

Design against food-poverty

Escrito por: Raffaele Passaro, PhD Student (Politecnico di Torino, Architecture and Design Department);
raffaele.passaro@polito.it ;
Cristian Campagnaro, Associate Professor (Politecnico di Torino, Architecture and Design Department);
cristian.campagnaro@polito.it;
Giorgia Curtabbi, Research Fellow (Politecnico di Torino, Architecture and Design Department);
giorgia.curtabbi@polito.it
Italia



Palabras Llave

Pobreza alimentaria; Design alimentario; Design social; Codiseño; Enfoque participativo

Key Words

Food poverty; Food design; Social design; Co-design; Participatory approach

Resumen

¿Cómo puede la disciplina del Design combatir la pobreza alimentaria y mejorar el acceso a los alimentos y el uso de los recursos alimentarios en contextos socialmente marginados? Partiendo de estas preguntas, esta contribución ilustra cuatro experimentaciones, basadas en un enfoque práctico y participativo, llevadas a cabo por el equipo de investigación en un dormitorio para personas sin hogar de la ciudad de Turín.

Chef for a Day: un taller participativo de Design With Food que fomenta el consumo de alimentos sanos y nutritivos compensando la falta de posibilidades técnicas y económicas que impide el consumo regular de alimentos frescos dentro de los dormitorios;

Meal Kit: un proyecto de Eating Design que personaliza los alimentos estándar disponibles en los dormitorios trabajando en los componentes de sabor y estética, codiseñando con los usuarios finales la experiencia de consumo y mejorando el uso de los recursos;

Micro-Changes: un ciclo de talleres de Design For Food destinado a transferir prácticas y conocimientos para cocinar alimentos con un horno microondas, la única tecnología accesible dentro de los dormitorios;

Community Pantry: un proyecto de Food Space y Food Service Design para entregar los alimentos donados que no se consumen porque no son procesables o están en exceso, pero que son útiles para satisfacer las necesidades alimentarias de los huéspedes del dormitorio.

Los resultados muestran que el fenómeno de la pobreza alimentaria es un problema complejo de múltiples capas que no puede resolverse con una única solución. Las experimentaciones sugieren que puede abordarse a través de diferentes acciones dirigidas a múltiples dominios de design, fomentando el empoderamiento, la participación activa, la autodeterminación y el codiseño. También permiten que el Design se confirme, incluso en el contraste de la pobreza alimentaria, como un activador de conocimientos, experiencias y

metodologías para experimentar y promover nuevas soluciones.

Abstract

What contribution can the discipline of Design make against food poverty? How can it improve access to food for the needy? How can it improve the use of food resources in socially marginalised contexts? Starting from these questions, the contribution illustrates four experimentations, based on a practical and participatory approach, carried out by the research team in a shelter for homeless people in the city of Turin. The four experimentations are:

Chef for a Day: a participatory Design With Food workshop that encourages the consumption of healthy, nutritious food bridging the lack of technical and economic possibilities that precludes the regular consumption of fresh foods inside the shelters;

Meal Kit: an Eating Design project to customise the standard foods available in shelters by working on taste and aesthetic components, co-designing with end-users the consumption experience improving the use of resources;

Micro-Changes: a Design For Food cycle of workshops for the transfer of practices and knowledges for food processing using a microwave oven, the only accessible technology in absence of a kitchen that is often not allowed inside the shelters;

Community Pantry: a Food Space and Food Service Design project for handing over donated foodstuffs not consumed because they are not processable or are in excess but useful to meet the food needs of the shelter's guests.

The results show that the phenomenon of food poverty is a complex multi-layered problem that cannot be solved by a single solution. The experimentations suggest that food poverty can be addressed through different design-led actions, across multiple design domains, acting on the dimensions of empowerment, active participation, self-determination and co-design. Through the experimentations, Design confirms, also in the contrast of food poverty, its role as an activator of knowledge, experiences and methodologies to continue experimenting and promoting new proposals to contrast the phenomenon.

Sumário

Como a disciplina do Design pode contribuir na luta contra a pobreza alimentar? Como pode melhorar o acesso à alimentação para os mais carentes? Como pode melhorar a utilização dos recursos alimentares em contextos socialmente marginalizados? A partir destas questões, esta comunicação ilustra quatro experiências, baseadas em uma abordagem prática e participativa, realizadas pela equipe de pesquisa em um abrigo para pessoas sem teto na cidade de Torino (Itália).

As quatro experimentações são:

Chef for a Day: uma oficina participativa de Design With Food que incentiva o consumo de alimentos saudáveis e nutritivos, face a condições de extrema privação, superando a falta de possibilidades técnicas e económicas e culturais e aumentando o consumo de produtos frescos dentro de abrigos públicos;

Meal Kit: um projeto de Eating Design para personalizar os alimentos padrão disponíveis nos abrigos, trabalhando as dimensões do sabor e da estética, co-planeando com os usuários finais a experiência de consumo e melhorando ao mesmo tempo a gestão dos recursos;

Micro-Changes: um ciclo de oficinas de Design For Food para a transferência de práticas e conhecimentos para o processamento de alimentos utilizando o forno microondas, a única tecnologia acessível na ausência de uma cozinha que frequentemente não é permitida dentro dos abrigos;

Community Pantry: um projeto de Food Space e Food Service Design para a entrega de alimentos em excesso não consumíveis - porque não podem ser processados ou estão presente em quantidades excessivas - mas que ainda assim são úteis para atender às necessidades alimentares dos hóspedes dos abrigos.

