



Monographic Section

## From Possibility to Action: An Interdisciplinary Action-Learning School dealing with Waste

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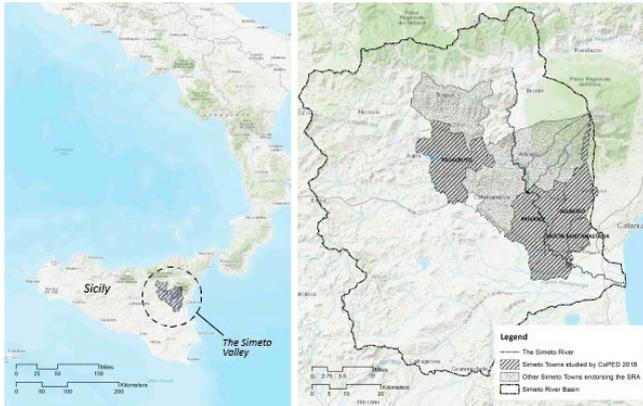
**Abstract.** For more than a decade, researchers and activists have collaborated in the Simeto Valley for the advancement of development inspired by social solidarity and the need of reconnecting people to the local ecosystem. Over time, this experiment has progressively turned into an interdisciplinary action research partnership that involves now mainly planners and anthropologists. One of the activities carried out in the Valley is an action-learning Summer School organized by the University of Memphis in partnership with the University of Massachusetts, Boston and the University of Catania. The work of this partnership lies between planning and anthropology and has generated an interdisciplinary space and a shared methodology of action-learning. This methodology is neither exclusively inductive nor used as a basis for deduction, but modified in the course of collective action. This paper describes the theoretical and pedagogical principles underlying CoPED and draws on its 2017 edition, which focused on Zero Waste, to show how it provides a platform for theory-in-action.

**Keywords.** Action-learning; Zero waste; Sicily.

We arrive at the medieval castle for the students to make a presentation to the community on their work from the 2017 CoPED program. We can see landfill. In the pink light of the setting sun, the mounds of garbage might be mistaken for rolling hills. Yet, we are looking at our community partners' greatest concerns, and the thing(s) we have been studying for the past ten days – waste.

### INTRODUCTION

Garbage has become a key element of the landscape in Sicily. It is discarded along roadsides, dumped on properties, and trucked into landfills. Additionally, periodic strikes by sanitation workers and stinky, poisonous air from illegal pyres of uncollected solid waste point to financial problems with the regional waste management system. In 2002, after the Regional Government approved the construction and management of an incinerator in the



**Figure 1.** Map of the Simeto Valley in Eastern Sicily, with the identification of the cities endorsing the Simeto River Agreement.

Simeto Valley by a mafia-related private holding company, waste also became a symbol of organized crime. How to best address the problem of waste in Sicily is position dependent (Drakner 2005). Experts see waste as a cycle made of phases, each addressed with more or less convenient or efficient technological solutions. Citizens view it mostly as a pricey bill or, sometimes, an inconvenience, either because recycling takes work and space or because the system does not work very well. For the residents of the Simeto Valley, in Eastern Sicily (fig. 1), waste is all of the above and much more.

Struggles around waste inspired the Simeto community to undertake a collective journey that has iteratively gone from mobilization to discovery to action. Their journey not only has resulted in the prevention of the construction of the incinerator,

but also in a shared development vision based on the restoration of lost relationships between the individual, society, and the river ecosystem. Their vision gave birth to an official development plan called the *Simeto River Agreement* (SRA), which is founded on a re-design of both lifestyles and productive models. “Zero Waste” (ZW), the eradication of waste production, is both one of the main pillars of the SRA and at the core of a global scientific debate around waste. In 2017, ZW was also the focus of a 10-day action-learning Summer School, called Community Planning and Ecological Design (CoPED), which is one of the many action research activities carried out by a permanent partnership between local community organizations, the University of Memphis, the University of Massachusetts, Boston, and the University of Catania. The work of this partnership lies between two major disciplinary traditions, planning and anthropology, and has generated an interdisciplinary space and a shared methodology of action-learning. This paper describes the theoretical and pedagogical principles underlying CoPED and draws on its 2017 edition, which focused on ZW, to explore how it provides a platform for theory-in-action.

## THEORY IN ACTION

Over the past twenty-five years, complexity theory, postmodernism, contemporary hermeneutics, American pragmatism and neo-Aristotelism have challenged applied fields to account for the loss of linearity in the relationship between knowledge and action. If scientific knowledge cannot really provide points of reference on what can or should be done, before doing it, what gives development specialists the legitimacy to use their expertise to make development decisions? The epistemological perspective that knowledge of what to do is modified in the course of action, challenges development professionals’ “expert” roles and hints at other ways they could/should relate with communities. Theorizing while doing, means not having absolute knowledge of what to do ahead of time but figuring it out while working *with* people on the ground. Both anthropology and planning, have slowly and, sometimes, uncomfortably, been navigating the knowledge-production and action landscape of development.

Anthropology’s relationship with development has long been contentious. From late 19<sup>th</sup> through the mid-20<sup>th</sup> century, anthropologists largely concentrated on groups and communities undergoing rapid change due to colonization (Ferguson 1997). During this period anthropological knowledge proved to be a resource for colonial administrations (Bennett 1996), as well as the impetus for documenting and salvaging culture in the face of development (Stocking 1991). Escobar (1995) argues that these anthropological representations helped produce the third world and its status as underdeveloped. By the mid-20<sup>th</sup> century, decolonization, the consolidation of Western powers following WWII, and the emergence of aid agencies fostered new sites of anthropological knowledge production

and use. Ferguson (1997) suggests two strands of anthropological practice emerged in the wake of these dynamics: those that work in development contexts and apply anthropological knowledge and those that primarily work in the academy and critique development.

