which exist in harmony in our final design. Environmental sustainability is the most noticeable benefit of the project. It is the foundation of the healing garden, where a permaculture approach will be used to grow organic vegetables and herbs. It

is also a cornerstone of the lab and greenhouse one, where new agricultural techniques, such as a water-efficient hydroponics system, will be explored and applied. To maximize recirculation of water around the complex, there will also be a rainwater capture pond which houses plants in phytopurification beds to filter grey water. In addition, to meet the energy demand of the Urban Farm, we have incorporated (transparent) solar panels and an anaerobic digester for the production of biogas in the plan. However, the project does not only focus on environmental sustainability, but also places great importance on economic and social sustainability. If this project is to be successful, indeed, it is essential to develop a viable financial model to ensure a long and prosperous existence of the Massimo Troisi Park. This includes the organization of workshops, a farmer's market to sell produce and a Cafe Hive where visitors can enjoy a healthy meal. As for the social aspects, this is where education on sustainable farming comes in. Universities and local schools will be welcome to discover the facility and experience hands-on learning. In the end, spreading the word and getting people excited about a sustainable way of farming is as important as the sustainable production this particular project aims to achieve.

Lesson learnt

The power of diversity: The main challenge to overcome was working with students having different academic backgrounds and coming from different countries, without having the possibility to meet in person. Moreover, everyone had his/her own personal and specific vision on what the farm should be. Nonetheless, we quickly realized that, instead of being an obstacle, these diversity of knowledge and ideas was enriching the discussion, making brainstorming an easy process. Hence, consensus was not difficult to reach as we were all willing to contribute our personal ideas, but also to learn from others some aspects of disciplines which we were not familiar with.

A common goal as motivation for hard work: In realizing the project we were motivated by the common goal to mix local culture and traditions with new and innovative ideas, as well as low-tech agricultural practices and nature-based solutions with more technological and engineering ones. In doing so, we had to overcome the difficulties of applying our university expertise to a real context, while expanding our academic knowledge to always seek the most sustainable option. Hence, we spent many hours of hard work and coordination between the different sections to ensure that the final proposal was coherent and unified.

Reset priorities: Finally, we approached the Urban Farm challenge as a learning experience unleashing our imagination and forgetting about the prize, focusing only on building a project that we could all be proud of. This approach took the pressure off the group and allowed each team member to be creative and original. Proposals were exchanged between us and incorporated in the project even though their combination might not be conventional. All in all, we built a safe space for sharing ideas and helping each other to learn together about our common passion: urban farming.

GreenRev

Napoli Green Revival

Vision

Massimo Troisi Park is a green spot in the populated neighborhood of San Giovanni a Teduccio. This is where local people come to relax from the greyness of the buildings and take advantage of a precious asset that should be preserved. At the park entrance from Viale 2 Giugno, several curious people approach the recently erected signs pointing in the direction of an agricultural market. By deciding to follow the signs, one surprisingly turns out that the greenhouse area located a little above is no longer abandoned but it is in a bustle. It is the weekend, so the farmers market hosts several producers for an exceptional sale in variety and quality. Entering this small area, you can see the greenhouses in operation and around them gravel paths leading to the market. Here, a wooden floor welcomes customers to several stands with an incredible diversity of products, from fruit and vegetables to preserves, from olive oil to wine. Intrigued, people approach a young man who appear to be working in the greenhouses to ask for information and they discover that he is one of the members of the social cooperative managing the space. So, he explains them that this market sells all eco-friendly, pesticide-free products, and other companies from Campania region are hosted here to sell their excellence. In addition, and continuing the explanation, during the week the site hosts a lot of activities in collaboration with schools and local associations to promote effective and powerful social work. Thanking for the information, people, on their first visit, decide to shop at the market, driven by curiosity and attracted by the variety of offerings and the buzz that animates the stands, responsible for breathing new life into this place.

