




## Article

# New European Bauhaus for a Circular Economy and Waste Management: The Lived Experience of a Community Container Garden at the University of Turin

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**Abstract:** This study discusses the case of a 200 m<sup>2</sup> container garden set up in a polluted and neglected area of the School of Management and Economics of the University of Turin. ‘L’Orto della SME’ is self-managed, and it has become a hub for a variety of stakeholders, within and outside the university. The project is part of the framework Proposal for Citizen Engagement, promoted by EIT Food Cross-KIC, which contributes to the New European Bauhaus (NEB). The paper looks at how such projects contribute to create social cohesion around sustainability issues of circularity and waste management. The case presents several autoethnographic elements, like tales and stakeholders’ voices, stemming from the direct involvement of the authors in developing the project. The article presents how a stakeholder network was created and how internal and external stakeholders were involved in co-creation activities, such as (multi-stakeholder) workshops and focus groups. Our findings show that NEB principles can be effectively applied to initiatives like the container garden to tackle issues of social inclusion, equality and sustainable production and consumption. This is further emphasized by the empowerment and agency gained by diverse stakeholders to approach sustainability matters.



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**Keywords:** New European Bauhaus; circular economy; waste management; container garden; university; stakeholder engagement; sustainable production; sustainable consumption; EIT Food; community

## 1. Introduction

New European Bauhaus (NEB) is a transdisciplinary initiative aimed at connecting the European Green Deal to people’s everyday lives. As stated on the website “it calls on all Europeans to imagine and build together a sustainable and inclusive future that is beautiful for our eyes, minds, and souls” [1] The transformative nature of the initiative invites people to address societal problems collectively through co-creation, especially through green and digital issues. The NEB was announced in September 2020, in the middle of the COVID-19 pandemic, and it became operational in October of the same year. The three phases that make up the initiative are design, delivery, and dissemination, with the latter starting in January 2023, to collectively share and expand all the actions accomplished at a European and global level. The cardinal principles on which it is based are sustainability, which includes subgoals like circularity and zero pollution; inclusion, stressing diversity, accessibility, and affordability; and aesthetics, emphasizing the quality of the experience. The challenge is to address these three values simultaneously, developing creative solutions that best meet people’s needs at a lower overall cost. To do this, the European Commission suggest three fundamental tenets. The first is a glocal and multi-level approach to transformation. The second is participation and inclusion, taking into account diversity and vulnerability at all levels, including gender, race, ethnicity, age,

and sexual orientation. Finally, the third tenet is transdisciplinarity, in terms of skills and knowledge acquisition from mutual engagement with different disciplines. The drivers to be achieved, according to the NEB, are: care for nature, with special attention to climate change; reform of the education and cultural sectors to promote new behaviors and values; regaining a sense of belonging, favoring connections among places, strengthening access to services, and promoting social heritage; fostering policies of inclusion and accessibility, including by means of digital connectivity; and finally, rethinking the long-term life-cycle implications of industrial ecosystems through sustainable design and construction criteria.

NEB principles, as well as communitarian and transformational spirits, have been followed by the authors in setting up the project presented in the paper. Here, we take an autoethnographic approach to analyze the case of 'L'Orto della SME', a small container garden located in a neglected and polluted space within the premises of the School of Management and Economics (SME) of the University of Turin. L'Orto della SME is the result of a winning bid to EIT Food Cross-KIC New European Bauhaus, within the framework 'Proposal for Citizen Engagement'. This container garden, established under circularity principles, can be described as an example of self-governance [2]. It represents a multi-stakeholder, inter-generational engagement hub that links students, academic staff, the local elderly community, and expert gardeners, under a commoning spirit [3]. In the paper, we start from Bauman's liquid modernity framework [4], which underlines some of the negative trends of our times that initiatives like the Orto are trying to actively fight against, to expand the literature on the application of the New European Bauhaus, so far marginally explored [5–7]. Specifically, we analyze how co-designing of the garden creates stakeholder engagement and community solidarity, through food production and consumption that follow circularity principles and good waste management practices.

## 2. Theoretical Background

### 2.1. *Liquid Modernity as an Enabler of NEB Initiatives*

In his long career, Polish sociologist Zygmunt Bauman discussed the implications for society of modernity and post-modernity. Specifically, he defines the era in which we live (post-modernity) as liquid modernity, a "post-Panoptical" age [4] that marks the end of collectivism, characterized by a light and volatile version of capitalism that, on the surface, offers almost unlimited opportunities for individuals. Within this context, there is no more 'we' to think about, but rather an alienating and vulnerable individuality [8,9]. Individualization is further encouraged by liberalization, by increasing work flexibility, and by the progressive distancing of society from people, who are no longer capable of converting (individual) issues into common problems. Bauman defines the failure of citizenship as the inability of individuals *de jure* to become individuals *de facto* [4], resulting in a society that no longer rests on the collective and shared achievements of its members. Bauman asserts that the heavy task for critical theory's emancipatory agenda is to help individuals becoming again citizens *de facto*, stressing a duty of care for the Other. He calls for a metaphorical rekindling of the agora, where private problems manage to turn into public issues that are collectively dealt with [4]. Parker et al. [10] characterize the agora as a site for participatory democracy, open to everybody for communal exchanges and where people can live politics through openness and accessibility.