Over time, the division between practitioners and other anthropologies has raised important questions about research dynamics, professional ethics, and anthropologists' responsibilities to the people for or with whom they work. By the 1980s, social movements in Latin America and the United States, independent state formation in Africa, as well as a growing number of subaltern scholars challenged anthropology to critically reflect on both how it produces knowledge - whose voices are heard - and the roles that the discipline and its practitioners could and/or should be playing in local and national conflicts about access to resources and rights (Asad 1979; Spivak 1988; Harrison 1991; Escobar 1995). Sol Tax's Action Anthropology (Tax 1975), Escobar's attention to power and social movements (Escobar 1984, 1988), David Mosse's (2005) ethnographic examination of participatory development, policy, and knowledge production, and the articulation of activist research (Hale 2001) speak to various ways anthropology has actively taken up the question of development in the latter decades of the 20th century. Anthropological attention to grassroots initiatives and resistance movements underscore the ways individuals and communities interpret development and inequality in their everyday lives.

Further changes in the ways anthropologists engaged with development over the last two decades mirror broader discussions about the relevance and practice of the discipline. Anthropology has acknowledged and embraced the need for an engaged anthropology, one that addresses public issues in ways that promote education of the public, collaboration, and often activism (Low et al. 2010). Paul Farmer's work in Haiti offers a quintessential example; he has served as voice for health as a human right and been involved in the provision of health infrastructure and services (Farmer 2003). Rappaport (2008) draws on her experience with collaborative ethnography in Columbia to develop a theory and ethnographic practice of co-theorization, which emphasizes participants' subject position, the collective research process, and the mutual, albeit varied benefits of the collaboration. Finally, activist anthropologists directly take up political positions, aligning themselves with the political agenda of local communities in ways that forge a link between rigorous scholarship and social justice (Hale 2006; Speed 2006). These stands of engaged anthropology share characteristics with "communities of practice"; they are, as Lave and Wenger propose, "system[s] of relationships between people, activities, and the world: developing with time, and in relation to other tangential and overlapping communities of practice" (Lave and Wenger 1991: 98). Today, the growing number of anthropologists with an orientation toward engagement in and alliance with the communities in which they study begins to suggest the changing ways anthropological expertise and methods can operate in contemporary development contexts.

With its roots as an applied discipline, planning has not experienced the kind of disciplinary split that occurred in anthropology. However, planning scholars have been challenging traditional approaches to planning since the 1960s. Before that, expert-driven urban plans had proven to be highly unfair to the most vulnerable social groups, generating the need for planning approaches inclusive of marginalized people and local knowledge, or able to affect power structures in favor of the powerless. Advocacy planning (Davidoff 1965), participatory planning (Arnstein 1969), guerrilla planning (Goodman 1971), transactive planning (Friedman 1973), communicative planning (Innes 1995), and collaborative planning (Healey 1997) all emphasize the need for planners to develop communicative and collaborative skills, allowing lay people to be directly involved in the plan-making process.

While many of the disciplinary shifts in both anthropology and planning suggest the need to make both professional development practice and academic research more collaborative, community-based, and participatory, we further posit that approaches like *participatory action research* and *community-based research* offer ways to address both the power dynamics inherent in processes of development, as well as in research. *Action research* and *action-learning*, which is action research with a pedagogical focus, combine the ideas that knowledge and learning are developed in the course of action with the observation that this occurs only if researchers, experts, and development professionals are part of (not in charge of) a complex system of functional, emphatic, and emotional relationships (Coghlan & Brydon-Miller, 2014). Knowledge is created, applied, evaluated, and innovated, within these complex systems only if the relationships between experts and non-experts are genuinely bidirectional: actors

involved share all responsibilities, including choices, control, risks, and benefits (Whyte 1991). Usually this happens in the context of what scholars call long-term community-university partnerships (Reardon 2006). The word “long-term” emphasizes the fact that change, especially if it is structural change, needs time, a trial and error approach, *and* critical self-evaluation. The long-term action research partnership in the Simeto Valley offers an occasion to appreciate the significant ethical and scientific value of collaborative and action-based research.

## BACKGROUND

We, the authors, are not Simeto residents, but we are not outsiders either. Collectively we have carried out common initiatives and research projects in partnership with various Simeto groups and organizations for more than a decade, and consequently share many values and habits. Our long process of knowledge creation and change, inspired by the action research paradigm, started in 2007 during the anti-incinerator campaign and led to the official endorsement of the Simeto River Agreement (SRA) by ten municipalities in 2015 (Saija 2014, 2016). Importantly, the SRA encompasses a new system of shared governance. The main ‘agency’ of the Agreement, responsible for its implementation, is called *Simeto River Assembly*. It is composed of local mayors, a representative of the University of Catania, and two representatives of a new organization called the *Simeto Participatory Presidium*, which is an umbrella organization for all the groups, associations, and individuals that intend to contribute to the implementation of the SRA. Over the years, the SRA has become a wide framework that includes many areas of action, from agriculture to water, mobility and culture, as well as environmental conservancy and historic preservation. Given the SRA’s roots in anti-incinerator activism, the Simeto community identified a ZW Strategy as one of the pillars of the SRA.

ZW theory is at the frontier of scientific debate and political agendas and proposes replacing human-centric linear production, consumption, and disposal patterns with a circular economy (Connett 2013, Pietzsch et al. 2017). Human action is viewed within the context of the ecosystem; thus, ZW is not about changing the amount trash we produce, as much as it is about re-connecting waste to the development processes that create it in the first place and forcing these practices to change. Waste management, then, is not about gathering, differentiating, and dispersing of different types of refuse, but about holistic resource management with the goal of eliminating waste altogether. To do so has implications on the broader discourses and practices of development; it means changing production practices, organization of space and social life, and the relationship between economics and natural resources and between humans and non-humans.

Many waste-related battles in the Simeto Valley have been won thanks to the institution of the *River Agreement*, including a formal stop to numerous proposals to construct incinerator-like facilities in the Valley. Moreover, several cities in the Valley have referred to ZW in their official papers, improved their waste collection systems, and in some cases increased the percentage of collected recyclable waste. Nonetheless, the core management system remains in place: waste management is controlled by a few private companies, driven by profit, and comes at high fiscal and environmental costs to municipalities and citizens. Despite efforts by citizens, grassroots organizations, and local administrators to advocate for change, highly profitable and problematic landfills are still the only technological solutions in place and the system has many challenges.