Concept

The project has two fundamental aspects, one relating to environmental sustainability and product quality and the other relating to social recovery. With regard to the first aspect, the cultivation systems are developed in such a way as to ensure pesticide-free production which is healthy for the consumer and environmentally friendly. Recycling of waste is a key aspect of this dynamic. The cultivated varieties are chosen among the local ones and are selected so as to have a great variety of shapes, colours and flavours. The use of appropriate agronomic techniques guarantees the preservation of soil fertility. The planned weekly farmers market will be a major innovation in the San Giovanni

area, creating a varied reality where customers oriented towards green consumption can find a wide range of fresh and preserved products, making the market a new social and cultural centre within the urban context. The social aspect of the project is of great importance. The social activities will be carried out by the nascent cooperative and will include the population in a broad embrace, from the youngest children, to technical and high school students (with whom guided tours and collaborative activities will be organised) to the most disadvantaged people who will be able to find a new opportunity in the social gardens. The aim of these activities is starting again from the peripheries in order to animate these contexts towards a cultural rebirth based on the values of environmental protection and respect for diversity. The market area itself will host activities in cooperation with schools or other associations, modulating the position of the stands to make room for a central space.

Sustainabilty

Composters will be placed around the perimeter of the area in order to recycle the cultivation waste together with the pruning waste from the park and some selected urban waste (spent coffee ground and tea bags). Attention to this aspect enables a circular economy of the cooperative by making waste an important resource. Thanks to composting, organic carbon is returned to the agricultural soil, which in greenhouse cultivation suffers heavy losses. By carefully choosing the mixtures to be composted, composts with special properties against many plant diseases can be obtained (Disease-Suppressive Compost). Furthermore, with the planned Compost Tea plants, the compost will provide a valuable product for the phytosanitary stability of crops. Thanks to this biotechnology, Teas are extracted from the compost, rich in humic substances, fulvic acids and humine which seem to play a role in plant metabolic processes, and the biotic component works in synergy with the abiotic one to improve crop health and yields. For crop protection, banker plants are also installed to improve crop biodiversity and ensure a proliferation of beneficial insects against pathogens that might affect greenhouse crops. With regard to fertilisation, it should be noted that the amount of compost produced covers a large part of the mineral requirements of the crops. The area's energy needs will be met by the storage of photovoltaic energy in a suitable generator. The panels will be installed on one of the greenhouses. Finally, rainwater will be collected in order to dilute the groundwater taken from the well provided for water self-sufficiency, in case it proves to be too salty.

Lesson learnt

The first difficulty in writing a project is that of finding a plot to work on in different directions. The broad planning of topics in the various chapters is an important guideline not to be neglected. This approach clearly requires the flexibility to change and adapt this plot to the consecutive developments generated by studying the dynamics between the various topics.

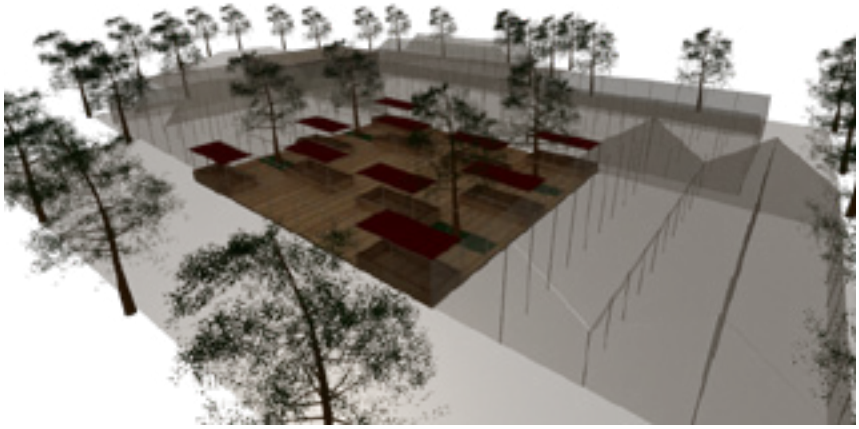
Together, if not preliminarily, with this first planning the work of researching scientific sources must take place in order to validate the project in its entirety. Clearly for all the innovative biotechnologies chosen for the development of an efficient, sustainable and long-lasting cultivation system, scientific validation came from academic sources. More difficult was the active demonstration of some parts of the project, such as the economic part. In this case, it was necessary to compare different realities in order to present a development plan that was actually viable and not out of context. The social discourse required a little more imagination but, in any case, it is constantly referred to the surrounding reality trying to keep the link between idea and implementation strong.

Finally, of particular importance is the overall organisation of the work. Therefore, as well as a solid and supportive scientific bibliography, there is the development of an orderly structure, as this is the only way to communicate the proposed ideas in the best possible way.

