

Enquiring waste value.

The Zero Waste Families pilot project in Capannori (Italy)

Key words: resources, separate collection, materials, value, household economy

Abstract. *In 2007 Capannori (Italy) was the first European municipality to adopt the Zero Waste strategy (Connett 2013). Committed to waste reduction, the municipality of Capannori have proactively adopted waste reduction practices, as outlined by the EU in their 2015 Circular Economy Strategy package (European Commission 2014, MacArthur 2014). However, since 2014 the residual waste (in terms of urban solid waste management) flow has stopped at 20%. Despite the high separate collection rates and the decrease of waste generated, the municipality are perplexed at the sudden halt. Devoted to achieve “zero” residual waste by 2020, as outlined in the Zero Waste strategy, the municipality of Capannori in collaboration with the volunteers of the Zero Waste Research Center and the local waste management company, recently started a pilot project focusing on the urban domestic waste generation called the “Zero Waste Families of Capannori”. The participants of this project are 25 families (understood as domestic users) and the main aims of the pilot are: a) to build an aware and educated community about waste value and role in the society; b) to decrease the amount of residuals generated by the local population. This project seems to promote the idea that waste (the recyclables and compostable) are community resources, while residuals (considered useless and even unhealthy) are a problem that must be solved. In analyzing the Zero Waste Families project I will focus on the role and the meaning given to waste by the actors part of this pilot and how those are influenced by the agency (Ortner 2006) of the volunteers of the Zero Waste Research Center, who carry on the project.*

In this context, waste is theorized as transient (Thompson 1979) and as an ambiguous material category because it both represents an object and a social act – e.g. the act of judging something useless or unhealthy and the consequent act to dispose of it (O'Brien 2011). This ambiguity is also determined by the complexity of the process of “wasting”, which is a field of socio-political and economic struggle (Ibid). Taking into account the ambiguity of waste as a material category and its role and value in a context aiming to create a system of circular economy (Gregson et al. 2015), this paper wants to understand the role of waste as community resource (Lane 2011).

In this perspective, through an ethnographic analysis of the Zero Waste families daily life habits, it would be interested understand the role of different kind of residual materials part of the actors' everyday routine, i.e. plastics, cans, paper, organic and disposables. How they understand these materials? What is the purpose they give to waste objects in terms of “household economy” (Barr 2017)? How the actor's actions manipulate the meaning of residuals towards the concept of resource? How this process of “manipulation of meaning” (Ortner 2006) is influenced by the agency of the volunteers of the Zero Waste Research Center?

Introduction

In this paper, waste is understood as an ambiguous material category, a product of the capitalistic system which appears to produce surplus in order to increase the generation of trash - here seen as something valuable from a political and an economic perspective because object of monetary transactions and communities management (O'Brien 2008). In fact, waste objects seem to have

both a potential and a non-potential value because it is thrown away but it never loses its consumption value. This is not a theoretical construction but the very being of trash in the so called “rubbish society” (Ibid). From a everyday life perspective, rubbish is also an integral part of the actors' social life (Thompsons 1979), being pervasive in the society. In this context, for waste I understand what Thompsons defines “transient”: valuable materials that become rubbish to be recycled or reuse – so, transforming in something different. In this case, these waste materials must be sorted to be valuable and – referring to O'Brien's reflection (2008) – these materials would attract political and economic interests, leading to the creation of a specific kind of market and community organization. In the last period, this seems to bring towards “sustainable” addresses, also thanks to European Union legislation about the circular economy (European Commission 2014, MacArthur 2014) and the application of this newer way to organize communities (Gregson, Crang, Fuller&Holmes 2015). In this context, the circular economy could be seen as a model of management related to the idea that waste materials are valuable, a resource for the communities that aim to recycle and reuse those materials and develop a sustainable economic system.

According to Gregson et al.' reflection, this incentive towards circular economy's trends is motivated by the need for the EU to assure Europe the resources needed to carry on the economy in this area. Circular economy's main goal is to promote a sustainable development capable to close the material loops. In this optic, wastes, once revalorized, must be considered useful materials – thus, resources – in order to partially cut the European need for natural resources.