Why is transforming waste management in Sicily so difficult? Drawing from the literature on action-learning and development (Dolci 1974, Hall 1982, Chambers 1997) we argue that in the case of waste, which is what action researchers might refer to as a wicked problem, the complexity of the issue itself, the power relationships that structure it, and the political, social, and cultural pathways and barriers to solutions necessitate theory-in-action. That is to say, one way to really figure out how to promote change is by trying to do it. As we discuss below, waste management exposes the intersection of development, local power structures, and the deepest of Sicilian economic, cultural, political and social contradictions. Therefore, change requires more than technical expertise; it requires a deeper process of socio-cultural learning, where ‘knowing how’ comes out of other forms of emotional, value-based, and tacit knowledge. It requires figuring things out along the way: learning by doing (Dewey 1897),

developing a sort of practical wisdom (Aristotelian *phronesis*) and allowing for ethical situated judgments (Ricoeur 1990). Below we explore how CoPED provides practical opportunities to overcome linearity between theory and action in face of wicked, complex issues like waste. Our analysis reveals how theory that is grounded in action-research, action-learning, and engaged scholarship practices can produce power and context sensitive solutions.

### COPED SUMMER SCHOOL AND THE CHALLENGE OF ACTION-LEARNING IN 10-DAYS

The most visible outcome of the decade-long work of the Simeto community-university partnership is the 10 municipalities endorsement of the SRA. Importantly, this outcome was made possible by an ongoing process of deepening community engagement and commitment to the common good. What began in 2003 as a dozen activists from two towns protesting the incinerator, grew in 2007 into a complex coalition of more than 50 community groups, non-profits, public officials from ten different towns, and three Universities from two continents. The capacity of the movement to grow and mature comes from the ability to continuously involve new people with new perspectives. At the same time, within the framework of a long-term community-university partnership, people that remain engaged, end-up sharing many learning and action experiences, and often establish common perspectives and habits of learning and acting. These sustained social relationships between individuals, groups and organizations involved in the creation and endorsement of the SRA represent a “community of practice” in which a commitment to “mutual engagement, sense of joint enterprise, and a shared repertoire of communal resources” supports social learning and knowledge generation (Amin and Roberts 2008:354, summarizing Wegner 1998, 2000). At the same time, local actors in the Simeto Valley have seen great benefit from the temporary engagement of outsiders. For example, at the beginning of the anti-incinerator campaign Simeto activists collaborated with national and international ZW researchers and activists, such as Paul Connett and Rossano Ercolini. Moreover, several collaborations with external community groups and research institutions helped to shape the slow genesis of the SRA (see Saija 2016 for details on these collaborations).

CoPED was established in 2012 as a way to make opportunities for formal collaborations with outsiders recurrent rather than occasional. It began as a partnership between the Simeto community, the University of Catania, and the University of Memphis, through a Marie Curie Research grant, and has, overtime, involved the University of Massachusetts Boston, as well as single participants from other Italian and US institutions. For the Simeto community, CoPED creates a space for the periodic engagement of outsiders in the longer action research process. From the perspective of the outsiders, CoPED represents a pedagogical opportunity to engage in action-learning. This is feasible in part because CoPED is an intensive short-term activity that takes advantage of the existing community of practice and network of relationships that defines the long-term Simeto community-university action research partnership. The outcomes of the school, both material and non-material, are ‘delivered’ to local leaders and university researchers, for their future use, implementation, and evaluation. Thus, participants can focus on something that can be ‘known’ and put into action even in a short amount of time, while simultaneously giving them an opportunity to be part of a network of relationships whose reciprocity can only occur over the long-term.

Each year, the school’s activities are shaped around one specific objective, which is identified by the *Presidium*, and represents one small tile of the larger mosaic that is the SRA. Each edition of CoPED is structured by a *Scope of Mutual Learning*, which is co-developed by instructors and community leaders. This document is similar, but distinct from, a *Scope of Service* in a service-learning course (Rhoads & Howard 1998). While service-learning is based on the idea that the experience of ‘serving’ a deserving community would provide students occasions to learn new skills and knowledge while developing ethical sensitivities, action learning adds the element of reciprocity. In the Scope of Mutual Learning, CoPED participants’ learning objectives and deliverables are aligned with community members’ learning objectives, and provides a clear indication of mutual expectations, commitments, and advantages. This mutuality occurs within a process of co-learning and relies on a reflective use of theory.

The Scope of Mutual Learning includes a draft of the work program, which alternates between two main types of activities (fig. 2):

*Specialized* - various kinds of research activities (qualitative, quantitative, and geographical) primarily conducted by full-time participants since they require methodological training, which is typically done within the context of the school to allow participants with no background to be actively involved.