Remarks

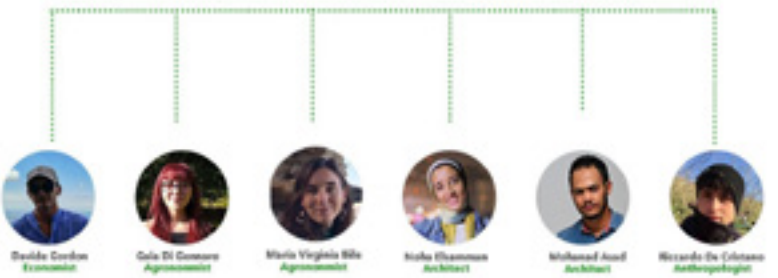
The GreenRev team includes several students from the Department of Agriculture of the Federico II University of Naples in collaboration with students of food technology, architecture and political science. The latter are currently

training at the Alma Mater Studiorum University of Bologna. Collaboration between various institutions is a fundamental synergistic activity for the cultural development of a country and its student population. Through these interactions, the development of a communication network based on science and cultural exchange in general is promoted, shortening the distances and diversities between each student and each place. Our team made sure that this collaboration between people separated by the most disparate reasons (distance, pandemic) would eventually result in an activity very much rooted in reality. In fact, the writing of the project was accompanied by visits to estimate the need and type of interventions, but also to understand the feelings of the local population to this kind of revaluation. This aspect motivated the team members a lot as reactions of hope and encouragement were seen from the people interviewed. This gave the feeling of working in a favourable direction with the context of interest, feeling a duty to re-evaluate an abandoned place when the opportunity arises.



URBANFARM2021

Campania Felix



Campania Felix

Urban Village

Vision

At the entrance of the designed space, people arriving will find themselves in the market area. As they walk through the sellers' stands, they will see a selection of vegetables, fruits and local products of all kinds.

All the scents and colors of the market will overwhelm their senses and the well-known hospitality of the people of the South will ensure an interesting experience and a chance to bond with local farmers and vendors.

Continuing to explore the area, people will see local residents looking after the greenhouses, which will be a meeting point as well, and once inside the park, they will see a multitude of visitors enjoying nature and discovering the main attributes of plants strategically placed to create a botanical pathway between Mediterranean plants and the endangered species conservation area.

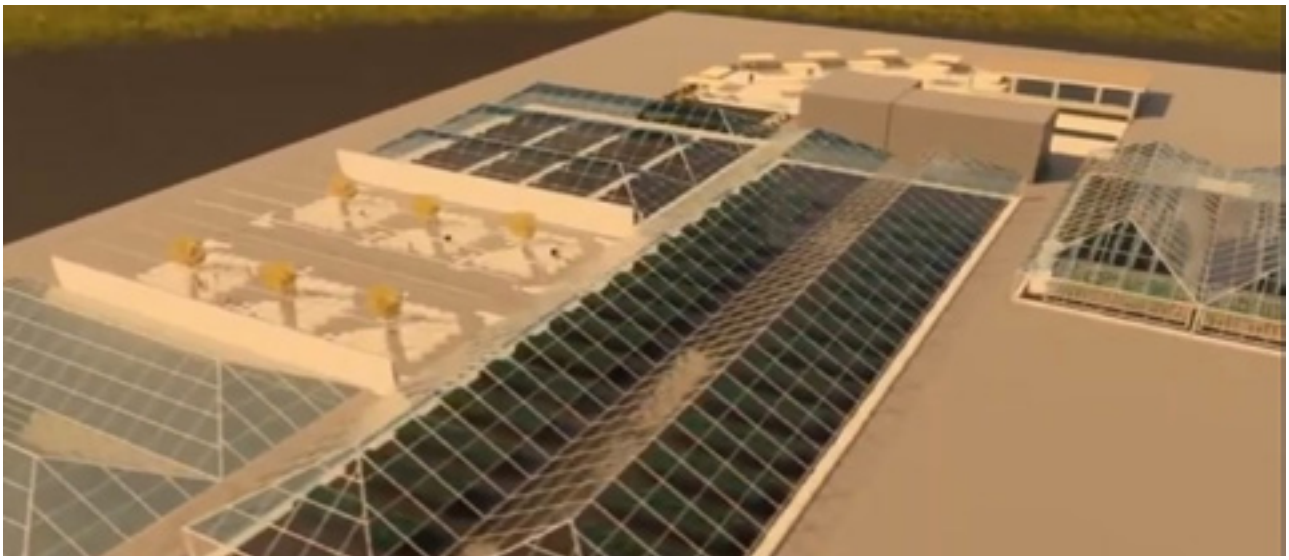
Each individual's experience will be tailored based on their preferences and will be enriched by the possibility of participating in activities promoted by the different organizations that will be included in the management of the park.