Os resultados recolhidos confirmam que o fenómeno da pobreza alimentar é um problema complexo, estratificados, que não pode ser resolvido com uma única solução. As experimentações sugerem que a pobreza alimentar pode ser abordada através de diferentes ações de projeto e em múltiplos design domains, atuando sobre as dimensões de empoderamento, participação ativa, autodeterminação e co-design. Através das experiências, a disciplina do design, também no contraste da pobreza alimentar, confirma seu papel como enquadrador de problemas, ativador de conhecimento, experiências e metodologias para continuar experimentando e promovendo novas propostas para contrastar o fenómeno.

1. Introduction

What contribution can the discipline of Design make to design actions against food poverty? How can access to food for poor people be improved? How can it improve the use of food resources in contexts of social marginality? Building on these questions, this article presents some of the experimentations combating the phenomenon carried out by the "Social DAD" research team of the Department of Architecture and Design (DAD) of the Politecnico di Torino (Italy). Since 2014, the team has been conceiving and experimenting innovative design-led actions against food poverty hitting the homeless community in the city, by testing the effectiveness of these actions directly in the field, inside the public dormitories in Turin.

The experimentations are co-designed through participatory processes in which both homeless people and professionals – sociologists, anthropologists and social workers – actively participate in the conception and implementation of the experimentations. The constant dynamic reading of the demand, together with the different skills and cultural sensitivities involved in the design process, have made it possible to put forward experimentations addressing food poverty through different perspectives and responding to different and clearer needs. The results collected confirm the extent to which the phenomenon is a complex and stratified problem, difficult to solve through a single, monodimensional solution.

A number of issues related to food poverty were tackled, ranging from problems related to the aesthetic and

organoleptic quality of food, to the experience of meal consumption, to the access ways to food and the places where meals are consumed. The four experimentations are illustrated below:

1. Chef for a Day: a participatory Design With Food workshop fostering access to food for homeless people. Accompanied by tutors, they choose and transform food into fresh, healthy and nutritious dishes – which are often scarce inside the dormitories – and eat them together in a convivial moment;

2. Meal Kit: a project of customization of the standard foods available in the dormitories, acting on the components of taste and aesthetics, co-designing with users their consumption experiences in a perspective of Eating Design;

3. Micro-Changes: a cycle of Design For Food workshops aimed at transferring and testing practices and knowledge for the transformation of food through the use of an appropriate and accessible technology (microwave oven), usable even in the absence of a kitchen, often not allowed inside the dormitories;

4. Community Pantry: a Food Service Design project of an open pantry whereby the homeless of the dormitory can access the food products they prefer and consider useful to meet their dietary needs, integrating them with food that they purchase on their own.

The positive feedback on the experiments, both from the homeless people involved and from the social workers with whom we collaborated, suggests that the complexity of food poverty can only be tackled through

different actions that can be ascribed to different design domains (Jones 2014) and different sub-disciplines of Food Design (Zampollo 2016).

Designing against this phenomenon, we have sometimes integrated small-scale interventions With Food and For Food (Design 1.0), – transforming food matter and creating new dishes – with both organisational and social actions (Design 3.0 and 4.0) related to Food Space Design and Food System Design. On other occasions we have designed Eating Design interventions aimed at solving the critical issues linked to the practical and inclusive dimension of food consumption in the context of homelessness (Design 2.0). Thus, also in combating food poverty, Design confirms its role as a problem framer and activator of knowledge, experience and methodologies through which it can continue to experiment and promote new strategies and solutions.

2. Contextualisation of the problem: homelessness, food poverty, turin

[The homeless person is] a subject in a state of material and immaterial poverty, a bearer of complex, dynamic and multiform discomfort, which does not limit itself to the sphere of primary needs but invests the entire sphere of the person's needs and expectations, especially in terms of relationships (Carta dei Valori fio.PSD, point 6).

Homelessness is one of the most extreme forms of poverty and marginality in advanced societies affecting the most vulnerable individuals, who face different forms of exclusion such as homelessness and joblessness, precarious

health conditions and difficulty in accessing public services (Caritas 2018). The unavailability of economic and structural resources, such as an income and a home, complicate or prevent them from conducting a nutritionally adequate diet, both in terms of quantity and quality (Crawford et al. 2014). Such material inability/impossibility leads the homeless to live in a state of persistent food insecurity, affecting health by causing or consolidating fragile conditions and diseases such as diabetes, obesity, gastrointestinal disorders, which are very common among the homeless (HomelessLink 2014).

In Italy, it is well known that the economic crisis has significantly affected people's risk of impoverishment. In ten years, the number of people in a condition of absolute poverty has more than doubled: from 2 million 427 thousand in 2007 to 5 million 58 thousand in 2017, equal to 8,4% of the population (Istat 2018), whereas the official statistics of the National Institute of Statistics (Istat) show that in Italy there are more than 50,000 homeless people, 47.648 of whom are registered in cities.

In Turin there are 1.729 homeless people, equal to 2,8% of the registered homeless population in Italy (Istat 2014).

[In the city] food is a crucial problem for the entire network of public services for homeless people [...] Interventions aimed at homeless people in Turin seem not to recognise the complexity of the issue, reducing the beneficiaries' food needs to a purely biological issue (Porcellana, Campagnaro, Stefani 2020, pp. 95-100).

For a homeless person, lunch is the most accessible meal in the city, as it is provided through a network of public and charitable canteens (Pettenati, Tecco and Toldo 2019) managed mostly by religious bodies and voluntary associations of the Third Sector.