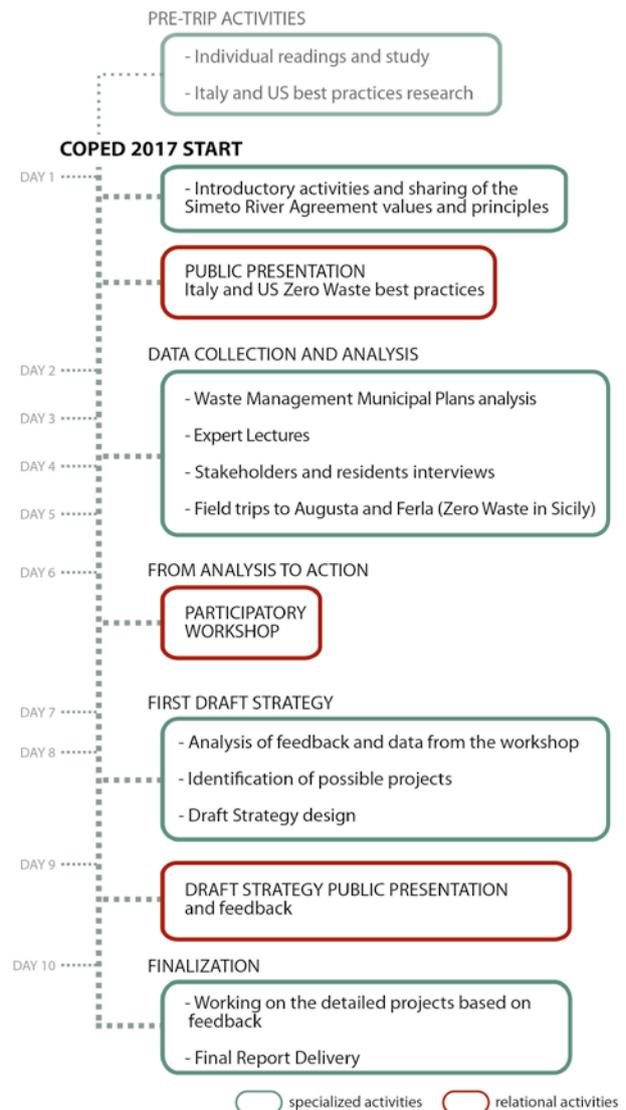
*Relational* - collaborative workshops, participatory activities, and open houses, through which full participants engage a broader group of people in data collection, analysis, interpretation, and formalization.

The general structure of CoPED is based on the continuous movement between specialized and relational activities, and allows at least three iterations of the following sequence:

- participants learn about theories that are relevant for the project;
- they engage in fieldwork and data collection;
- they critically reflect on how data challenge the theories they started with;
- they share their reflections with a broader audience (relational activity) and collect feedback, in order to re-shape the starting point (which then leads to the need to go back to other theories and further data collection).

The iterative structure of CoPED highlights the deductive and inductive aspects of action learning: students learn the theory through readings and/or lectures, and then are asked to 'apply' it the field. Students also collect and analyze data through their fieldwork and then are asked to analyze them in order to make some sense out of them. Thus, theory is used and modified during the fieldwork, in the course of action.

Importantly, CoPED activities are designed to facilitate the movement between specialized and relational activities for various participants with different levels of engagement. (i) Community members who are specifically interested in a particular edition's objective can participate full-time. Every year an average of 3 to 4 community members enroll in the program and carry out all the research activities, taking advantage of the methodological and theoretical training offered by the school. (ii) Community members who have significant knowledge of the school's objective are invited to share it in various forms. For example, local experts are asked to give lectures, share materials, or be available for in-depth informational interviews. (iii) Community members who do not have the time or the interest in being full-time participants, nor the knowledge to lecture and teach, but still want to contribute to the school's outcomes, can participate in the relational activities, which are conceived as time-limited, interactive, knowledge vetting activities. During these activities, full-time participants interact with as many occa-



**Figure 2.** Activities schedule for CoPED 2017.

sional participants as possible, with the purpose of sharing outcomes from specialized activities and collecting substantial feedback.

The full integration of various levels of community participation allows the school to practice a basic element of action-learning: a systematic integration between local and expert knowledge both at the level of policy and plan-making (Fisher 2000) as well as co-theorization (Rappaport 2008). However, while much of the development and action research literature makes a significant distinction between expert and local knowledge, in the Simeto case, the long-term engagement of many locals in the action research process means that such a distinction is sometimes hard to make. The school's various levels of community engagement are designed to fit the depth and complexity of "local and expert" knowledge. Although CoPED shares some characteristics of the policy circumscribed production and use of local knowledge described by Mosse (2005), two key differences are the recognition and incorporation of both explicit and tacit forms of knowledge, namely embodied, affective, and non-verbal, and the intentional attention to power dynamics within the development landscape of the Simeto Valley, and Sicily in general. In the next section we explore how the general methodological and pedagogical schema was deployed during the 2017 edition to address the issue of waste. We argue that CoPED provides a platform for theory in action (action-learning) in two specific areas of collective knowledge-building: understanding current waste practices and developing recommendations.

### WASTE IS STRUCTURAL. WASTE IS POLITICAL

In December 2016 our exchange of Christmas wishes with community partners was also the occasion to learn about what had happened in the Valley during the year and begin planning for the 2017 edition of CoPED. The highlight of the year was that a private company had obtained approval from the Mayor of the City of Motta S. Anastasia to build and manage an incinerator located only a few km away from an existing landfill. As in the past, the community mobilized against it, called upon the Mayor's obligation to respect his endorsement of the SRA, and succeeded in convincing him to resend his approval. The reemergence of an incinerator proposal put waste management back on center stage among Presidium leaders and other SRA mayors. One Presidium leader summed it up, saying:

We have been able to stop incinerators and include a ZW strategy in the SRA, but we are still far from having a detailed and actionable strategy that would make ZW something real and concrete for the people of the Valley. Until we will have a very actionable plan, including all the small feasible steps to start with, proposals to build new incinerators' and other similar facilities will keep coming back.

As a result, the Presidium asked CoPED to make waste management the focus of the upcoming edition of the summer school. Already knowledgeable about ZW theory and its development implications, the Simeto community requested concrete and feasible steps they could use to move the Valley in a ZW direction.

The 2017 edition of CoPED brought together students from the University of Memphis, University of Massachusetts, Boston, and University of Catania, as well as members of the Simeto Community. Prior to the beginning of the school, university participants prepared themselves to enter the Simeto Valley community of practice. They read articles about the anti-incinerator campaign and the River Agreement, reviewed reports from previous editions of CoPED, studied the theoretical foundations of ZW, and worked through the implications of changing waste production for waste management and development (Connett 2013, Pietzsch et al. 2017). They learned about the 10 steps that experts have identified for achieving the ZW goal:

1. separation at the source of different types of waste;
2. introduction of a door-to-door collection;
3. composting of the organic fraction;
4. effective and low-cost recycling;
5. repair and retail center for reusable items;
6. waste reduction initiatives;

7. economic incentives for households (pay-as-you-through);
8. research center for studying the non-reusable and non-recyclable fraction of waste;
9. better industrial design solutions for non-recyclable and non-reusable products;
10. interim landfill for biologically stabilized dirty organic fraction.<sup>1</sup>

They also searched for cases of implementation (specialized activity). For example, they identified Portland, Oregon, as well as the two small Italian towns of Capannori and the Sicilian Aci Bonaccorsi, as examples of how public administrations engage in waste prevention. They also found that schools, as in the case of the Marin county school district in California, can make a difference. Additionally, they discovered how businesses, like *Urban Ore* in San Francisco or *Habitat for Humanity Re-Store* in Memphis, can be built around commercial transactions of reusable materials. Considering the importance of the organic fraction of urban solid waste in Sicily, they also looked at the technological opportunities offered by anaerobic digestion, as is the case of Real Farm Power in Massachusetts.