Concept

Urban Village is an innovative concept created to be extended to different realities in Italy and worldwide.

By recovering abandoned areas and developing shared spaces for the residents, the concept of an Urban Village able to sustain the local economy and at the same time to give back control to individuals is an innovative aspect in the organization of a park.

The development of an App which connects all the parks and



manages each single “Village” through a system that gives many benefits to both the users and the sellers, is then the key point for the success of the project as it ensures the scalability of the initiative and the creation of a network.
One aspect that sets Italy apart is the possibility of easily buying local products and having a wide variety of choice in terms of foods.
This feature, combined with the implementation of a network of Urban Villages, gives the opportunity to create synergies between the different realities and allow organisations to consolidate bonds.
Market vendors will be able to link up easily with others to form partnerships and expand their businesses.

Sustainability
In the design process of our Urban Farm in The project is based on a concept inspired by some of the now unpostponable Global Goals for Sustainable Development. The idea is based on the following principles:

- Zero Hunger, Good Health and Well-Being: The non-profit organisation that will manage the park and the network will implement several initiatives aimed at helping families with low incomes to regularly have fresh and highly nutritious food. Indeed, Urban Village will incentivise the people to live actively the park and give them access to highly nutritious food at an affordable price.
- Clean Energy and Climate Change: The park's energy requirements will be covered by an energy production system based on multiple sustainable sources, such as kinetic energy and photovoltaic solar energy. The use of renewable energy sources as well as material reduction and a zero-tolerance policy for plastics will ensure a high contribution to reducing the carbon footprint.
- Reduced Inequality and Gender Equality: No discrimination is tolerated in the Urban Village. The social aspect of the project is fundamental and can be seen as the keystone supporting the entire project. Thanks to the different social organisations involved in the initiative, and with the help of public organisations, the local population will experience an increase in the quality of life.
- Sustainable Communities: The active participation of local residents in the many proposed initiatives and designed spaces can be seen as the element that will strengthen the bond between the individuals, giving a sense of satisfaction in the administration of a public area.
- Responsible Production: With the implementation of an aquaponic system and the use of greenhouses to grow different vegetables, food production will be a focus of the project and will guarantee a stable and sustainable income in terms of food and money. The systems implemented are organic and, in combination with the use of renewable energiy, will help to reduce the project's carbon footprint.

Lesson learnt

By participating in the Urban Farm 2021 challenge we were given the opportunity to improve our skills. The lessons learned from participating in the challenge can be summarized in three points:

Team Work

Experiencing how different individuals specialized in different fields team up and discuss ways of exploiting different opportunities and solving the problems allowed us to understand how to structure a team that would be able to achieve the specific goals of the challenge.

Synergies

The topic of our project is difficult to approach. There are political, economic and social aspects to consider in order to be effective and maximize the benefits for the target population.

Urban Farm gave us the opportunity to tackle the complex situation of Massimo Troisi Park and create a project tailored on the reality of San Giovanni a Teduccio. In particular, the project aims to meet both the needs of the local population, with particular reference to income and occupational issues, and those of the municipality, considering administration occupation and park maintenance costs