In this terms, waste are valuable because seen as resources for a community in terms of recycling and re-using. Civil society is called for participation in this process of “re-valorization” of waste materials since the very beginning of a material loop (Lane 2011). This seems to happen both in terms of critical consumerism - i.e. avoid heavy packaging, buy reusable and/or recyclable items – (Hawkins 2005) and waste management - i.e. separate collection, home-composting). In this perspective, the civil society appears to be one of the main actor in the process of re-valorization of waste materials, here understood as materials within a broader optic of circular economy.

In this paper I will enquire about the role of civil society in this process, taking as focus group the actors part of a local project in the municipality of Capannori (Lucca, Italy), called the Zero Waste Families pilot project.

The Zero Waste strategy and the municipality of Capannori

The ideas related to circular economy practices and to the concept of waste as resource are carried on by several environmentalist movement. Within this context, the movement related to the “Zero

Waste strategy” (Connett 2013) in Italy represents an interesting analytical perspective.

Within the several Italian municipalities (261 in total¹) which have declared the zero waste “goal”, the community of Capannori is the first one in Europe. The Zero Waste strategy has as main goal the reduction of waste generation (Cooper 2010). This is thought as possible by following a process, composed by 10 steps. Every step is connected to a specific action or regulation the municipality should introduce in its policy and organization in terms of waste management, i.e. door-to-door separate collection, waste reduction policies, opening of reuse and repairing centres, promotion of home-composting.

At an international level, Zero Waste is not only seen as a strategy, but also as an ideal followed by several grassroots movements and groups. Communities and activists are organised in different associations, and these are all part of the GAIA (Global Alliance for Incineration Alternatives) NGO and the Zero Waste International Alliance association in terms of world regions. In Europe, the zero waste associations are gathered in the Zero Waste Europe Foundation².

However, Italy seems to remain the European country in which the Zero Waste strategy is more popular, in terms of number of communities adopting it and results in terms of local waste policies and regulations. In Italy, the zero waste activists groups and municipalities are part of the Zero Waste Italy association³.

As already said, the municipality of Capannori has been the first one in Europe to adopt the strategy. For this reason, it is well known among the zero waste international network. Furthermore, Rossano Ercolini, the local activist which at first promoted the strategy, is actually the President of Zero Waste Europe and he continues to operate in Italy as activist. For his actions, he won the Goldman Environmental Prize in 2013.

Despite its “popularity”, Capannori is a small municipality in Lucca Province (Tuscany), with approximately 50.000 inhabitants. This community follows the same waste policy and management strategy of San Francisco⁴ and others communities.

Capannori is also well known within the Zero Waste international network, because the Italian zero waste movement started from there. Furthermore, it is also called the “Italian Silicon Valley”, because many businesses based on sustainable practices (Miller 2012) are forming there, often thanks to the proactive local policy and to the influence of the “Zero Waste Research Center”⁵.

¹ <http://www.rifiutizeroCapannori.it/rifiutizero/comuni-rifiuti-zero/>

² GAIA: <http://www.no-burn.org/>; zero wasteIA: <http://zero.wasteia.org/>; Zero Waste Europe: <https://www.zerowasteurope.eu/>

³ <http://www.zerowasteitaly.org/>

⁴ <http://sfenvironment.org/zero-waste,a>

⁵ The Zero Waste Research Center of Capannori is run by activists with scientific expertise and it is financed by the local administration. Its main aim is to understand which are the most common materials that compose the urban residual waste. This helps to find solutions to the use of disposal materials.

The Zero Waste Families: a state of art

Capannori appears a community interested in applying circular economy and sustainable practices and this address have resulted in a high standard door-to-door separate collection, reaching a total of about 80%. Despite this high rate and the progressively decrease of the unsorted waste percentage, the amount of unsorted waste stopped at 20% (inclusive of both street, special and households collection) since 2014. Because the Zero Waste strategy aims to reach the “zero” generation of residual waste by 2020 and because the aim to create a system of circular economy, the town hall of Capannori, in collaboration with the activists of the Zero Waste Research Center and the local waste management company Ascit, have started a pilot project focusing on the monitoring and reduction of the urban domestic waste generation. This project is called the “Zero Waste Families” project. This pilot has officially started on the 17th of January 2017, but it has been thought in September 2016. In fact, the director of the Zero Waste Research Centre and the councillor for the Environment of Capannori realized that 2020 wasn't that far, and they needed to improve the reduction of wastes rates in order to reach the zero waste goal by 2020. In order to involve directly the civil society, they decided to promote a pilot project involving families.