Students' background research initially could have been used to develop strategies that replicate 'best-practices' in the Valley (deductive research). However, during the first relational activity of the school, a public presentation of the best practice research, participants learned the difficulties of simply replicating what has worked elsewhere. Audience responses suggested many social and legal constraints as well as class norms associated with several of the best practices. For example, audience members expressed doubt about the acquisition and use of used household goods, which raised questions about the possibility of commercializing reused household items and construction materials. Such interactions and debates highlighted the need for on-the-ground knowledge about the waste management system, municipal leaders' intentions, and residents' perspectives.

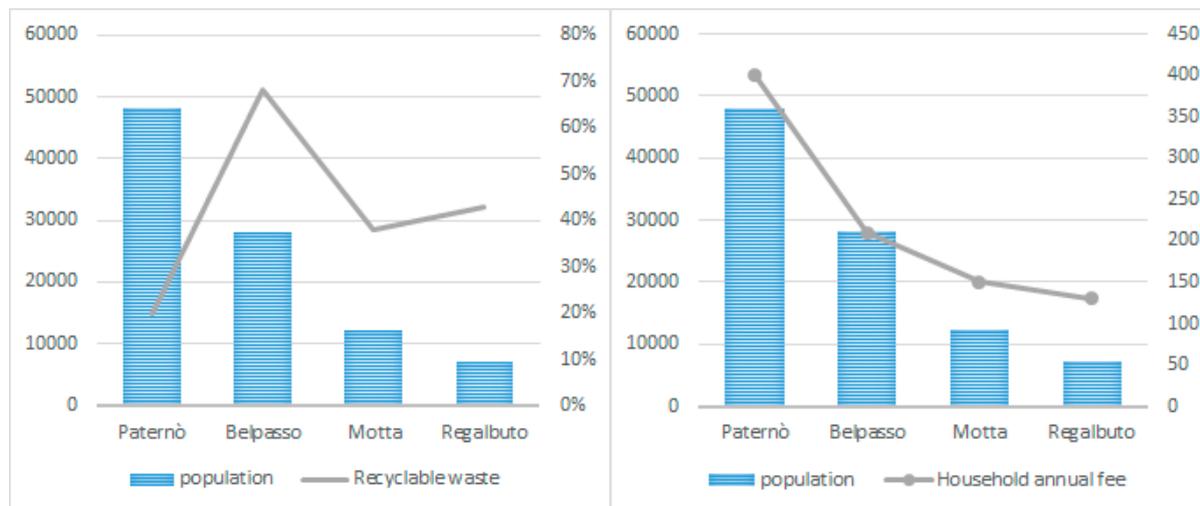
Over the course of the next four days, CoPED participants drew on experts' lectures, municipal waste management plans, and interviews with stakeholders (days 2-5, specialized activities) to begin to piece together a portrait of the structure and practice of the waste management system in a sample of four Simeto towns, Paternó, Motta, Belpasso, and Regalbuto. According to the regional legal framework, each town is responsible for waste collection and intermunicipal waste authorities, called "Società per la Regolamentazione dei Rifiuti" (SRRs), are responsible for disposal. The Simeto towns rely on two different intermunicipal waste management agencies, the Catania SRR and the Enna SRR, both of which face the lack of facilities to dispose and treat organic and recyclable waste. Despite language in favor of recycling in the Regional law, only 12% of total garbage in Sicily is diverted from landfill for recycling. As the Director of the Regional Special Office for Landfill Diversion explained, everything else goes to privately owned and managed landfills, which are exceeding their actual capacity by 1900 tons per day. This excess creates a perennial state of emergency, which is addressed with "special decrees" and environmental waivers that primarily benefit landfill owners.

Data showed and interviewees emphasized their belief that the Regional Government has actively avoided pursuing strategies that threaten the powerful interests of the three Sicilian landfill owners, whose business amounts to 40-60 million euros per year. During interviews, administrators noted that SRR directives for where to dispose waste posed one of the biggest barriers to implementing ZW practices. Additional inquiries revealed that, with the exception of Belpasso, towns with larger populations have lower rates of landfill diversion and pay higher costs for waste collection and dumping (fig. 3). From a technical perspective, this is counterintuitive: more households should make the service more cost effective. However, the increase in diverted waste reduces landfill owners' profits. As one interviewee explained, "If a small town recycles a lot, who cares? It is only a little loss for the landfill. If a larger town does it... it is a much bigger loss from the perspective of the landfill owner." Understanding the dynamics in the current system exposed landfill companies' vested interest in controlling as many technical aspects of the diversion and disposal process as possible.

Students found that some local administrators have taken on this challenge by devising strategies "outside" of the current regional system in order to implement some of the ZW steps. For example, Belpasso has stipulated a

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<sup>1</sup> A full coverage of the 10 steps was also the main argument of a community-led lecture on the first day of Summer School. This is an example of how Simeto local knowledge has evolved in the last decade in a more complex mix of local and expert knowledge.