However, the provision shows numerous issues related to the quality of the food provided, leaning towards a gastronomic offer that is not adequate to meet the nutritional needs of adults (Tse and Tarasuk 2008; Maioli et al. 2016), as it is rich in carbohydrates and poor in vitamins, proteins and fresh produce such as fruit and vegetables. Moreover, accessing the service is time-consuming, as recipients have to queue up waiting for their turn and consume their food quickly: this contributes to generating stressful and unpleasant situations.¹ Dinner and breakfast, conversely, are the most critical meals: with the exception of a few cases, dormitories are not expected to provide them. The management contracts of the facilities – stipulated between the cooperatives of the Third Sector and the public administration – do not provide for a budget (and thus a service) for food, leading the social operators to find improvised and discontinuous solutions over the years. The professionals who are most sensitive to the problem have activated territorial collaborations with shopkeepers, associations and volunteers trying to bring the guests of the dormitories a meal, consisting of recovered food and/or ready-to-eat meals. However, the operators themselves report that the food supply is sporadic, not always guaranteed and sometimes of very poor quality. Over years of fieldwork, we have observed that the lack of structural

measures and shared policies at city level has been leading to weak and fragmented responses, from which recurring issues emerge. In particular:

1. The quality of the food used has strong aesthetic and organoleptic problems: much of the food used comes from the recovery and donation chain of the food surplus from large-scale organised distribution, where it is systematically discarded because of the oversupply or because its appearance is inconsistent with the aesthetic canons required by the market.
2. The meals' use and consumption experience is strongly compromised by the way food is served – the use of plastic tableware and paper tablecloths – and by its limited variability: there is a constant presence of pasta, bakery products and dairy products to the detriment of fruit, vegetables, meat and fish.
3. It is not possible either to decide what to eat or to personalise the dishes by choosing the quantity or changing the flavour by using extra seasonings or flavourings.
4. The places where food is consumed are inadequate, as they are often located in decaying, poorly maintained spaces that are not suitable for encouraging a relaxed and socialising atmosphere. It has thus emerged that current responses to food poverty focus exclusively on the quantity of food provided, without addressing the quality of products, spaces, relationships and modes of consumption related to food, all of which are crucial in the daily lives of homeless people and key to their well-being.

3. Methodology

3.1 The designer's role

The "Social DAD" team works on design projects for social impact through participatory design processes between expert and non-expert designers (Manzini 2015). It adopts a perspective of design for social change with the imperative to act in favour of the rights of the most fragile citizens, including the right to food.

In the research and framing phase the designer plays the role of explorer (Germak and De Giorgi 2008), defining the intervention scenario – through participant observation and the dynamic reading of the demand – while in the co-creation phase he guides the collective creativity (Sanders 2008) of the participants in the design process. Throughout the process he plays the role of mediator between actors, connecting practical and theoretical knowledge, life experiences and skills, encouraging a multidisciplinary exchange between design and social science, between designers and social workers, between designers and the homeless community. By means of design-led tools and practices, from participatory design workshops to live prototypes (Horst and Matthews 2016), the "Social DAD" team has brought together the actors of the system, making them collaborate in order to devise in a shared way new possible solutions to combat food poverty.

We have spanned the entire range of design domains and have applied the sub-categorisation of Food Design disciplines to contextualise our

interventions and identify knowledge and collaborations to improve the impact of the projects. At times we have combined limited interventions (Design 1.0) that are typical of a With Food and For Food design approach – as in Chef for a Day – with multi-actor organisational and social transformations (Design 3.0 and 4.0) that can be ascribed to the categories of Food System Design and Food Service Design – as in Micro-Changes and Community Pantry. Sometimes we have co-designed Eating Design interventions aimed at promoting prompt solutions to food access (Design 2.0) – as in the case of Meal Kit.

3.2 Design process

The recurring element common to all the experimentations – besides the central role of the relationship between food and people – is the process from which they develop and which is articulated in the following phases (Figure 01).

1. Mapping and framing. In this phase the design team investigates the context in which the experimentation will take place. Through the dynamic reading of the demand and participatory observation, the group gathers data and information useful for qualifying problems and needs of the actors in the context.

2. Concept generation. The designers then re-read the information collected and generate project concepts – to be developed and tested in the context – through the practice of brainstorming and visual brainstorming

3. Live Prototyping and testing. The team brings the concepts to life in live prototypes lasting about a month, testing their performance directly in the context of the intervention, by actively involving the future beneficiaries. In this phase, feedback from participants is mapped by a constant data collection through the use of a day-to-day diary.

4. Focus groups. At the end of each cycle of experimentation, focus groups – designed with the help of the anthropologists of the “Social DAD” group – are carried out. The goal is to obtain feedback from the participants – both homeless citizens and social workers – in order to verify the effectiveness of the experiment and the adequacy to deal with the starting problem, and to understand whether it can be improved or changed in some parts.

5. Evaluating. If the experimentation has produced positive transformations, it is considered useful and undergoes the modifications suggested by the focus group. Then it begins to be used as a practice to combat food poverty in the context of the experimentation. The drafting of a project report at this stage allows other users to replicate the experimentation, identifying the salient steps and the results obtained.

6. Consolidation and monitoring. The new practice is periodically monitored by the research team who collects feedback from both homeless people and social workers. By doing so, the new practice can be continuously adjusted, improved, strengthened or ended when it is no longer needed.