In this scenario, it is rather unsurprising to see community as declining, due to the transience and volatility of bonds. Bauman sees current association initiatives as cloakroom communities [4], which get together for a specific occasion or purpose, but fade as soon as the common interest ends. He continues by arguing that cloakroom communities do not contribute in any way to creating citizens *de facto*. This dystopian scenario is mostly determined by the lack of collective agency for people to come together towards a common cause but, at the same time, it is functional to explain the societal conditions under which forms of (social) collective efforts, like the container garden discussed in this paper, can emerge.

Critical literature in business and management indeed emphasizes the urgency of having organizational forms based on the use of common resources [11], but so far no one has addressed how these can be linked with NEB principles in a civil society, whose members can work collectively to reach social, economic, and environmental goals. Fournier labels this effort as ‘commoning’, stressing that it can “provide efficient and sustainable ways of managing resources” [3]. In our case, the common use of resources and production is instrumental to recover the area from pollution and waste, which are foundational elements and goals towards a circular economy [12]. Biondi et al. [13] stress the role of culture in participatory initiatives which, however, require the coming together of a wide variety of actors and stakeholders, who might have multiple values [14] but whose fruitful collaboration and partnerships is fundamental to the sustainability of the project. For this reason, an early involvement of stakeholders, especially local communities, can be crucial [15], especially if they are involved in co-design and co-creation processes [16]. However, many bottom-up interventions have to rely strongly on some forms of top-down initiative [17]. In the case of NEB, this is not thought to undermine the strength of the collective intervention, but rather to provide a structure towards the creation of public space, within a society that is defined by relations [6]. Aureli and Del Baldo [18] call for participatory governance models to “pursue the common good”, suggesting that it is easier for such projects to be successful when they are small, with a strong focus on people and on sustainable use of facilities. They point out that if the values behind the project are widely shared by different communities and stakeholders, the implementation is smoother.

## 2.2. Urban Community Gardens for Sustainability

The path to sustainability has been traced not only by the NEB and the European Green Deal, but also by the Sustainable Development Goals (SDGs) promoted by the United Nations as part of the 2030 Agenda for Sustainable Development. For its ethos, the container garden is closely aligned to SDG12 on responsible consumption and production, which highlights, on one hand, current unsustainable patterns in food production and consumption leading to food loss or waste, and on the other hand, poor management of electronic waste. Production, consumption, and waste mismanagement have become a real global plague that needs immediate addressing. Bai et al. [19] stress the need for a systemic approach to achieve sustainable cities in terms of carbon footprint reduction by considering production and consumption together, along with supply chain and energy [20]. The authors, reinforcing Bauman’s argument, point out that cities suffer from a culture of excessive consumerism and a tendency to throw things away, which brings about consumption of materials and generates abundant waste. Moreover, several scholars advocate for a proper integrated waste management system to answer such issues [21] and to achieve the SDGs targets [22]. As pointed out by Srour et al. [23], recycling and reuse have become instrumental to sustainable societies, and both academics and policymakers are actively pushing towards circular economy models aimed not only at reducing waste to a minimum, but at maximizing recycling to produce renewable products and to recover precious resources [24,25]. Urban gardens can play a part in challenging the status quo, in terms of promoting production, distribution, and consumption of local food, reducing municipal waste, and creating social solidarities and social capital [20,26,27]. Although small-scale projects are not, on their own, a great force for change, they can be the catalysts or incubators for similar initiatives, in a progressive path to emancipation [28,29].

## 3. Methods and Case Study Description

### 3.1. Research Methods and Data Collection

The container garden project has, from its inception, combined local communities of academics, students, elders, and other citizens. All those actors have come together to facilitate the regeneration of an area that, despite being on university premises, has been suffering from dumping and pollution. This is because anyone can transit there and deposit waste, especially overnight. In less than a year, and also thanks to prolonged good weather

in Turin, the garden has become a much-needed communal area for students and for other third mission university activities, beneficial to further strengthening the contribution to communities and territories [30]. Considering the beneficial effects of the garden on different communities, we have elaborated an extension and scaling up of the project, reassessing the aims, deliverables, and stakeholders involved. At the time of writing, we are waiting for the outcomes of our bid.