**Figure 3.** Landfill diversion (graph on the left) and household annual waste fee (graph on the right) in four Simeto towns of different population size (Elaboration of CoPED 2017 based on municipal data).

contract for garbage collection with a private company for a longer period of time than usual (7, instead of 3 or 5 years), in order to work with a company willing to make significant changes at the beginning with the promise of having a longer period of time to generate profit. In only four years, Belpasso has achieved 70% diversion from landfill (ZW step #1) through the introduction of a door-to-door collection system (ZW step #2) and the average household has seen its bill reduced by 30% (partial accomplishment of ZW step #7). In the “best practice” town of Ferla, the amount of waste directed to landfills has also been reduced by 70% over six years (2011-2017). The city pursued community-based composting (ZW step #3), which, at that time, was not a legal option for the Regional authority. Additionally, they created the *Centro Olistico Comunale* (Holistic Center), a public community center dedicated to demonstrating the deeper development meaning behind the ZW approach.

In the “best practice” town of Augusta, which is the location of one of the largest industrial complexes on the island, the city’s administrators were forcibly removed in 2013 for mafia infiltration. The current head of the department for environmental services is a former ZW activist and has accepted the challenge of going ZW in one of the most polluted cities in Sicily. Most of Augusta’s programs focus on waste reduction. For instance, the “Doing with Less” program, involves schools, businesses, churches, the prison, and the mass retail system in acting together to change people’s and institutions’ habits. Importantly, administrators in both Simeto and best-practice cities emphasized there is no way for cities to implement all the steps of ZW within the current Regional framework, which has an emphasis on contracting out disposal service to private speculators. Local mayors noted that they have few ways of working around the increasingly privatized system and emphasized a desire to have all waste services (collection, differentiation, and disposal) returned to public hands.

The systemic and political challenges of ZW were particularly evident for the CoPED participants that focused on the city of Motta S. Anastasia. The city hosts a landfill that collects one fifth of the solid waste produced in the region and many residents, including a relative of the Mayor, are on the landfill’s payroll. Additionally, the city uses landfill royalties, which the law designates for environmental remediation, for its ordinary expenses. While municipal officials and representatives from the landfill declined to be interviewed by CoPED participants, interviews with residents and activists provided important insights into what goes into and out of the landfill. In December 2016, after years of mobilization and legal actions led by a grassroots “anti-landfill collaborative”, the Regional Governor forbid the disposal of organic waste in the landfill. However, an activist observing dumping and sorting practices noted, “There’s fluid coming out of their trucks all the time. When we ask authorities to check, nothing happens and we are the ones treated like criminals”. Another activist who has received death

threats shared his observations: “We know they have two sections. The first one is for them to separate what can be recycled, and the second one is for dumping rest. They get paid twice for the same waste. We pay them for dumping everything, but then they sell the recyclables to the international black market. That is the very reason why recycling is very hard to promote here. It is not in their best interest”.

What became clear in these interviews was that managing the organic fraction of waste, which is a time-sensitive fraction due its decomposition and smell, is an urgent matter. In the summer of 2017 cities had nowhere to put organic waste because existing facilities were closing. Additionally, it appeared that those administrators and businesses committed to status quo waste management were reorganizing to take advantage of this gap in waste management services. They proposed investing in one or two large anaerobic digestion facilities that could serve multiple towns. At the same time, interviewees expressed concerns about these “new and not so new” private actors, interpreting their interest in this technology as a way to ensure their participation in the next highly profitable phase of the waste management sector without consideration of the environmental impacts.

### FROM DESPAIR TO HOPE: THE CO-GENERATION OF IDEAS

CoPED participants came away from this first phase of data collection with a keen understanding of how particular structures and economic and political dynamics prevent the full implementation of the 10 ZW steps in the Simeto Valley. Initially, they struggled to see what the community could do in the face of such a controversial administrative framework and power structure. Most of the ZW steps and solutions applied elsewhere seemed unsuitable for such a politically difficult context. While single towns, especially if they are small, can find workarounds and develop interesting small projects, they still may not be able to control what happens to what they collect. Rather, both “good” and “not-so-good” interests are deeply interconnected in a complex system of management. Participants shared their analysis during a participatory workshop (day 6, relational activity #2) in order to gather feedback and co-generate ideas for action. They developed three large panels that summarized the best practice research, how the system works in the four sample towns, and the overall waste cycle, with a focus on the relationship between the community, local administration, and the Region. A fourth panel was designed to collect ideas and priorities of action (fig. 4).

Fifty Simeto community members responded to an invitation from the *Presidium* and joined CoPED for the participatory workshop. Hosted in a park, the event worked like an open house where people were free to circulate and stick ideas, comments, and notes on the three panels while talking with CoPED full-time participants. About halfway through the event, representatives from two local ZW organizations, “Rifiuti Zero Sicilia” and “Zero Waste Sicilia”, shared their feedback. One looked at ZW in terms of the strategies and technical solutions that need to be implemented (the technical perspective), while the other saw ZW as a set of political actions that impact people’s values and ways of “being together” on the planet (the political perspective). Their responses generated new notes for the panels and new debates among attendees. By the end of the workshop, participants’ sense of paralysis had largely been replaced by a new awareness that there are possibilities of action, even in the face of this complex political issue. They also recognized that the possibilities of immediate action have to be placed in a long-term frame. As one participant explained, “Waste will change when Sicilian politics and cultural attitudes change, but if we don’t keep working on it, looking at what is feasible and urgent, nothing is ever going to change”.

With the goal of identifying both feasible and absolute priorities, CoPED full-time participants began a second cycle of specialized activities on day 7, which included additional interviews with residents and in-depth collective analysis of all the data. Students transcribed interviews and digitized workshop data. They then generated a matrix aimed at classifying principles, ongoing actions, and future action items according to the kind of promoting actor (regional government, local authorities, businesses, schools, and grassroots group). The goal was to design a strategy made of projects that could act as “fava beans able to hit multiple pigeons” (the Sicilian equivalent of the English saying “kill two birds with one stone”). Within the wide range of possibilities, the analysis identified a few priorities:



Figure 4. Photos of the four panels prepared for the participatory workshop on day 6.

- disrupt private monopolies through the selection of technological solutions that are able to empower public institutions while engaging as many small community businesses and organizations as possible;
- concentrate attention on the disposal of the organic fraction, an emergency that is driving the next wave of technological, profit-based solutions;
- make sure that every action is associated with a strong educational dimension for the public at large.