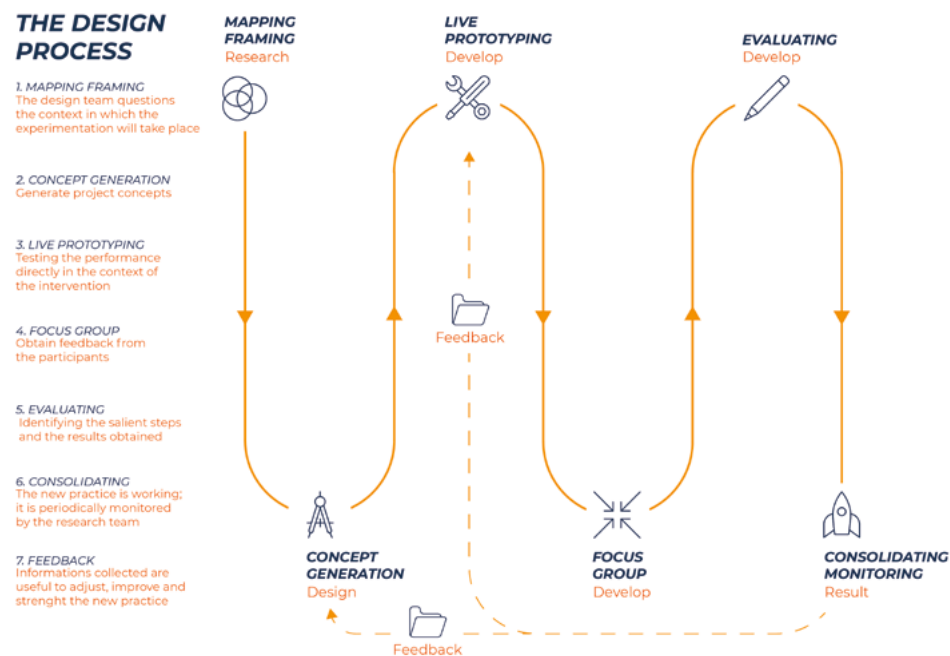


Figure 01 - The Design process
Credits: Authors

4. Case studies

Below we report on four experimentations carried out by the working group, selected for their positive feedback from the final beneficiaries in responding to the problem of food poverty for the guests of the public dormitories.

4.1 Chef for a Day

Chef for a Day is a permanent cooking workshop set up in one of Turin's public dormitories and aimed at exercising skills and autonomy in accessing and preparing food.

It was launched as part of "Crafting Beauty" (Campagnaro et al. 2021). This is a social inclusion laboratory active since 2014 in the northern suburbs of Turin, in collaboration with the Adults in Difficulty Service (SAD) of the municipality and designed by the interdisciplinary research group composed of designers from the Department of Architecture and Design of the Politecnico di Torino and anthropologists from the Department of Philosophy and Educational Sciences of the Università degli Studi di Torino. In turn, the workshop "Crafting Beauty" was born within the research-action "Inhabiting the dormitory" (Campagnaro and Porcellana 2016) which aims to test new strategies to combat homelessness with a focus on the participation of users and service providers. In this framework, the research group has promoted several projects – based on practical experimentation – on the topics of health, dormitory hospitality, work experience and access to food. From

its beginning and until its interruption due to the Covid-19 pandemic, more than 100 homeless people actively joined the workshop Chef for a Day, contributing to the production of around 19.000 meals in six years. The people involved not only cooked the food, but also experienced self-determination by choosing the menu, buying the processable products they wished to eat and sharing the meals with the other guests of the facility. The workshop is a way of making accessible products usually lacking in the diets of homeless people – such as fresh fruit and vegetables, meat and fish – because of their inaccessibility due to their high cost and the absence of equipment to transform food into dishes.

The workshop has always been bi-weekly. Each session was led by a team of about 8 people including tutors – designers, cooks, students, anthropologists – and homeless people, and ended with a lunch shared with other dormitory guests. Food became a means of satisfying personal food cravings, sometimes by offering traditional dishes from one's own culture, sometimes by experimenting with new and unusual preparations. The workshop offered Design With Food experiences in which participants exchanged practical and theoretical knowledge about food processing and meal preparation.

The workshop lasts 4 hours and consists of the following stages:

-Warm-up. Participants and tutors attending the session discuss the creation of the menu, which is constructed according to the food preferences of the homeless people involved. Each session

seeks to satisfy the personal cravings of one of the participants in turn, and traditional dishes requiring the use of products that are difficult for the homeless people to access, such as meat and fish, are always welcome.

-Food shopping. The crew splits up: while one group sets up the kitchen by arranging the equipment needed to process the food, another group is in charge of buying the products needed, counting those already available in the facility's stock.² Everything is bought from a shop in the neighbourhood with a dedicated budget of around €30 per session. In this phase, the homeless people guide the purchases, paying attention to the quality of the products (raw materials) and the available budget.

-Processing. The workshop team gathers and starts preparing the dishes. The tutors coordinate the workshop and work with the homeless people throughout the process in a mutual exchange of skills and expertise.

-Consumption. Once the shared table has been set up and laid with tablecloths, metal cutlery and ceramic plates, lunch begins. The moment of consumption – at which all 24 participants in the “Crafting Beauty” workshops are present – takes place in a room with well-kept, clean and relaxing spaces, very similar to a domestic environment.

-Cleaning and coffee. Part of the team – in rotation – is engaged in cleaning the dishes and tidying up the dining room. At the end of this activity, coffee is served to conclude the workshop. The long duration of the workshop, conducted continuously for six years,

made it possible to reflect also on the theme of food consumption places in the dormitories. Through an exercise of Food Space Design, the guests themselves contributed to making the space more and more welcoming, by choosing the cutlery, the fabrics, the arrangement of the tables and the setting of the furniture. It became a place in which the domestic dimension of the meal – normally alien to dormitories and canteens – was made real. The evidence gathered – through participant observation and continuous informal exchanges between the research team and the homeless people involved – shows that the workshop is a means of making food accessible where normally it is not, and of transmitting and exchanging knowledge useful for food processing and meal preparation. It emerged as an opportunity to taste and experiment with new dishes, a convivial and socialising moment capable of alleviating the phenomena of social stigma and food poverty, and of suspending certain critical dimensions linked to the condition of fragility experienced by the participants (Figure 02).