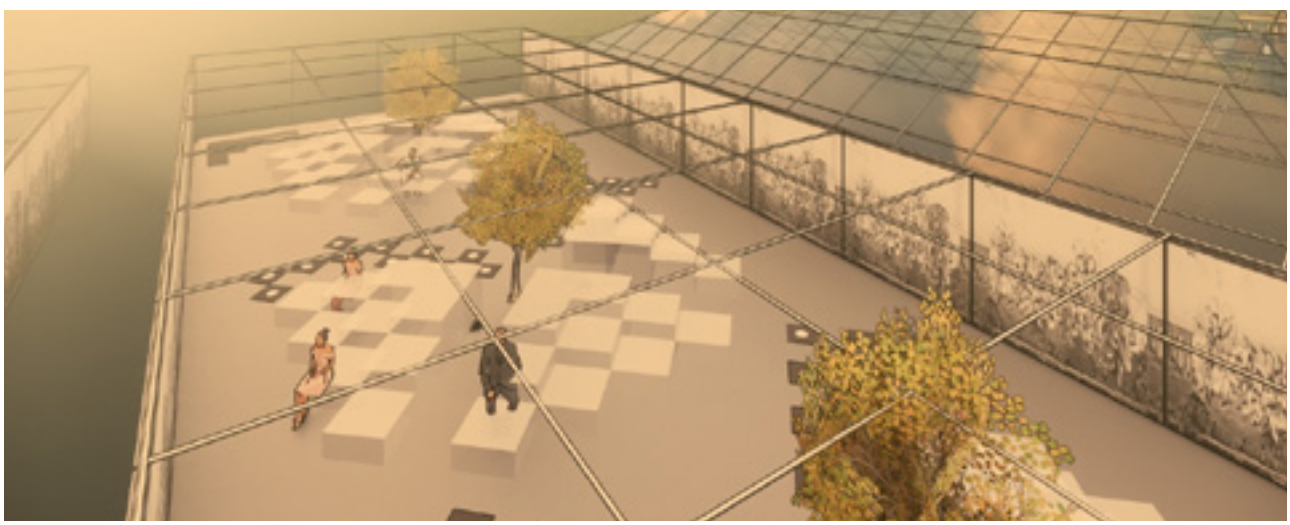
Network

As we realized during the challenge, the way to be more incisive and to achieve the objectives efficiently is to create a network of contacts with the local realities (municipality, social organizations and schools).

The joint participations of these organizations gives to the project the possibility to include the widest possible range of people, reaching the different targets in an inclusive way.

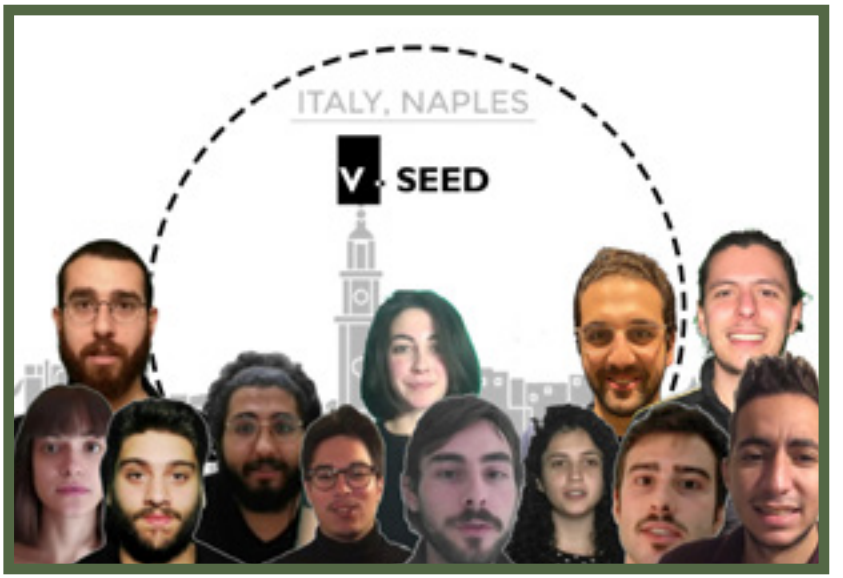
Remarks

Urban Farm 2021 was a wonderful experience that enriched us all in many different ways and unveiled a part of our potential that we did not know. We all are grateful for the time spent together and the memories we will take with us.



V-SEED

Urban green revolution



Vision

Welcome to the V-Seed Area in the Massimo Troisi Park. You are immediately involved in a green urban area where traditional plants, innovative cultivation methods as well as educational and social activities take centre stage. The first thing you will see are the greenhouses: all of them are partially or totally dedicated to cultivation with innovative methods. Since the greenhouse's cover is transparent all activities can be seen from the outside. The first stop on the tour is the plant nursery, where the floating system is applied. From the nursery to the second greenhouse, you can admire the aeroponic system and the use of the nutrient film technique for the cultivation of traditional local plant species: tomatoes, eggplants, salads, peppers etc... The visit continues in the third greenhouse, which is dedicated mainly to soil-based social and educational activities. Kids, ex-drug addicts and all people who are not integrated in the local society are welcome. This facility will also be a meeting place, which can be booked for seminaries or any kind of lecture, and a didactical garden, which will involve students in agriculture-based activities, making them discover that agriculture can become their new life opportunity. Finally, when you arrive at the refreshment area, you can relax in a green environment surrounded by an aquaponic system and where you can eat not elaborate dishes with locally produced vegetables. For students, the V-Seed Area is a place to study and socialize, helping to make the area younger, more active and more alive. For citizens and deli owners, on the other hand, the aim is to provide a fresh food supply chain, with home delivering. The intention behind the project is to become a landmark for the whole neighborhood and surrounding area.