Framed by these priorities, students looked again to their interviews and focus groups to pinpoint action items that could be merged into a few “signature projects”. These were the basis of the students’ public presentation on day 10 (relational activity #3; fig. 5), which focused on feasible and urgent action steps:

1. locally built and operated small community composting stations, each generated through intense engagement of the local community through door-to-door engagement campaign, which was a key strategy of ZW and the best practice town of Ferla;
2. a special program of “ugly fruit” processing for the production of edible and non-edible products, like juices, jams, soaps, and cosmetics. Interviews with farmers highlighted a high volume of agricultural “left-over” or “ugly fruits”, currently collected as “special waste” and is expensive to dispose of;
3. re-shaping the regular school curriculum to build on activities that can be associated with the food cycle (e.g. organic waste collection, composting, community gardening and food production, and food sales) in order to

demonstrate how organic waste can play an economic role in an fiscally depressed community like the Simeto Valley. Interviews with teachers, suggested that many schools, who are already involved in environmental education curricula with a focus on waste, have the capacity and interest in doing more;

4. establish the *Simeto Waste Watchdog*, a non-governmental waste observatory. A number of proposals and community comments, especially from the workshop, focused on the need to change the region's legal framework in an effort to fight monopolies and enhance transparency. It was also clear that this type of change has been demanded by community activists for a long time, without significant success. Building on all the work that community activists are already doing, a community-based agency with special "controlling" responsibilities granted by the State<sup>2</sup> could advance the process of political change at the regional level and enhance collaboration between different groups of ZW activists;
5. establish a permanent and independent action research center in the Valley. Many interviewees and local municipal leaders stressed the importance of CoPED-style action-based research and suggested the center could engage the private sector in waste reduction strategies, as well as assist with the future implementation of projects.



**Figure 5.** CoPED full-time participants presenting a draft version of the Simeto Zero Waste Strategy on day 10 in the medieval castle of Motta.

Community members welcomed the overall strategy and offered further input. After the presentation, CoPED full-time participants worked for two days to finalize a detailed strategy based on community feedback and created a document that was handed over to the Simeto community. Yet, the reciprocal learning process did not end there for the students or the community participants. For example, in the final reflection session, a student from Memphis said, "Waste is the mirror of our lifestyle, of our values, and I'll come back home with a different awareness". Once home she convinced the University to install recycling bins in the new student dormitory. Simeto community members recognize that change in the Valley is going to be a long and hard goal to achieve; however, they have already used the analysis and ideas generated during CoPED 2017. A few months after the school was over, three other Simeto Towns included recommendations and ideas from the action-learning process in their official development plan. While, this is not the first time the work of the CoPED has taken on a life of its own (see Franchina 2015 and <https://sudsimeto.wordpress.com> for examples from 2015 and 2016) only time will tell what their approach to ZW can accomplish.

## FINAL REMARKS

As we have shown, CoPED's overall structure and methodology offer an opportunity to reflect on the practicality of what scholars define as action-learning in engaged research, particularly in the context of long-term part-

<sup>2</sup> This idea was also inspired by the work of the Antigone association, which defends the rights of incarcerated people. Antigone representatives are the only volunteers with special permission to check on the conditions of incarcerated people. CoPED participants had the opportunity to learn about Antigone during a best practice visit to a prison where inmates are learning composting practices.

nerships. CoPED provides a platform for researchers, students, and community members to share full responsibility in the creation of knowledge meant to “make the world a better place”. In the Simeto Valley, this means finding ways to actively and critically engage with development practices in ways that promote and support the development values and goals of the SRA, including explicit attention to human-to-human and human-to-non-human relationships, affective and corporeal knowledge, and an understanding of how powerful interests shape development. At the very beginning of the school, many Simeto community members were very knowledgeable not just about the waste issue in the Simeto Valley, but also about ZW. They had been pushing for cities to implement ZW policies for almost a decade. Their request for collaboration had come from their ability to observe that, in the SRA process, the ZW theory had proven to be an appealing and compelling starting point, but not yet actionable.

CoPED was asked to make it actionable for the specific context of the Valley. This meant becoming familiar with ZW theory, while at the same time discovering, through data collection and analysis, what needed to be changed in that universal theoretical framework in the context of the Valley. In short, action-learning was used to make the Simeto ZW strategy power sensitive. For example, organic composting, step #3 in the ZW theory, became the main focus of the Simeto Strategy in order to respond to the fact that local power is reorganizing around the organic fraction in order to take advantage of a future channel of profit. Thus, strategies focused on creating many community composting stations, operated locally, instead of large, privately owned anaerobic digester. Among the many technical steps that activists and administrators could take, the strategies identify priority spaces for action that are able to catalyze and empower diffuse political activism capable of dealing with power.

Many of the defining aspects of CoPED’s action-learning methodology are common to action research. However, we suggest CoPED offers the opportunity to rethink the distinction between local and expert knowledge highlighted by the classic texts on action research (Hall 1975 & 1982, Whyte 1991, Chambers 1997), as well as in Rappaport’s work (2008). According to most scholars, action research is meant to bridge the gap between these two ‘distinct’ types of knowledge. However, as we have argued, in the case of long-term relationships like the Simeto partnership, such a distinction might not be accurate. In genuine long-term partnerships, researchers and community members can end up becoming a community of practice, working and sharing responsibilities for so long that they might be affected in the way they and others perceive their identity (Wegner 1998). The work developed within CoPED, including the 2017 edition, demonstrate how community members - like the many ZW experts in the Simeto Valley - might acquire researchers’ skills, language, and attitudes, while researchers - like us - might feel connected to the communities in the way native members do. This is what facilitates research in the course of action in such a short span of time. In this paper we discuss how an abstract theoretical description of action-learning can be put into practice. We suggest CoPED is an example of how action-learning can challenge conventional wisdom on research relationships and knowledge production and demonstrate how groups of different people can come together to learn and act collectively, generating an impact at both the level of the practical and the theoretical.