This pilot project refers to the international “Zero Waste families” project, promoted by the Zero Waste Europe Foundation. Although the international “Zero Waste Families” project hasn't had a large visibility, this has given significant inputs to the Zero Waste Research Center in the design of the pilot project in Capannori, especially in terms of promotion of practices towards the reduction of waste in daily life practices (De Certau 2011). Apart from the Zero Waste Europe's project, there are others examples related to a family's waste reduction and management which have influenced the Zero Waste Families project in Capannori.

Still within the zero waste network, Zero Waste Slovenia supports a network of families spread all over the country, the “Zero Waste Dom (house)”⁶. This national project promotes daily life advices in terms of house management, shopping and eating in terms of sustainability (Miller 2012). The project has born spontaneously by families interested in living towards sustainable practices and following the address decided by the capital, Ljubljana, which in 2014 declared the zero waste goal, becoming the first European capital city to adopt the zero waste strategy.

Another example of “zero waste homes” is the one promoting by a British woman, Bea Johnson. Bea is successfully promoting her “zero waste home” life style since 2013. She claims to produce only one jar of (unsorted) waste in one year. She is writing a blog about her experience and she has published a book about this, *Zero Waste Home, The Ultimate Guide to Simplifying your Life* by

⁶ <http://ebm.si/zero-waste/dom/>

Reducing your Waste (Scribner 2013). She is also travelling abroad as speaker and guest to conferences and her website, www.zerowastehome.com, is sponsored by some significant companies, i.e. BBC, CNN, Hallmark, The New York Times.

Another similar experience is brought by Linda Maggiori, an Italian women who founded in Italy, in 2015, a network of families interested in applying the Zero Waste strategy at home for one year. Linda and her family has decided to live without car and to reduce significantly their waste generation. Linda, like Bea, is writing a blog about her experience and she has also published the book “Impatto Zero, vademecum per famiglie rifiuti zero” (“No Impact, the zero waste families' manual”).

Despite the significant experiences named above, the Zero Waste Families pilot project in Capannori is the first systematic attempt to create a community of domestic users that actively tries to reduce waste trough changing daily life practices in Italy. Furthermore, it is also the first Italian “official” and institutional project in this terms, being promoted by a local government, a local waste management and a local zero waste activists group.

As already mentioned, this project starts from the assumption that there is the need to reduce wastes, understood as materials that cannot be recycled or composted – disposable waste. According to Ascit's analysis, the most spread kind of waste is “plastic” and “residual” both mostly composed by goods' packaging. In this way, one of the first attempt of the families participating to the pilot has been to reduce their use of packaging and non-recyclable or non-compostable items.

In analyzing the Zero Waste Families project I will focus on the role and the meaning given to waste by the actors part of this pilot and how those are influenced by the agency (Ortner 2006) of the volunteers of the Zero Waste Research Center, who carry on the project.

The Zero Waste Families pilot project in Capannori

The project will run for 12 months (January 2017-2018). There are 26 families part of this pilot, for a total of 68 people of ages between 4 and 80.

The term “family” in this project commonly means a “domestic user”. There are many kinds of “families” involved in the project:

- parents+children (under 18) 8 domestic users,
- aged couple (over 50) 7 domestic users,
- single person (over 18) 5 domestic users,
- adults, cohabitants (over 18) 6 domestic users.

Most of them have been previously interested in environmentalist practices and/or are involved in

political activities related to sustainability in terms of environmental protection. So, a certain number of the people participating to this project have already given a thought about waste management and reduction. Also, the mayor and the city counsellor for the Environment have taken part of the project with their families, as well as the president of Ascit and all the Zero Waste Research Centre volunteers.

All the families participating are volunteers. However, they will have a discount in terms of waste fee, according to the pay as you throw fee introduced in Capannori in 2013.

Through an accurate information campaign, the municipality of Capannori, together with Ascit and the Zero Waste Research Centre, has promote awareness towards a correct way to dispose waste in the daily life: positive behaviours are encouraged through discounts, but negative behaviours suffer financial penalties.