The analysis in this paper is based on an exploratory case study [31], with autoethnographic elements stemming from the direct involvement of the authors in the process, which helps articulate insider knowledge of cultural experience [32] to create different narratives than what other people might do. Autoethnographers are directly implicated in the knowledge they produce and should favor a transformative and interventionist approach [33,34]. Our group, made up of academic staff of the University of Turin, has been involved with the project from its conception to the bidding and operational phases, directly engaging with all the stakeholders involved.

In line with modern ethnographic and autoethnographic approaches, several tools were used to collect data. A great bulk of data comes from participant observation, stemming from our direct involvement in the activities, including designing and planning, as well as those related to garden maintenance itself, such as clean-ups, sowing, and harvesting. As a result of this, we were able to take many field notes and create ethnographic tales [35] aimed at producing thick description [36]. Notes were also taken at several meetings with different institutional and local stakeholders. We also had a multi-stakeholder focus group and a workshop. In the latter, we involved 40 participants, which included internal university stakeholders and external ones in a co-design exercise aimed at collecting suggestions for the garden. For this exercise, participants filled out a consent form. Data collected were anonymized for the part with the responses' results, while personal information was instead collected in accordance with the GDPR and the university rules. Finally, we also set up a very active group on the popular app Telegram, in which we shared news, feedback, and audio-visual material. Through all these engagement activities, we aimed to further cement an initially very heterogeneous community, which otherwise could assume the cloakroom features [4].

### 3.2. Case Study Description

The project takes place in a historical vast area located in south Turin, Italy, which currently hosts the School of Management and Economics (SME) of the University of Turin, a public ICT consortium (C.S.I. Piemonte), a care home (Residenza Buon Riposo), a private sports club (Circolo della Stampa—Sporting), a very modern center for aquatic sports (Palazzo del Nuoto), and other spaces used as parking for the University and for the aquatic center, formerly home of the Juventus training ground (Combi-Marchi). The SME and C.S.I. Piemonte are in a large 25,000 m<sup>2</sup> building, built in 1887 to host a care home and bombed several times during World War II. Specifically, the garden is located in an outdoor space adjacent to the SME, and it borders another community garden (Oasi), which constitutes one of the main project partners, and the Council for People in Difficulty (Consulta per le Persone in Difficoltà), a non-profit entity that focuses especially on citizens with disabilities (Figure 1).

While setting up the project, the world was still heavily amid the COVID-19 pandemic, which has led, among other things, to cultural, social, and behavioral change. With social distancing becoming the norm [37], community bonds have further liquified. Universities have been among the most impacted institutions: Italy was among the first countries in Europe to switch to distance learning, with all the teaching and exams being delivered and executed remotely, which led to very limited interactions among academic staff and students, as well as among students themselves. It looks like the pandemic has further added gloominess to already gloomy liquid times [9], and now more than ever collective communitarian efforts are needed. Walshe and Law [38] argue that university campuses are fundamental for developing social capital in cities and providing connections to and

among neighborhoods. Therefore, they stress the urgency for universities to restore a sense of normalcy in campuses post-COVID-19, and community gardens can be one means of achieving this.



**Figure 1.** Satellite view of the site, marked in red (elaboration of the authors from Google Maps).

In light of this, in 2021, the University of Turin, in collaboration with the Municipality of Turin, presented a project and obtained funding for the creation of an urban container garden, then called L'Orto della SME. The project is part of the EIT Food Cross-KIC New European Bauhaus (NEB) call for Proposals for Citizen Engagement. The garden is geared towards producing fruit and vegetables for ready consumption, to benefit all users. Initially the project was aimed at creating 50 m<sup>2</sup> of urban container gardens, while the final size of the garden is 200 m<sup>2</sup>. The aim is twofold: on one hand, to put in place a practical intervention to restore a neglected and highly polluted space through principles of circular economy; on the other hand, to create a sophisticated process of citizen engagement to make the garden sustainable over time. The project is oriented to benefit two specific communities. The first, called a university citizenry community, includes the people gravitating around the university area (students, professors, and technical and administrative staff) within the SME, which is one of the main city campuses of the University of Turin. The second community is composed of local citizens living in the neighboring areas of the SME, especially pensioners, but also local stakeholders representing those institutions closely linked to SME or living in Turin.