## BIBLIOGRAPHY

- Amin A., Roberts J. (2008), *Knowing in Action: Beyond Communities of Practice*, in «Research policy», 37(2), 353-369.
- Arnstein S. R. (1969), *A Ladder of Citizen Participation*, in «Journal of the American Institute of planners», 35(4): 216-224.
- Asad T. (1979), *Anthropology and the colonial encounter*, in «The Politics of Anthropology», 85-94.
- Bennett J. W. (1996), *Applied and Action Anthropology: Ideological and Conceptual Aspects*, in «Current Anthropology», 37:23-53.
- Chambers R. (1997), *Whose Reality Counts? Putting the First Last*, London: Intermediate Technology Publications.
- Coghlan D., Brydon-Miller M. (2014, eds), *The SAGE encyclopedia of action research*, London: Sage.
- Connett P. (2013), *The Zero Waste Solution: Untrashing the Planet One Community at a Time*, Chelsea Green Publishing.

- Davidoff P. (1965), *Advocacy and pluralism in planning*, in «Journal of the American Institute of planners», 31(4): 331-338.
- Dewey J. (1897), *The Significance of the Problem of Knowledge* (Vol. 1, No. 3), Chicago: University of Chicago Press.
- Dolci D. (1974), *Esperienze e riflessioni*, Bari: Editori Laterza.
- Drackner M. (2005), *What is waste? To whom?-An anthropological perspective on garbage*, in «Waste management & research», 23(3), 175-181.
- Escobar A. (1984), *Discourse and power in development: Michel Foucault and the relevance of his work to the Third World*, in «Alternatives», 10(3), 377-400.
- Escobar A. (1988), *Power and visibility: Development and the invention and management of the Third World*, in «Cultural Anthropology», 3(4), 428-443.
- Escobar A. (1995), *Imagining a post-development era*, in «Power of development», 211-227.
- Farmer P. (2003), *Pathologies of Power: Health, Human Rights, and the New War on The Poor*, Berkeley: University of California Press.
- Ferguson J. (1997), *Anthropology and its evil twin*, in «International development and the social sciences: Essays on the history and politics of knowledge», 150-175.
- Fisher F. (2000), *Citizens, Experts, and the Environment: The Politics of Local Knowledge*, Duke University Press.
- Franchina A. (2015), *Sviluppo locale e community-university partnership: una sperimentazione nella Valle del Simeto*, in «LaborEst», 11: 32-37.
- Friedmann J. (1973), *Retracking America. A Theory of Transactive Planning*, Anchor Books.
- Goodman R. (1971), *After the planners*, New York: Simon and Schuster.
- Hale C. R. (2001), *What is activist research*, in «Social Science Research Council», 2(1-2), 13-15.
- Hale C. R. (2006), *Activist research v. cultural critique: Indigenous land rights and the contradictions of politically engaged anthropology*, in «Cultural anthropology», 21(1), 96-120.
- Hall B. (1975), *Participatory research: An approach for change*, in «Convergence», 8(2), 24.
- Hall B. (1982), *Creating Knowledge: A Monopoly? Participatory Research in Development*, Toronto (Ontario): International Council for Adult Education.
- Harrison F. (1991), *Decolonizing anthropology*, Washington: American Anthropological Association.
- Healey P. (1997), *Collaborative planning: Shaping places in fragmented societies*, London: Macmillan.
- Innes J. E. (1995), *Planning theory's emerging paradigm: Communicative action and interactive practice*, in «Journal of planning education and research», 14(3), 183-189.
- Lave J., Wenger E. (1991), *Situated Learning: Legitimate Peripheral Participation*, Cambridge: Cambridge University Press.
- Low S. M., Merry S. E., Goodale M., Lutz C., Peacock J., Price D. H., Low S. (2010), *Engaged anthropology: diversity and dilemmas: an introduction to supplement 2*, in «Current Anthropology», 51(S2), S203-S226.
- Mosse D. (2005), *Cultivating Development: An Ethnography of Aid Policy and Practice (Anthropology, Culture and Society)*, London, UK: Pluto Press.
- Pietzsch N., Ribeiro J. L. D., De Medeiros J. F. (2017), *Benefits, challenges and critical factors of success for Zero Waste: A systematic literature review*, in «Waste Management», 67, 324-353.
- Rappaport J. (2008), *Beyond Participant Observation: Collaborative Ethnography as Theoretical Innovation*, in «Collaborative Anthropologies», Vol. 1: 1-31.
- Reardon K. (2006), *Promoting reciprocity within community/university development partnerships: Lessons from the field*, in «Planning, Practice & Research», 21(1): 95-107.
- Rhoads R., Howard J. (1998), *Academic Service-Learning: A Pedagogy of Action and Reflection*, San Francisco: Jossey-Bass.
- Ricoeur P. (1990), *Soi-même comme un autre*, Paris : Editions du Seuil.
- Saija L. (2014), *Proactive conservancy in a contested milieu: from social mobilisation to community-led resource management in the Simeto Valley*, in «Journal of Environmental Planning and Management», 57(1), 27-49.

- Saija L. (2016), *La ricerca-azione in pianificazione territoriale e urbanistica*, Milano: Franco Angeli.
- Speed S. (2006), *At the crossroads of human rights and anthropology: toward a critically engaged activist research*, in «American Anthropologist», 108:66–76.
- Spivak G. C. (1988), *Can the subaltern speak?*, in Morris R. C. (eds), *Can the subaltern speak? Reflections on the history of an idea*, 21-78.
- Stocking G. W. (1991, eds), *Colonial Situations: Essays on the Contextualization of Ethnographic Knowledge* (Vol. 7), University of Wisconsin Press.
- Tax S. (1975), *Action anthropology*, in «Current Anthropology», 16(4), 514-517.
- Wegner E. (2000), *Communities of practice and social learning systems*, in «Organization», 7 (2), 225-246.
- Wegner E. (1998), *Communities of Practice: Learning, Meaning, and Identity*, Cambridge: Cambridge University Press.
- Whyte W. F. (1991), *Participatory Action Research*, London: Sage.