The Zero Waste Families pilot project well represents a new way to create awareness not only about a correct household waste management but also in terms of sustainable daily life practices.

In fact, the two main aims of the project declared by all the partners are the follows:

- to analyse the features related to residual waste (number of disposals for year, the kind of materials thrown per disposal, the weight according to the materials);
- to create an community inside a “bigger” community (the municipality of Capannori), a group of people educated in terms of waste reduction, circular economy, alternative consumerism and green shopping.

The participants have to follow certain rules decided by the Zero Waste Research Centre experts in collaboration with the town hall of Capannori and Ascit. These rules can be summarised as follow:

- to reduce the packaging, since these materials represent the most spread type of waste in Capannori. This also relates to the way to do shopping: e.g. supermarkets usually use more packaging than neighbourhood markets;
- to use a composter;
- to weigh certain sorted waste streams, e.g.: plastics and cans, glass, organic (the no-compostable residuals), the disposable fraction. The first three kinds of stream are weighed by the families before they dispose the fraction according to the door-to-door separate collection system. The disposable fraction is instead weighed by one of the Zero Waste Research Centre's volunteers the day before the family will dispose it.
- all the families must register date and weight of all the streams before disposal. The Zero Waste Research Centre's volunteers will also check the kind of materials composing the residual waste stream in order to understand which kind of non-recyclable materials are mostly used in the daily

life by the families⁷. The data collected will be written on a special notebook called the “zero waste diary”. This has been given by the Zero Waste Research Centre to each family part of this project.

- to re-use and repair items in order to extend life's products. In case the families don't want something still usable or fixable, they can give the item to reuse centres or to the church. Electronic and electric items, whether broken, good or fixable, can be given to the Hacking Labs association, a group of organised people with expertise which will fix or disassemble the goods.

Through these rules, the Zero Waste Research Centre's activists seem to influence the agency of the actors (Ortner 2006) towards materials within their daily life practices, conditioning their perception of waste according to the cultural selection (Boni 2011) involved in the rules above which are strictly related to the Zero Waste strategy principles.

Household habits: a daily life transformation

The Zero Waste Families pilot project has attracted significant attentions by local, regional and national media. Local and regional newspapers and national TV channels came to interview the mayor, the director of the Zero Waste Research Centre and some representatives of the families.

Probably both because of the attentions given by media and the enthusiasm of the first period, the participants to the project have appeared motivated, interested and enthusiastic since the beginning. They have introduced the self-weighing of recyclable waste without problems in their daily life routine and they have promoted the project among neighbours, friends and relatives, convincing more people to participate (the volunteers of the Zero Waste Research Centre received new registrations to the project until March). Despite many of the family are already familiar with waste reduction practices and all of them are educated in terms of separate collection (the municipality of Capannori introduced the door-to-door separate collection in 2007), most of the participants are actively interested in improving their reduction practices day by day, and they gladly have followed some advices regarding the way to do shopping, e.g. avoiding excessive packaging, buying short chain produces, reusing and repairing items instead than buying new ones. In this way, the Zero Waste families have progressively changed their daily life habits and practices in terms of consuming and wasting.

Also, the zero waste families seem to have changed the organization of their daily life. First of all, they started to weigh all the sorted waste streams day by day, changing the habit to just put the bag outside the door, like something unwanted and to forget, i.e. something not part of the house any

⁷ The families represent a selected sample of citizens of Capannori. It is important to stress the fact that the majority of the citizens of Capannori are aware about topics such as separate waste collection, sustainable practices, waste reducing, recycling, reusing. This means that, averagely, the citizens of Capannori are more educated about sustainability than the average of Italian citizens.

more. Previously, the family didn't care about the materials inside the bag and sometimes they didn't preoccupy about the rightfulness belonging of some of the materials they threw away. But becoming part of the zero waste families project, they started to pay more attention not only to properly sort the materials, but also to reduce the waste. They say that they started to consider the garbage materials are something with a purpose and that they are trying to reduce the materials with no purpose e.g. non-compostable and non-recyclable. Also, the food and the green waste are considered important in terms of composting. In fact, these two kinds of waste are more useful within the "household's life cycle" since if composted, these materials produce something valuable for the garden and plants, i.e. fertilizer. Furthermore, the families who have animals e.g. chickens, rabbits, cats, dogs and pigs, have started to give more residual food waste to them instead to just throw it away, changing their daily life routine about wasting and feeding.