Furthermore, over the years, participants and former participants of the workshop have witnessed how the learnt basics of food choice and shopping, food storage and processing techniques have proved useful in their daily lives.³

4.2 Meal Kit

Meal Kit arose during the period of the pandemic of Covid-19 to replace the permanent workshop of Chef for a Day. The aim of the project is to tackle and overcome the health and hygiene restrictions imposed by the



Figure 02 – Chef for a day. In the large box: a workshop session, in the small boxes some of the dishes proposed and cooked by the homeless people
Credits: Authors

health emergency, while continuing to offer a decent meal, qualitatively and quantitatively adequate and customisable, maintaining the participatory and empowering spirit promoted by the previous workshop. Since December 2020, the service has been offering a meal twice a week to 15 homeless people involved in a socialising workshop in one of Turin's public dormitories. To date, a total of 12 people have taken part in the workshop, including tutors and homeless citizens. They have cooked around 950 meals, using pre-processed foodstuffs, which require little processing before they can be eaten.⁴ In addition to offering a meal to homeless people, this service

has become a tool through which to investigate aspects such as choice, customisation and consumption experience of ready-to-eat meals, a solution adopted by public canteens and voluntary associations to provide a meal to the homeless, but criticised by them because of the strong aesthetic, organoleptic and quality problems recurring in the dishes. The critical points highlighted also concern the presentation of food products, which are often placed in unsuitable or non-functional packaging that spoils the product's appearance or complicates its usability, as it crushes, smashes and compacts the food.

For these reasons, the project activity focuses on both Eating Design and Design For Food. Working on textures, colours, flavours, quantities and combinations of food, the designers have worked to offer a standardised but aesthetically pleasing, well-presented and appropriately composed dish, paying attention to the consumer's perception of the final product. This perception represents a critical element and a barrier to the consumption of traditional meal kits – provided by public canteens or other charitable organisations – by the end user, who complains that the impression of the meal and its dignity is revealed by the way it is presented, the ease of consumption and the frequency with which the same dish is provided. The meal kit was designed considering the packaging to be used – assessing its capacity, leakproofness, appearance and functionality – and identifying the seasonings needed to satisfy the preferences of all eaters.⁵

By doing so, each single meal is assembled by considering the various foods as components of a system and treating them as neutrally as possible, offering the end consumer a wide range of spices, aromas and seasonings with which to modify the taste and appearance of his/her meal according to personal taste.

As in the case of Chef for a Day, the service is carried out twice a week and involves a tutor and 2 homeless people who are involved in a socialising training provided in collaboration with the municipality's social services. Each session lasts 3 hours and is aimed at preparing 15 meal kits for as many people. Maintaining the educational and

experiential dimension of the original workshops, the session is organised in the following phases (Figure 03):

-Creation of the menu. Together with the trainees in the workshop, the menu proposal is defined, taking into account the budget available for food purchases (approximately €25 per session) and the products available in the dormitory's stock. The menu always includes a large dish (a first or second course), a side dish and a dessert (usually fruit). Two alternatives are identified for each dish proposed, in order to take into account people's preferences and nutritional needs as much as possible.

-Gathering preferences. The food proposal is presented to the recipients – usually 14 people – who express their preferences or doubts about certain components of the dishes. A check list is then filled in to calculate the quantities of food to be cooked and to have an outline for the composition of the kits, which will be diversified according to the preferences expressed.

-Food shopping. The brigade goes shopping at a local shop: the visit is useful for the participants, who independently, but under the supervision of a tutor, do the shopping, choosing the products they think are best (in terms of appearance) and paying attention to quantities, prices and the maximum spending limit.

-Transformation. After shopping, the team returns to the spaces of the project “Crafting Beauty” and, using the equipment of the workshop Chef for a Day, transforms food into dishes. During this process, electric tools such as food

processors, minipimers and graters are used to limit handling of the food to a minimum.

-The Kit. The prepared dishes are distributed in packaging to make single portions. Then the meal kits are put together, the various “food components” are placed inside a paper bag so that the recipients can easily take it and consume it wherever they want.

-Customisation. At 12.30 p.m. the trainees from the other workshops finish the day's activities and come to pick up their meal kits. At the same time they

choose the seasonings they prefer to use for personalising their meal. Finally, they leave the structure and choose whether to eat the meal immediately, consume only some of its components or keep it to eat it later.



Figure 03 – Steps of the workshop. From top left to bottom right: the menù, the shopping in the neighbourhood supermarket, the transformation phases, the preparation of the portions, the choice of spices, the kit distribution

Credits: Authors

of choice in consuming, customising, and combining the foods improves the perception of the quality of the food products used and the consumption experience. In addition, users reported that the care taken in composing the kit – perceived through the quality, variety and type of packaging used – is seen as a sign of respect towards the individual as such, who feels recognised and treated with dignity and as an equal, rather than as a destitute person (Figure 04).

