Spontaneous volunteerism in disasters, managerial inputs and policy implications from Italian case studies

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A B S T R A C T

The landscape of the emergency response system is rapidly changing, due also to an increasing frequency of natural and manmade disasters. Nowadays, the involvement of citizens into the whole emergency management is inevitable and indispensable, from preparedness to recovery operations. Drawing on international disaster management literature, this research analyzes and compares the management of spontaneous volunteers during six emergency events that recently occurred in Italy. The research's aims are to present current tendencies of the Italian emergency volunteerism, to provide operational recommendations for organizations that may be in charge of managing unaffiliated volunteers and to propose some hints for a reform process of the Italian Civil Protection System towards a recognition of the spontaneous volunteerism in emergency. Starting from the research's findings, the study underlines the latest trends in the field of emergency operations, at a local and international level, and their policy implications, within the Italian context.

1. Introduction

Internationally, the landscape of disaster management is changing, with a shifting focus towards the role of volunteers and the importance of active citizens in all emergency phases, from preparedness to reconstruction activities. The growing importance of the concept of resilience to disasters is not only a socialcultural trend driven by new technologies and by a better civilian acknowledgement; it partially derives by an increasing and intensifying of natural hazards due to climate changes and manmade disasters which strain emergency response systems. Climaterelated disasters, such as floods, storms, droughts and heatwaves, have been intensifying worldwide, affecting a bigger number of people and causing an increase of the global cost of damage (Thomas and Lopez, 2015). Some figures show the extent of these phenomenona: within the period from 2005 to 2014, global damage from natural disasters has reached about $142 billion annually, a steep increase from $36 billion a year recorded for the two antecedent decades (1985–1994) (GuhaSapir et al., 2015). Within Italy, the flood frequency continues to increase because of anthropogenic activities and widespread impermeability of the territory (Protezione Civile Italiana, 2019). Only recently, in 2017, two massive floods hit the southern and central regions of the country, and caused nine deaths and enormous damage.

Regarding societal safety and security, shifting responsibilities towards a local network composed by public and private actors are taking form into regulations and praxis (Bergstrom, 2018). Among other forms of resilience to disasters, the involvement of volunteers into emergency operations has been proved to lead financial and political benefits for governments as well (Waldman et al., 2017), a fact underlined also by most prominent organizations around the worlds (FEMA, 2005; ANZEMC, 2015; Cottrell, 2010). Trained volunteers who are affiliated to organizations such as Civil Protection, Fire Department and Red Cross are nowadays almost fully recognized as an invaluable resource for the whole emergency system, while challenges still remain in legitimize and fully harness the potential of the socalled spontaneous volunteers (SVs). Despite an increasing attention towards SVs of both Academics and practitioners, improvements in their actual involvement are still lacking as well as researches aimed at conceptualize and systematically analyze emergent volunteerism in disasters (Strandh and Eklund, 2017). On the field, if the integration of SVs happens, it is mainly unstructured and spontaneous, with negative consequences as waste in time and resources and possible conflicts with official responders (Lorenz et al., 2018). Furthermore, emergent volunteerism mostly occurs during unplanned and unpredictable events that hinder the measurability and manageability of the phenomenon (Harris et al., 2016).

The involvement of spontaneous volunteers implies several internal and external challenges, both to the organizations in charge of their management and to the external context that have to accept, include and legitimize their role.

Our study analyzes the role and contribution of SVs in six recent disasters that affected Italian communities, aimed at presenting an ideal model of spontaneous volunteer management that may be adopted by local organizations or be a starting point for the development of a national or local legislative framework. The study demonstrates that a dual system of emergency volunteerism, both affiliated and emergent, is possible and advisable if it respects some minimum standards.

With Section 2, the paper commences with a brief literature review in order to identify those who are regarded as spontaneous volunteers and how their perception has changed through time.

The following Section 3, retraces fundamental milestones of Italian emergent volunteerism, how it led to the foundation of the National System of Civil Protection and to the recognition of the Civil Protection Volunteerism. This Section is fundamental to understand the current processes employed by the first and most relevant Italian disaster management agency. In fact, our research model and findings have been developed in support of the ongoing processes, that in our context are led by the National System of Civil Protection.