Second of all, the way to do shopping has changed as well as the way to think about products. In fact, in order to reduce the packaging many families admit that they have stopped to buy everything in a supermarket and started to go shopping in neighbourhood markets and in no-packaging shops (which are popular in Capannori for selling wine, olive oil and traditional food) and little shops, like bakeries and butcheries, where the packaging is less. Most of the time, water is not bought in plastic bottles, but refilled in public fountains. In this case, usually the bottles used are made of glass.

Apparently, doing shopping has becoming more a matter of time and choices than in the past: now different items are bought in diverse places, extending the time needed to do shopping. Before the project, most of the families did their shopping in the supermarket. But now, even though they go to the supermarket, they spend more attention to the products to buy, preferring light packaged items. This attitude changes habits in terms of way to buy, consume and waste and the transformation can be referred to the critical consumerism ideas related to the meaning they give to materials according to a zero waste perspective.

So far, it is not possible to estimate the impact of the zero waste families in terms of reduction of waste on the totality of the municipality of Capannori's disposing, but it is possible to say that the families involved in the zero waste families project are reducing their disposable waste.

The majority of the families say that they have tried to reduce the amount of waste materials (even if recyclable) since the second week of the pilot project. In this terms, the idea to make the families keep the zero waste diary probably has been fundamental in terms of changes in the families daily life habits. In fact, many families started to understand the real impact of their waste when they have begun to self-weigh the recyclable and compostable materials. By recording all the weigh and the disposal fluency of the waste disposing, they actually have understood their impact and started to try to reduce the weight of garbage, even if recyclables, i.e. plastics. In fact, the family

representatives told me that they started to keep more attention to the amount of packaging in the products they bought. This seems to demonstrate that the first evident change in the daily life practices promoted by the pilot project has been the way to do shopping, promoting a value of critical consumerism.

Waste value

According to the analysis related to the first months of the zero waste families pilot project, it seems that what is commonly called “waste” takes complex and various meanings.

First of all, by sorting the waste materials, the families give diverse meanings: what can be recycled or composted is understood as important in order to save natural resources, becoming an important resource within the community - or within the household, in terms of composting practices. In this way, wastes appear to be part of a process of commodization (Kopytoff 1986), when wastes get an economic value according to the context and the implied power in the socio-economic exchange. This is the case of plastics, paper and cardboard, glass and cans/metals. They have a well-known (international) recycling market and, for the families, the value of these materials is given by both the economic value and the knowledge that, by recycling, natural resources are saved. These market transactions can influence a household economy (Barr 2017) through an economic saving in the waste bill, due to the fact that the community has sold the materials, instead that paying to put those in a landfill.

Instead, home-composting practices (Ibid) have a different meaning, since the discarded materials are not really thrown away (i.e. put in the official waste management system), they remain inside the house and get a new meaning by changing their materiality (Warnier 2005, Corvellec&Hultman 2012) and significance from potatoes skins (something considered useless) to fertilizer valuable to grow a garden (something useful). Being something done at home, home-composting permits to the residuals to remain inside a household economic system and they are not put in the official waste management system. From one hand, this saves human and machine energies, from the other it saves time within a community organization. In fact, if the residuals are not collected there is a saving in fuel and time for the collector, thus a saving of money for the community. Also, composting follows natural processes. This means that there is no pollution involved in this process, an important fact for the zero waste families.

In this process, waste could be seen as things with a particular type of social potential (Appadurai 1986). They are distinguishable from “products” and “artefacts”, but only from a certain point of view. Wastes could be seen as a particular kind of commodity, meaning a thing with a value that can be exchanged for a counterpart which in the immediate context has an equivalent value, getting an

economic value according to the context and the implied power in the socio-economic exchange (Ibid).