The cardinal principles on which the project idea is rooted are social inclusion and equality; the production of healthy food in urban areas as a means of raising awareness for more sustainable consumption; the exchange of good practices between different communities to promote the empowerment of the parties involved and encourage an intra- and intergenerational flow of knowledge; and sustainability as a strategy for redeveloping spaces and places. The mindset adopted is to promote healthier eating habits and increase awareness of such themes, by bringing young citizens closer to healthy and self-grown food. Moreover, the project adopts principles of circular economy, ranging from food waste, waste management, to the exclusive use of recycled and renovated materials for the construction of containers, the shed, and all amenities in the gardens (benches, tables, and chairs).

In addition, according to NEB principles, the project has been rooted in pillars such as: inform and exchange, inspire and aspire, and engage and co-create, as students and staff could freely take part in the pilot project by growing and testing fruits and vegetables for ready consumption.

#### 4. Project Implementation and First Results

The project officially kicked off in August 2021, with a WebEx online meeting held by several stakeholders of the university, including the vice-chancellor for sustainability, technical and research staff, the project team, and representatives of the City of Turin and EIT Food. This meeting, which lasted 1h30min and was attended by 10 participants, functioned to set the project up and to start mapping the potential of other project stakeholders. The following month, there was an internal call to select the (initial) university citizenry for the project and to individuate other participants among citizen groups, especially pensioners and local primary schools. The call was followed by a focus group among all the stakeholders so far included in the project.

##### 4.1. Stakeholder Engagement

In the morning of 22 September 2021, we had the first meeting with the City of Turin Disability Service at their offices, located next to the SME premises. Their officer told us about the various activities that gravitate around the building next to the school. We also got in touch with a body that looks after vulnerable people, to which the Disability Services refer, called *Consulta per le Persone in Difficoltà* (Council for People in Difficulty). The meetings were aimed at understanding if the Consulta and the associations affiliated with it were interested in taking an active part in the project, and we received very positive feedback from them.

In parallel, others of us had a meeting at the Department of Management, followed by a site inspection, with the director of a local kindergarten, *Il Micino*, to discuss their potential involvement in co-designing the spaces in a way that is accessible by small children too, to let them participate and experience nature. We were told by the director that many teachers, even prior to the meeting, had already expressed enthusiasm and interest in the initiative. The kindergarten, as further demonstration of its affinity with this type of activity, already had a project in its teaching plan called garden and vegetable garden. We offered them an outdoor space where children can garden, have lunch, play among flowers, and face constant discovery. The director and the teachers emphasized the importance of children and toddlers establishing a relationship with nature, but also as a pedagogical tool to help them improve their motor skills, stimulate the development of all senses, and gain confidence. We created a vision, alongside the kindergarten director, of a place where children can return again and again, observe the changing of the seasons and the growth of vegetables and flowers, while being free from physical classroom boundaries. The outdoor space does not have the structure of a room and, being a natural environment, it is subject to constant change. Thanks to these characteristics, the child is given much more scope for interpretation, and the use and development of imagination and creativity are stimulated.

That afternoon, joined by members of the municipality, student representatives, two kids, and a retired citizen, we had the chance to learn about and visit two projects funded by the European initiatives *proGIreg* and *FUSILLI*, both concerning the recovery of urban spaces and their redevelopment through fostering relationships between humans and nature. Due to their characteristics, *VOV 102* and *Orti Generali* presented some very inspirational (as well as being geographically close) cases: the former is a pollinators' garden, where a socially inclusive approach is applied, involving citizens in collaboration with doctors and patients from mental health centers to promote pollinator-friendly spaces; the latter is a project about the recovery and redevelopment of abandoned areas in *Parco Piemonte*. It is a vegetable garden area for communal use, where 2.5 hectares of land are dedicated to activities related to social agriculture, including training and job placement. The project achieved the goals of improving the safety of the area, spreading social aggregation, and increasing the productivity of the community. With the general manager of *Orti Generali*, we also exchanged views on the concept of social inclusion applied to these projects, as well as asking more technical and management questions. These visits aided our understanding of how container gardens are created, but also how to engage

stakeholders who can look after the garden and create a community that could ensure the sustainability of the project over time.

A few days later, on 27 September, we visited the neighboring garden Oasi with an employee of the Disability Services Department of the municipality, and we had a long conversation with two elders who helped us tackle accessibility and logistics issues for disabled people. We talked to Mr. Eugenio who, despite being 90 years old, manages the area with 17 other elders. Along with providing us with some training on the types of cultures and cultivation techniques, this informal chat led also to a history lesson of the place from the 1970s onwards and was seminal for creating fruitful relationships with our neighbors.

Other smaller events took place in September but, once potential stakeholders were mapped and some relationships were established, we held a co-design workshop at the University on 15 October. The event was aimed at imagining and designing the container gardens and identifying possible solutions for the creation of an active community that could cement around the project. The event was open to all the university citizenry, including students, academics, and administrative and security staff, as well as to all external stakeholders that had expressed an interest in the projects. These included people from the other community gardens we visited, local organizations, and citizens residing in the neighborhood, as listed in Table 1.