4.3 Micro-Changes

Micro-Changes is a participatory microwave cooking workshop –



Figure 04 – Meal kit. On the left a ready meal offered by the public soup kitchens in Turin, on the right one of our meal-kits
Credits: Authors

Income") that allows them to make personal purchases, among which food is one of those that most represent the possibility of self-determination of this economic measure.⁶

The third element is social. The involvement of homeless people has been simplified thanks to the interpersonal relationship between the research team and the homeless people, developed in the context of the socialising internships carried out in the workshop "Crafting Beauty". Thanks to the relationship established, it was possible to involve 4 out of 6 guests from the male unit of the dormitory in the workshops. Pursuing the objective of improving access to food for the homeless by allowing them to learn how to use an enabling technology – the microwave oven – as a tool for increasing personal autonomy in the supply and consumption of food. The experimentation has been carried out in the form of a participatory workshop – structured in 4 sessions – directing the learning of the use of microwave oven to the practical dimension.

The experimentation was designed enhancing the elements presented below. The first element is of an infrastructural nature. At the current time, municipal shelters are open 24 hours a day, which makes them a spatial resource for the guest as it can be used to organise his/her entire day. For this experimentation, the increase in the amount of time the user can spend inside the structure was intended as functional to the possibility of transforming food using the microwave ovens available in the structure.

The launch of the experimentation was preceded by a preparatory phase during which the research team outlined and identified the practical and theoretical knowledge to be transmitted to the participants, such as the management of cooking times, safety, foods to avoid, the size of the products to be processed, the use of the correct equipment; it then selected preparations that would allow the basis to be transmitted using a learning by doing approach.

The second element is economic. Nowadays, many of the guests receive a small state subsidy ("Reddito di Cittadinanza", literally "Citizenship

The recipes were identified – or adapted – to be replicated by the participants, limiting both the use of tools (only

FOODS, RECIPES, TOPICS

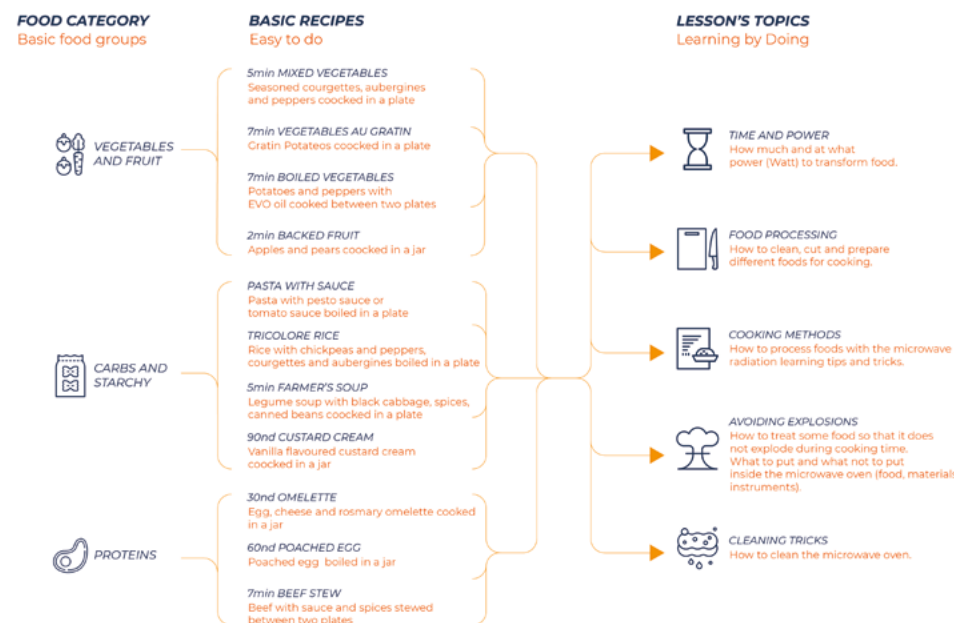


Figure 05 – Foods, Recipes, Topics. the topics of the workshop and the recipes with which they were transmitted to the participants
Credits: Authors

plates, forks, knives, glasses and chopping boards were needed) and the preparation and cooking time (Figure 05).

The preparations identified were grouped by type of food, resulting in four thematic sessions: vegetables, first courses, main courses and desserts. The sessions were delivered on a weekly basis – over the course of a month – in order to allow independent replication and experimentation by the participants from one session to the other.

A written and illustrated recipe book with all the steps of the preparations

proposed during the workshops was designed so that the participants would have an additional practical support in case they forgot some steps. In addition, the participants were given a digital video-recipe book containing links to 34 microwave oven recipes, chosen by the research team according to the parameters of time, easiness of preparation and cost of the products needed.

The typical lesson consists of four distinct moments:

-Preparation. the tutors set up the workshop space, distributing the PPE,

the food and the personal kitchen tools, and checking the functioning of the microwave ovens to be used.

-Warm-up. before starting the food processing and the microwave oven operations, the participants are shown the programme for the day in front of a cup of coffee. Questions and curiosity about what is to be explored are answered, and the microwave preparations they have made during the past week (from lesson 2 onwards) are discussed.

-Food processing. the tutor explains the four recipes of the day one by one. For each recipe, the process is explained and carried out simultaneously by the tutor and the participants, starting with the preparation of the food and ending with the microwave cooking of the recipes. Each recipe is given thirty minutes in which it is possible to repeat it several times – for example changing some of the seasonings according to taste – and directly consume the final product.

-Q&A&A. the final part of the lesson is dedicated to Questions and Answers and (practical) Advices in which – now being the stomach full – we discuss what has been achieved during the day, its real usefulness and the replicability of the tested recipes.

The constant exercise of Design With Food by cooking the dishes, deciding on the quantities and shapes of the food, together with the immediate feedback – if the dishes are good and visually pleasing, the transformation is effective, otherwise it is necessary to start again – have made it possible to involve the participants, encouraging

them to experiment and replicate the preparations as they go along, at other times than during the workshop, then sharing their results with the project team.