Second of all, more value is given to the items that can be reused (Barr 2017): in fact, by reusing practices, the families think it is possible to save the energy needed for the recycling process, creating less impact on the environment. According to this, reusing is perceived as a better practice in comparison to recycling. In fact, by the act of reusing, the families also think to reduce the financial impact related to the waste community management: there is no collection, only an exchange within the civil society or private shops. The materiality of a reused object usually doesn't change, on the contrary of organic residuals that compost and become something valuable. Reused items are usually valuable without changing their usefulness and meaning, e.g. clothes, accessories, technological objects. However, there is another process involving reused materials, called "artistic reuse": in this case an object, broken or no more functional, can become something else, changing its meaning but not its materiality (like in the case of recycling and composting), e.g. clothes can become bags, books furnitures, etc.

Whether artistically or simply reused, in this context materials seem to be part of a process of singularization (Appadurai 1986), when wastes have to be put in a process that give them a socio-economic power after they have been already produced. According to the process of singularization, a singularized object is when something, already thrown out as trash, is recovered, for example old furniture: these items cannot be put in the regular economic dynamics because the Italian legislation about waste management forbid the selling and the buying of waste. Thus, an old sofa could be recovered by a private citizen for his own use, giving to the object a unique meaning and value which is only in that person's mind. Old furnitures, books and clothes can be freely given to associations and shops that recover those objects and re-sell those or give them to people in need. In this way there is not act of "trashing" but the social act of offering something.

In terms of household economy, the act of reusing is perceived as useful because money are saved by not buying the same object several times (Barr 2017). This is especially true for technology, i.e. laptops and printers.

To conclude, it is possible to say that the value of reused items is related in the process of singularization, which gives a socio-economic worth to those objects within a certain social system. Thirdly, what is it perceived as garbage (the non-compostable and non-recyclable materials) is recognised by the families as something unwanted and that must disappeared. In fact, these materials don't have any usefulness within the community and, thus, these are seen as dangerous for the community and the environment because these cannot be absorbed or put into a natural cycle. In this way, non-recyclable and non-compostable materials are perceived as something creating

pollution. Pollution is here understood as something (a material or a behaviour) that can compromise or significantly waste natural and financial resources within a community. Also in terms of household economy, garbage is seen as useless, since it means a loss of money (they have to pay for putting it in landfill through the waste bill) and it doesn't have any other use. And mostly, it stinks in the house, the families say.

Non-compostable and non-recyclable items are considered by the families as something without value, either from a social or an economic point of view.

According to the third points explained above, it appears that a process of revalorization of waste happens. In fact, mentioning the families' interviews, at the beginning of the project they considered waste objects as something unwanted and useless, but after few weeks they started to give different meanings to different materials according to their usefulness. In this way, it appears that a process of re-negotiation of the meaning of waste has started. In order to explain it, it could be significant taking into consideration the process of cooptation (Ingold 2004), meaning when a thing is used for a different purpose than the original one, according to a certain context. Ingold means the process of cooptation in terms of architecture, but its meaning could be used in the context in which a person's will attributes a "planning value" – the usefulness – to an object. In fact, something coopted is a tool defined by its attributed usefulness. In this sense, waste, when coopted, is considered a valuable resource because its usefulness for the community: organic waste are valuable for composting, plastics to obtain new materials, recycling glass and paper to save money and natural resources.

Furthermore, the perception about waste showed by the zero waste families could be related to the one promoted by the idea of circular economy, an idea highly supported by the zero waste strategy. In fact, according to the circular economy ideas, to consider waste as resources is important to categorize those properly according to their material composition: this means, also, promoting the prevention of creation of "unsorted" wastes which would be put in landfill or send to incineration – two solutions working against the circular economy's main goal (Corvellec&Hultman 2012) and the Zero Waste strategy.

In this context, as already mentioned, waste is theorized as an ambiguous material category because it both represents an object and a social act – e.g. the act of judging something useless or unhealthy and the consequent act to dispose it -. This ambiguity is also determined by the complexity of the process of "wasting", which – according to O'Brien (2008) – is a field of socio-political and economic struggle. In fact, waste, having a socio-political and economic role in the society, preserves its material ambiguity because it is "out of" and "in place" at the same time: this means that once thrown away, rubbish is considered unwanted and useless but the materials still have a monetary value in the context of capitalistic economic systems – both if recycled or

disposed, trash seems to be always part of a monetary transaction and this gives value to something which was once discarded as useless. This ambiguous process involves waste management, recycling and a community organization. In the last years it seems to bring towards sustainable addresses with the introduction of the managerial idea of circular economy (Gregson et.al. 2015).