Concept

In order to identify the strengths of the project, an analysis of potential users and the local market was carried out.

The intention is to share the concept of an environment made for people, where they can socialize and be involved in many agriculture-based activities, rediscovering their connection with healthy and fresh food. The goal is to make this park a reference point for the neighborhood and the whole city, creating active synergies between the stakeholders in the area: the students of the city and the San Giovanni Hub, citizens and takeaways.

Activities have been planned for each subject. Citizens will be able to buy products directly in the park, in the specially created market area, or to have foodstuff delivered to their homes after ordering it on the e-commerce platform. This will help people to improve their consciousness about fresh and healthy food.

There are many schools surrounding the Massimo Troisi Park, which is also close to the The San Giovanni Hub, where a lot of students live. As the students requested a social area,

where they can study and socialize with peers, a refreshment area is expected, where they can spend time and buy fresh, locally produced dishes.
Finally, local vendors can increase their sales network, by exploiting the space dedicated to the market. In order to involve the weaker sections of the population, moreover, the creation of an educational garden has been planned, which should help these people to find the right spirit, thanks to agriculture. The whole facility is up to speed with technological development. In fact, there is a smart lighting system with low energy consumption and all the cultivation methods are supported by a sensors system, which facilitates and improves user control and efficiency.

Sustainabilty

The potential environmental impact of each activity has been assessed, and, where possible, minimized. To heat the water for cultivation, it was decided to use thermal collectors since they do not require fossil energy consumption, but they use solar energy to produce thermal energy. To make up for the water scarcity, a rainwater collection system has been devised, which is essential both to reduce demand, but also to promote sustainable water management and to obtain a reduction in carbon dioxide emissions. A rainwater reservoir will meet the water needs of all crops. In relation to this goal, more efficient, modern and environmentally friendly cultivation methods have been chosen. Thanks to the closed cycle, these methods take advantage of the nutrient-enriched water recirculation, which increases the maximum efficiency of the resources used and then allows more to be produced with lower inputs. No less important are the materials chosen, which are highly efficient in terms of production and environmental sustainability, being perfectly recyclable. As far as economic sustainability is concerned, it is ensured by: revenues that can be obtained from the outset, thanks to the choice of short-cycle cultivation methods; agreements with local sellers, who can rent a place at the local market; synergies with buyers created through home delivery; collaborations with local and national associations and the presence of different spaces such as the meeting room and the seminar room.
Finally, no less importance is given to social sustainability. Activities are planned to include all social classes, especially the most problematic, in the hope of providing tools to help them reintegrate into society. These activities will take place both during the day and in the evening, in different outdoor or indoor areas of the project, to meet the needs of all participants.

Lesson learnt

The first lesson learned was teamwork. For many of us it was the first experience of this kind, and in this historical period it is now essential to fully possess this skill, which makes it easier to deal with any problem and enables better results. Collaboration and the exchange of views enrich the ideas of the individual. In addition, remote collaboration in an international team was a new challenge that we had to face because of the pandemic, which forced us to find new solutions.

The second, but not less important, was the increasing effort to find new methods and new ideas for protecting the planet. For years the problem has been underestimated and now we must all commit ourselves, first and foremost in our own small way, not to worsen the situation and to seek new and more effective solutions. Finally, the third lesson learned was that, if we want to, we can make up for past mistakes, both from the ecological point of view and in terms of reusing structures that are no longer in use, as in the case of the greenhouses in the Massimo Troisi Park, which has great potential for the neighborhood and could become a landmark for the whole city.

Remarks

The biggest challenge was to collaborate via the internet, facing the difficulty of a global pandemic that forced us to work remotely.

TROISI park

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Greenhood

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