Today – almost three months later – the 4 course participants are used to cooking their own meals in the dormitory. In order to evaluate the effectiveness of Micro-Changes, the research team carried out continuous monitoring through participant observation during all four workshop sessions; in addition, the two educators who followed the workshop and supported the researchers were asked to collect their evidence in a notebook.

At the end of the workshop cycle, a focus group was organised between the tutors and the participants in which the following considerations emerged:

-Autonomy. It emerged how learning to use the microwave oven significantly increases the individual's food selfsustainability;

-Gratification. It was emphasised how happy the users were to have learnt useful things that they could exploit in their daily lives;

-Access. It emerged how the knowledge of practices, tools and preparation techniques has made accessible foods that before were unthinkable to consume and prepare autonomously inside the dormitory (e.g. stew, eggs, fish, pasta with sauce, mixed vegetables).

Moreover, the educators point out the instrumental usefulness of the workshop, as it allows an appropriate educational observation to be carried out in order to assess the trainee's developmental

pathway, identifying the elements that generate change in the individual.

Our monitoring of the experiment shows that the technology transfer has made accessible several types of food – such as fish, meat and cooked vegetables – that were considered inaccessible because they could not be processed otherwise. Evidence shows that homeless people now feel freer to choose what and when to eat, and that microwave food processing has enabled them to adapt the shape and consistency of food to their specific needs at consumption

time (Figure 06).⁷ To date (August 2021), the 4 participants continue to use the microwave oven independently to prepare their meals, no longer depending on the meal service provided in the facility. There has also been some sharing of skills, with participants transmitting basic knowledge to other homeless people in the shelter.

4.4 Community Pantry

This is a micro service for the disposal of foodstuffs – mostly canned goods and fruit – which has been in place in one of

the dormitories since April 2021. The project arose for three reasons. Firstly, it stems from the structure's internal need to use up stocks of products donated by charities or food banks and not consumed because they are in excess. Secondly, it is based on the possibility offered by the 24-hour opening of the shelters, a measure extending the time available to users to stay in the dormitory, where they can store (in dedicated fridges) and process certain types of food they have purchased. Thirdly, it focused on enhancing the ability of some dormitory guests to cook, by offering them food available in the pantry that can be consumed after cooking, and which is often in

surplus. The first experimental cycle involved 6 guests of the male service of the facility, who had access to the pantry once a week for 45 days, for a total of 7 distributions. During the distributions, a tutor was present, who not only observed the process to directly collect information on choices, preferences and attitudes, but also helped the users to choose and keep the space tidy (Figure 07).

During the first experimental cycle, the quantities and types of products have been recorded by the team in order to have an overview of the available and disposable products. A list of available products has been prepared so that the



Figure 06 – Micro changes. From left to right: the first approach to the microwave oven, some food transformation activities by participants, and the final dishes obtained transforming the raw foods

Credits: Authors



Figure 07 – Community Pantry. The accessible pantry built in one of the city dormitories. The walls were specially painted to mark the pantry

Credits: Authors







homeless people knew which food was in the pantry throughout the current session. Afterwards, drop-off sessions have been organised in which the beneficiaries could access what they consider useful for their livelihood. The disposal has become a continuous monitoring tool to understand which products are most in demand and which are not consumed.

In addition to planning the flow of food resources, the team has worked on Food Space Design, creating a set of shelves and wall decorations to house the pantry. Through the informal disposal of products and the care taken in displaying them, the pantry induces the consumption of food resources that would otherwise be discarded. The evidence from the disposal data shows that it was possible to redistribute

quantities of product that could not be placed otherwise. Each guest had access to an average of 15 kg of products (about 2 kg per distribution) for a total of 108 kg of products distributed. Each user therefore received a quantity of products that could be valued at a total of €35 at market price (€5 per distribution). It was observed that the two users who do not receive the "Citizenship Income" are those who benefit most from the products of the pantry, showing stable consumption even beyond the first experimental cycle (the pantry is still operational). It emerged that access to these products is advantageous in freeing up scarce personal economic resources to buy other foods – mainly seasonings, fruit and vegetables – to be integrated into the daily diet (Figure 08).

COMMUNITY PANTRY

THE AVERAGE EXPENDITURE: COMPARISON BETWEEN USER WITH INCOME AND USER WITHOUT INCOME

	 USER 1 Without Citizen Income	 USER 1 With Citizen Income
 KILOGRAMS OF FOOD TAKEN	6,14 Kg	2,35 Kg
 SINGLE UNIT OF FOOD TAKEN	12	6
 VALUE OF FOOD TAKEN	9,20 €	4,36 €
 THE THREE MOST TAKEN PRODUCTS	Pasta; Canned legumes; Canned Tuna;	Canned Tuna; Tomato sauce; Canned fruit;

DATA CALCULATED AFTER SEVEN FOOD DISTRIBUTION BETWEEN MAY AND JUNE 2021

Figure 08 – Community Pantry. The comparison between user with citizen income with user without citizen income. Credits: Authors

It should be noted that the homeless people who took part in the microwave oven workshop stock up on products – such as pasta, rice and ready-to-eat sauces – for which they have the theoretical and practical tools, so that they can eat these foods independently inside the dormitory.

At the same time as the quantitative data were collected, semi-structured interviews were organised from which the following considerations emerged:

- The careful display of products and the resemantization of the space (through wall interventions) contributes to overcome the perception of access to surplus food products;
- A tangible usefulness of the pantry is attested, which although not able to meet all the food needs of each user, becomes a valuable resource in improving the accessibility of food inside the dormitory (especially for those who do not receive any economic income);
- The presence a pantry attaché is not considered an element of surveillance but is perceived as a useful figure from whom to ask advice on how to use the products, how to process them and preserve them;
- Currently, the service is still operating and users continue to take the available products according to their needs.