In this perspective, it seems that, according to the research I have conducted, it is possible to say that the zero waste families are contributing in processing a revalorization of the meaning of waste (understood as recyclables and compostables) as community resources (Lane 2011). In fact, if a material is useful within the household economy, it is perceived as meaningful also in a broader sense, e.g. the community. On the contrary, unsorted residuals are considered useless and even unhealthy. In fact, the families demonstrate to consider these items as a collective problem that must be solved not only through the agency of the civil society, but through the cooperation with both industrialists - that should stop to produce something so “dangerous” - and the political leadership - that should create regulations in order to ban non compostable and non recyclable materials.

In this context, the process of “manipulation of meaning” (Ortner 2006) of waste that the families seem to carry on, it appears to be influenced by the agency of the volunteers of the Zero Waste Research Center. In fact, through the Zero Waste Families project rules (list above), the Zero Waste Research Center's activists influence the agency of the actors towards the meaning of materials within their daily life practices. The project's rules are specific and addressed to waste reduction and reuse. These norms have power over the families meaning-making process⁸ (Kurzman, 2008) because these come from actors (the activists) that exercise a certain dominance in terms of contents about waste and pollution within the community of Capannori. In fact, the activists collaborate with the local political leadership, business companies and with the international zero waste network about matters related to waste and materials.

Because of this collaboration, the Zero Waste Research Center's activists are considered experts in of waste topics by the zero waste families. This idea seems to condition the families perception on waste according to the cultural selection (Boni 2011) related to the Zero Waste strategy principles carried on by the activists. The cultural selection could be explained as something inclusive in power processes and it concerns decision making within a social network, e.g. the zero waste families group. It is a process in which the dominant actors (i.e. the Zero Waste Research Centre's activists) decide which cultural frames (i.e. zero waste principles) promote into the network, usually choosing the most useful in order to promote their own ideas. This seems to start a process of meaning-making according to the selected cultural frames about a certain idea, which, in the quoted

⁸ The meaning-making is a process according to which it is possible to create the meaning of something. This usually involves a network of power relations and it is often produced by the cultural selection in promoting decisions and new frames about a certain topic.

case, is mainly related to the revalorization of waste as resources.

However, despite the families' creation of meaning seem to be influenced by the agency of the Zero Waste Research Center's activists, the families appear to negotiate the ideas they received from the zero waste network in their everyday life routine and habits. This contributes – at a certain level – to the process of meaning-making related to the revalorization of waste as resource.

To make an example: home-composting is fundamental in order to reduce organic waste. In relation to this dominant idea, some families negotiate the internal meaning of it with their household routine and instead that getting a composter, they prefer to feed their animals (i.e. chickens, rabbits and pigs) with food residuals.

In this way, they integrated one of the project's rule (i.e. to practice home-composting) in their daily life habits (i.e. feeding the beasts). In this optic, the value of food waste is even higher since those materials become food again – after being discard from the human table -, whilst composting is about changing the materiality of the residual (Corvellec&Hultman 2012), which becomes fertilizer. According to the reflections above, it is possible to say that despite the Zero Waste Research Center's activists carry on the dominant ideas related to the process of revalorization of waste as community resource, it seems that the families re-elaborate these ideas according to both their own daily life habits and the usefulness of the waste materials within a household economic system.

Brief conclusion

This paper is based on a on-going research, thus it is not easy to write a conclusion to it. However, I would like to end it with a brief consideration. Taking into account the feature of ambiguity of waste as material category, its role and value in a context aiming the creation of circular economy like the municipality of Capannori, and the processes of cooptation (Ingold 2004), singularization and commodization (Appadurai 1986, Kopytoff 1986), it is possible to suppose that the Zero Waste Families pilot project seems to bring towards a perception of waste as community resources (Lane 2011). This seems to go towards the main aim of the Zero Waste Families pilot project in Capannori, which is to create a community based on the absence of useless materials, such as non compostables and non recyclables. In this optic, the value of waste objects is related to the idea that these are useful within both a society (i.e. a household) organization and an economic system.

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