**Table 1.** List of attendees at the co-creation workshop (using a multi-stakeholder forum technique) on 15 October 2021.

Participant	Affiliation	Role
01	Department of Management	Cross-KIC Project Coordinator
02	Department of ESOMAS	Researcher
03	Department of Culture, Politics, and Society	PhD Student
04	Department of Culture, Politics, and Society	Researcher
05	School of Management and Economics	Campus Director
06	Department of Management	Research Assistant
07	School of Management and Economics	Administrative Staff—Research Area at SME
08	School of Management and Economics	Administrative Staff—Research Area at SME
09	Student Association	Students' Representative
10	School of Management and Economics	University Union's Representative
11	No Affiliation	Pensioner
12	City of Turin	Technical Manager
13	City of Turin	Project Manager FUSILLI
14	No Affiliation	Architect
15	University of Turin Green Office	Project Manager UniToGo
16	School of Management and Economics	Technical and Administrative Staff
17	AIESEC Torino (Student Association)	President
18	Department of Management	Researcher
19	Student Association	Student Representative
20	Student Association	Student Representative
21	Department of Management	Researcher
22	University Library	Manager
23	University Library	Librarian
24	University of Turin	Sustainability Manager
25	REAR (Surveillance and Security Contractor)	Logistics Staff Coordinator
26	Assiste SCS (Social Cooperative)	Pensioner and Horticulturist
27	Assiste SCS (Social Cooperative)	Pensioner and Horticulturist
28	Assiste SCS (Social Cooperative)	Pensioner and Horticulturist
29	Department of Informatics	PhD Student

Table 1. Cont.

Participant	Affiliation	Role
30	Consulta per le Persone in Difficoltà	Coordinator for Social Inclusion
31	Department of Management	PhD Student
32	Il Micino (Kindergarten)	Director
33	School of Management and Economics	Administrative Staff—Teaching Area at SME
34	Orto Oasi	Horticulturist
35	Orto Oasi	Horticulturist
36	Orto Oasi	Horticulturist
37	Orto Oasi	Horticulturist
38	Orto Oasi	Horticulturist
39	Orto Oasi	Horticulturist
40	Orto Oasi	Horticulturist

The event was organized in two phases. During the first part of the meeting, the participants were taken to the field where the garden would be set up, to envision what it could look like, in their opinion. They were given the opportunity to provide design ideas, illustrating suggestions on a form. To ensure maximum accessibility to the gardens, the team invited participants to think about an inclusive design, considering the needs of potential disabled users. In addition to accessibility, the team suggested prioritizing the use of recovered, repaired, or recycled materials with a low environmental impact, in order to reinvent space in full compliance with circular economy principles. The responses received highlighted different values, motives for joining the project, and the approaches to it. For instance, one of the participants stressed both the communitarian and environmental value of the garden:

I am a recent graduate in Systemic Design and during my studies I have had the opportunity to develop a strong focus on co-design and participation to create connection in the community. I also believe that the care of a vegetable garden is a means to empathize with the ecological system and learn to create a sense of protection and respect towards it.

Other participants emphasized the value of food self-production, seeing in the garden a good opportunity to feed their passion: “I am passionate about urban agriculture, and I would like to work on a space other than my balcony garden”, said one; “I have my own vegetable garden, and bringing to the table the vegetables that I have cultivated with constancy and patience gives me so much satisfaction!”, added another.

Finally, some participants highlighted the connection between urban regeneration and green space creation: a participant expressed interest “in the construction of common gardens (or similar) reusing spaces left to neglect”, while another conveyed satisfaction towards the project, stating that “it is an excellent project, a good initiative to rehabilitate urban areas now abandoned and raise awareness of the need for green areas in the city”.

Potentially critical issues also emerged from the individual forms, such as surveillance and access, especially in light of controlling the abundant dumping in the area; poor exposure to the sun, which has an impact on where the containers should be placed; but also providing adequate signage to maximize visibility and reachability.

In the second part of the meeting, a focus group was organized, dividing participants into three different working groups moderated by the research team. The red group sought to identify the best solutions to ensure accessibility and manage the use of the space; the green group discussed the options for selecting crops and managing the garden, and finally the yellow group looked at social relations, at an operational level, that the garden could help create. The suggestions were then collected and analyzed by the research team, creating a SWOT for each topic discussed by the working groups, which was important for providing the guidelines for the spatial design study. Besides revealing the strengths, weaknesses, opportunities, and threats to the project, the SWOT turned out to be also a useful tool for



combining different perspectives and fostering the transmission of knowledge between different target groups. Pictures of the events are in Figure 2.