5. Conclusion

The results obtained are positive, telling of a real improvement in the response to the phenomenon of food poverty affecting a group of very fragile citizens, whose needs are often not central to the administration's political agenda. The final beneficiaries testify to an increase in general well-being, expressed through an

enhanced freedom in choosing what to eat, in expressing preferences on how to eat food, and in feeling included and not marginalised.

In this sense, we can say that the contribution of the discipline of Design against food poverty consists in involving the different actors of the system in a collaborative process of co-design. The character of live prototypes, common to all the experiments, has made it possible to identify a set of solutions that can be progressively refined and scaled up. It has given the work team the legitimacy to make mistakes today in order to understand how to improve tomorrow, giving back in an immediate form new solutions capable of alleviating the phenomenon.

Design has contributed to improving access to food for the dormitory guests. Through the transfer of practical and theoretical knowledge, it has provided them with the means to increase their food independence and, by co-designing the consumption experiences, it has made it possible to work on the aesthetic and organoleptic qualities of the edible materials, improving the experience of using and eating food.

By addressing the ways food is distributed and the places where distribution takes place, it has been possible to improve the use of food surplus available in the dormitory and otherwise discarded.

Thus, Design confirms its role as a problem-framer and activator of knowledge, experience and methods through which it can continue to experiment and promote new solutions.

In conclusion, through constant collaboration with the actors in the system, the work of the research team has enabled an in-depth and multidimensional exploration of food poverty, providing new perspectives on it that would not otherwise be possible: we now know more and better about what food poverty is and what could be done to combat it in all its forms and dimensions. The design process turns out to be a way to learn, discover and collect new knowledge about the connections between food and poverty for and with all the actors in the system involved. Testing solutions – through design-led processes – is a practice that can produce knowledge for all actors. Such knowledge is useful for devising, proposing and strengthening coherent and effective responses to a real and ill-defined problem such as food poverty.

Exploration and experimentation have together made it possible to bring on awareness of the multifaceted nature and the complexity of food poverty, which requires different and integrated approaches. The design action, focused on the generation of multiple solutions rather than on the problems that constitute food poverty, has allowed us to address real and ill-defined problems, while at the same time contributing to the knowledge and the response to the phenomenon and its implications (Cross 1982).

The circularity between design action and knowledge, for the designer and all the actors in the system, also occurs at broader and more formal levels, namely that of political planning. In this sense, we believe that the experimentations have brought evidence which can be

used in a design for policy perspective (Bason 2014), as they could contribute to the design of a city food policy that is concerned with the most marginalised people and promotes a collaborative and inclusive approach. In these terms, we emphasise the capacity and need for design action at multiple scopes and levels of complexity – across multiple design domains – in dealing with multidimensional phenomena such as food poverty.

Notes

1. During focus groups and co-planning activities, the involved homeless people report the recurrence of tense situations which arise during the phases of access and consumption of meals in the city canteens. In order to access the food it is often necessary to wait a long time in line – standing – outside the canteen, as well as to travel long distances – by public transport or by walking – to reach the canteen. While eating meals, disputes and arguments of a personal nature often occur between users. Interaction between people is not facilitated by the speed of the service, which expects the user to eat his/her meal as quickly as possible in order to leave room for another person in need. In addition, women state that they avoid the city canteen service because they do not feel safe, preferring to skip the meal or find other ways of accessing food.

2. The shelter regularly receives food from associations operating in the area. There are mainly long-life tinned products (such as pasta, rice and pulses), many of which are food aid from the FEAD measure ([https://www.lavoro.gov.it/temi-](https://www.lavoro.gov.it/temi-e-priorita/europa-e-fondi-europei/focus-)

[on/fondo-di-aiuti-europei-agli-indigenti-Fead/Pagine/default.aspx](https://www.lavoro.gov.it/temi-e-priorita/europa-e-fondi-europei/focus-on/fondo-di-aiuti-europei-agli-indigenti-Fead/Pagine/default.aspx)). These products represent an accessible food resource to be used in the preparation of meals.

3. It was possible to monitor the impact of the workshop on people beyond the walls of the facility thanks to the interpersonal relationships built up during their internship. It happened several times that former trainees told us that they had replicated the preparations, that they had used the little tricks they had learned and experimented in the workshop, or that they sent us photos of the dishes they had cooked.

4. In order to minimise product interactions due to Covid-19 regulations, canned, frozen and pre-portioned products were welcome in the production of the meal kits. This involved defrosting and storing the products in new food packaging that was adequate in quantity and attentive to the quality of the components. Pre-packaged seasonings were provided and the user has used them according to his/her personal taste to modify the flavour of the food provided.

5. A survey was carried out among the homeless people in order to identify the most popular seasonings among the meal kit users. Each person has at least one preference in the range of seasonings available. The seasonings available are: oil, vinegar (liquid form), salt, pepper, turmeric, rosemary, oregano, thyme, garlic, chilli (solid form). In addition to these seasonings, fresh herbs – such as basil and parsley – are available during the summer season.

6. For more information on the “Reddito di cittadinanza” (“Citizen Income”) measure: <https://www.redditicittadinanza.gov.it/>

7. 3 of the 4 participants have problems with chewing or swallowing due to their poor health. The possibility of transforming food autonomously by choosing its consistency and shape allows them to easily consume products that they couldn't otherwise eat.

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