**Figure 2.** (a) Multi-stakeholder forum; (b) One of the working groups held at the co-design workshop (pictures taken by the authors).

A topical moment towards the inauguration of the garden was the Clean Up the SME event, held on 26 November. To make sure it reached a widespread audience, the event was advertised in multiple ways, with posters on campus, on a dedicated Telegram group, via mailing list, and on the personal website of one of the authors. The poster was made by an artist friend of one of the authors. A catchy comic book style was used, with the twofold aim of emphasizing aesthetics and promoting inclusivity, by appealing to students and young people. The garden invites us to achieve a type of production and consumption that breaks the pattern of extract-product-use-dump [39]. To reach this goal, it was fundamental to manage the abundant waste in the area, to set an example, and to further emphasize the adherence to the 4R framework (reduce, reuse, recover, and recycle) of circular economy [40]. This is one of the 12,489 actions carried out in Europe in 2021, as part of SERR (European Week for Waste Reduction), the environmental communication campaign that strives to promote greater awareness of the excessive quantities of waste produced and to act to drastically reduce it. The event was very successful, also thanks to the support provided by organized student groups, as more than thirty students, lecturers, and university staff gathered to clean up the outdoor area surrounding the SME where the container garden would be set up. This area, which unfortunately is often used as a dumping ground for small and large waste, and especially for e-waste like refrigerators and other bulky household appliances that constitute one of the biggest challenges for waste management [41], was cleaned up of 860 kgs of waste. The fruitful collaboration with another fundamental stakeholder, local multi-utility company Amiat Gruppo Iren, made it possible for all the collected waste to be sent for treatment to be recovered (Figure 3).

It must be highlighted that, with limited nightly surveillance of the area and, despite the effort, some dumping has occurred again in the area, albeit in minor quantity. This signals the need for periodic clean-up actions.

On 17 December, L'Orto della SME was finally inaugurated. The event was attended by over 50 citizens and people who took an active part in the co-design process in the previous months, which proved to be important for gathering ideas, suggestions, and needs aimed at creating an inclusive and multifunctional space, in full compliance with the circular economy paradigm. At the end of the inauguration, the first seeds were planted by student representatives and security staff in what has now become a fully harvesting garden with, to name a few, potatoes, onions, spinach, chard, borage, sage, rosemary, and several species of flowers.



**Figure 3.** (a) Clean Up event flyer; (b) Some of the waste collected at the Clean Up event (picture taken by the authors).

Not only has 2022 brought blooming and beautiful vegetables for the garden users to enjoy, but several developments are also contributing to the community created around this garden to look less like the cloakroom type. The children and teachers of the kindergarten have become regular visitors every fortnight, alternating classes of younger and older children, with teachers even asking for the visits to take place weekly. The student community, encouraged by student groups or even spontaneously, has become a fond user of the garden, also enjoying the new sustainable benches, tables, and chairs that have been bought by the SME, adding to the existing ones. Several events, including aperitivos and student representative political campaigns, were organized by students themselves and attended by us as well, making the container garden more and more a reference point and a landmark. Moreover, other stakeholders have gotten in touch for an expansion of the project, to connect with other associations in the local area and provide different experiences. At the end of September, the garden became one of the main stages of the 2022 European Researchers' Night at the University of Turin. True to NEB principles, we put on events to raise awareness of sustainability issues, to promote healthy lifestyles, and to establish a deep contact with nature, partnering with a local health and wellbeing club, Associazione Mandala (Figure 4).



**Figure 4.** (a,b) 2022 European Researchers' Night—Morning Events (picture taken by the authors).

#### 4.2. First Results

The SME building, formerly a retirement home, is historical and rather well kept, except for a neglected outdoor area within its perimeter that was not accessible by the university community, as well as being devastated by uncontrolled dumping. In this light, the issues of inclusion and aesthetics were prominent from the beginning. Through this

project, the natural capital has been enhanced, also due to the collaboration with qualified landscape architecture experts who offered advice on improving the aesthetic sense of the site. With the goal of inclusion in mind, especially in terms of increasing accessibility for disabled people, walkways and their wood borders were designed to be used by individuals with motor disabilities. Lower, narrower boxes were designed to involve children from neighboring schools. The history of the garden and its rules are also available in audio format via podcast, and for visually impaired users, accessible by smartphone through a QR code. In addition, the informational sign created to explain the project was designed to communicate in an inclusive way to a non-academic citizenry the objectives of the project, as well as the methods implemented, principles, and logic.

From the inauguration, the garden has gained a lot of attention, including from the press and from national TV (RAI). More importantly, it has received donations of plants and herbs from citizens, several requests for spring events, expressions of interest from academics and students for lectures to be done outdoors, and for the project to be extended to other universities in the city. However, some potentially critical issues have emerged already in the co-design workshop. As mentioned above, important matters are surveillance and access, to properly regulate access and use of space, with the goal of limiting as much as possible new dumping in the area. Another key point is to ensure visibility and reachability, especially for those who are not familiar with the area, therefore highlighting the importance of providing adequate signage on both how to reach the spaces and how to identify, for example, the toilet. Finally, some participants feel the need to have a weekly or biweekly fixed schedule, to meet up and create a sense of community. The last issue was addressed by preparing a plan from January 2022 onwards to ensure a weekly presence, by using a shift management plan available on a shared calendar.

In terms of impact, it can be assessed from different perspectives. We argue that from the point of view of the creation of a university community, the involvement of student and professor representatives, including the directors of the departments and the school, meant that a stronger sense of collaboration was felt, compared to the early stages. The openness in sharing experiences and views greatly contributed to establishing this condition. Connected to this, the impact on the community was determined by the encounters with citizens and pensioners, who also advocated for the need to create a community in this specific area, and also to have a stronger perception of the university as a respectable institution, from which a greater involvement of the citizenship itself is expected.

As regards food production, the contribution and experience of retired gardeners proved to be crucial and will also be in the future, especially in choosing the species and crops and in maintaining the garden in a healthy state. In addition, a further visible impact emerged from collaboration between students, even from different campuses, and from the intergenerational exchanges between retirees and students. The former group was eager to transmit knowledge and to feel valued; the latter group was, and still is, eager to learn. It has also sparked the wish to organize courses or short lessons for all those curious about cultivation techniques and the choice of plants. In this sense, collaborating with researchers from agriculture and natural sciences becomes very important. This project has also allowed for the creation of a strong connection with research projects in the field of urban horticulture in Turin, in other Italian cities (such as Rome with Zappata Romana Community), and abroad. The ability to manage web communication through digital tools has been fundamental to convey information even to younger people. A further social impact has been determined by a greater sense of inclusion on the part of the technical and administrative staff of the university, who generally consider themselves little involved in university projects and who instead have appreciated the continuous and constant updating of information, events, and decisions.

## 5. Discussion

The call for this project suggests the effort made by European-funded initiatives to find sustainable solutions for the betterment of society and the environment. Because of this, the

top-down element of the NEB does not take away from the participatory governance that the container garden project has endorsed, namely, to be inclusive, democratic, and open to the Other [4]. Therefore, the approach adopted has reached a variety of community and institutional stakeholders (i.e., local citizens, elders, and students) and has involved them in the decision-making process, valuing pluralism and not pushing towards consensus at all costs [42].

In a matter of just a few months, this small regeneration project has shown promising signs of community solidification [4,8,43] and has contributed to reigniting campus life, which had been severely affected by the pandemic [38]. Our Orto has created a multi-stakeholder dialogue that has not only brought closer the different categories within the university (students, academics, and administrative staff), but has also bridged different generations by highlighting the fundamental role of the local elders as custodians of the heritage of the area and precious advisors on agricultural practices. On top of that, relationships have been formed with a series of other actors, such as the kindergarteners, who have become regular users of the garden. This has required the establishment of a set of rules, at least to safeguard the initial management, but also to preserve the funding principles of the project. The rules are: The care of the garden is collective and shared; Do not throw away garbage or cigarettes and do not damage the plants; Do not obstruct transit areas; All pets are welcome, but leave the area clean; The vegetable garden is a common space, treat it with respect and warn the referents if necessary. The garden has also facilitated the process of commoning [3], and the social practices associated with it [44]. The common effort shown for co-designing the garden and waste collection, setting the ground for production, maintenance, and harvesting has, on one hand, pushed actors to develop synergies and solidarities towards long-term common goals [27]; on the other hand, it contributed to creating shared identities that go against the idea of fast consumption and instant gratification, towards a more circular use of resources. Even more interestingly is the reach of the project: the newly created place identities have attracted the attention of other potential stakeholders, who have expressed interest in joining the garden or developing its aim and reach further, signaling that citizens are still willing to gather for common issues.

The Orto has proven to be a good experiment in stakeholder engagement around issues of waste management, recovery, and circularity through sustainable production. Engaging stakeholders early in the co-design process [15,16] and putting forward the values behind the initiative have contributed significantly to create a sense of unity and commitment towards the project goals. The multi-stakeholder forum and co-design workshop held in October 2021 has provided the basis to gather ideas and understand the different needs and values of the actors involved, pushing people's imagination towards creating a vision of what the garden could look like. Their imagination was stimulated by a field observation, conducted before the workshop, and carried out using an envisioning technique that allowed participants to write on sheets of paper and use a map of the place, so that they could draw and make notes of what they would like to see. The main ideas that emerged from the survey concerned the importance of solidarities that could be created through the garden, by becoming a multifunctional hub for social and agricultural activities. Some of the keywords used to convey this vision were: convivial space, relaxation area, wellness area, aromatherapy area. Practical local networking activities, such as the Clean Up action and visits to the field, like the one coordinated by the City of Turin, have been fundamental to generate an initial intrinsic awareness about the project, especially in students who could experience, see, and touch a situation that is completely different than the one they study about (management and economics).

The main challenge of running this initiative successfully has been the accommodation of institutional logics and requirements of the funders, with the principles of self-management and do it yourself that the garden has followed from the beginning. The project had to meet specific targets in line with NEB requirements, which inevitably partly drove the project in a certain direction. The three NEB principles followed in this project are experience, sustainability and circular economy, and inclusion and aesthetics. In terms

of experience, the target was met, thanks to the field trips conducted at VOV 102 and Orti Generali, the co-design moments, and the tales told by the elders, which also contributed to the choices of plants for the garden and the Clean Up event. Sustainability and circular economy were ensured by the solutions adopted in creating the garden. The Clean Up event has laid the foundation for the garden's success, especially for inspiring a communitarian drive towards strategies of recycling and recovery of solid waste [45]. For the technical realization of the infrastructure and the furniture, the 4R framework of circular economy has been adopted as best as possible. Specifically, railroad ties were recovered (after being suitably treated), as well as waste wood from local sawmills and green building sites that would otherwise have become waste. The wood used to create the walkway through the gardens was made by recovering 22 quintals (3 cubic meters), or 28 railroad ties, from oak railways. The planks used to make the walkway made of wood saved from building sites and carpentries in Turin. This allowed us to reclaim 15 quintals of wood, equal to 2 cubic meters, mostly bark from larch and fir trees. The tool shed, table, and benches were made by salvaging and reassembling existing components from unsold building site waste. It has been estimated that this project has saved about 52 to 60 quintals of virgin wood and extended the life cycle of various products and raw materials. The estimate was made considering the percentage of raw material that would be lost during forest management and the different stages of cutting, transport, and machinery (Figure 5).

Finally, for inclusion and aesthetics, accessibility was granted to an area previously neglected, especially for people with disabilities and/or visual impairments.

In terms of managerial implications, it remains to be seen if the scaling up of the project or its duplication in other parts of the city could cause organizational and managerial issues, or even the establishment of more commercial and light capitalistic logics [4], which could also jeopardize the community-building ethos of the initiative.



**Figure 5.** (a) Picture of the containers and benches from reclaimed wood (b) View of the Orto with details of the containers and walkways (both pictures taken by the authors).

## 6. Conclusions

This paper has presented the case of an urban container garden realized within the premises of the School of Management and Economics of the University of Turin, funded by European programs to promote sustainability and inclusion. The case suggests that, in stark contrast to Bauman's gloomy view on cultural individualization and community, initiatives of this scale (although centrally funded) can generate community resilience and commitment around key issues like waste management, circular economy, and sustainable production and consumption. Albeit still ongoing, the project has already favored multi-stakeholder engagement and social cohesion by bridging generational and value differences. Moreover, it has enhanced people's awareness of and care for nature and sustainable

production, generated positive attention from other parties, and set an example for similar projects to arise.

This research provides new critical and empirical elements to the application of NEB principles in practice, especially in showcasing the potential of collective social and sustainable initiatives, even when they happen in rather unconventional places or institutions. For instance, our garden was not set up in a department of agricultural sciences, which would have been more commonsensical, but rather in a school whose majors are economics and business. This has pushed the exchange of knowledge, the acquisition of skills, and the definition of a shared vocabulary even further, expanding the boundaries of universities' third mission activities and breaking role and linguistic barriers.

As with the NEB itself, time is the main strength of our project and study but is also our main limitation: while writing this paper, the container garden has just turned one year old, and a lot of its potential is latent. The challenge is to maintain the hype surrounding the Orto, managing it carefully, while accomplishing even more collective goals. Further research is therefore needed to evaluate the long-term impact of the initiative, beyond the ordinary reporting requirements of the NEB. From a methodological point of view, the autoethnographic research could be further expanded by conducting periodic stakeholder mapping activities, to visualize the evolution of stakeholder networks over time. Then, rounds of semi-structured interviews and focus groups with the stakeholders involved (present and past) can be carried out, to assess the impact that the garden has had on them and vice versa.

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