The methodology is presented in Section 4, that explains why the comparison of case studies was adopted as main tool, as well as how data were collected and analyzed in order to elaborate our conclusions.

In Section 5, six case studies of the management of spontaneous volunteers during recent emergencies are presented. Each case study is separately contextualized and analyzed, then, in Section 6, compared with the others and with main guidelines as ISO Standard "Guidelines for planning the involvement of spontaneous volunteers" (ISO 22319:2017), in order to present strengths, weaknesses, common elements and distinctive features. Section 7 presents a discussion starting from findings of our research, envisages possible scenarios of Italian emergency volunteerism that might officially include SVs. This prospected dual system will require new regulations and a general shifting attitude towards emergent volunteerism and citizen participation in disaster management. Conclusion, in Section 8, briefly summaries the research, findings and potential future applications.

2. Spontaneous volunteers, a short literature review

At the time, the definitions of volunteers are multiple and different from each other. Starting from definitions of generic volunteerism, these range from the strictest to the broadest encompass four principal dimensions: structure, freedom of choice, remuneration and intended beneficiaries. According to the strictest definition, a volunteer is a person who offered his/her services without any form of coercion and remuneration,

furthermore, the volunteer is not linked with beneficiaries and he/she volunteers through an official organization. The broadest definition considers some form of remuneration, coercion or personal links with volunteering beneficiaries. Within the context of emergency volunteerism, used definitions are usually broader because they focus on the set of performed activities and their outputs (Whittaker et al., 2015), or they are equally based on the volunteer's type of affiliation with any official responder agency, excluding those who independently volunteer and without having planned their service in advance. In literature, guidelines and manuals, this latter type of volunteers in emergency is identified with different terms, such as spontaneous, unaffiliated, convergent, emergent, walk in volunteers, unofficial, unaffiliated, informal (Lodree and Davis, 2016) or episodic.

A widely recognized and used definition identifies spontaneous volunteers as those who seek to contribute on impulse and offer assistance following a disaster but are not previously affiliated with recognized volunteer agencies and may or may not have relevant training, skills, or experience (Drabek and McEntire, 2003). The United States Federal Emergency Management Agency (FEMA, 2005) and the Emergency Management Australia support the same definition of spontaneous volunteers in emergency, adding that they are individuals with no particular previous training or experiences (Cottrell, 2010)

Whittaker et al. (2015), underling the heterogeneity of informal volunteerism, they define it as "the activities of people who work outside of formal emergency and disaster management arrangements to help others who are at risk or are affected by emergencies and disasters. Such volunteerism may take place before, during or after an event. Informal volunteers may participate as individuals or as part of a group, on a short or longerterm basis, regularly or irregularly, and insitu or exsitu. Their participation may be spontaneous and unplanned, or deliberate and carefully planned."

Spontaneous Volunteerism is not a recent occurrence, it is transnational, inevitable, and occurs regardless of the size and the nature of the disaster. As early as in 1957, in their pioneering work, Fritz and Mathewson included in the concept of convergence the mass movement or attempted movement towards a disaster site of people, messages and supplies (Fritz and Mathewson, 1957). Despite convergence has been recognized as an almost universal aspect of disasters and emergency situations, still many planners seem to be unaware of it (Auf der Heide, 2003) and challenges persist in coordinating spontaneous volunteers with first responders and with affiliated volunteers (Whittaker et al., 2015; Waldman et al., 2017). Within the Academic world, despite emergent volunteerism is widely present in disaster literature, difficulties still persist among researchers and theorists in systematically conceptualizing disaster volunteerism (Strandh and Eklund, 2017). The perception about SV has been changed through times, with a move from a mass assault, as Barton in 1969 defined the amount of survivors to a disaster who want to volunteer (Barton, 1969), to an invaluable subject to "prepare for", "respond to", "recover from", and mitigate the effects of a disaster (FEMA, 2005).

As early as 1986, Quarantelli had seen how challenging is to involve SVs into emergency operations. He claimed that "volunteers can be far more than a help if careful and detailed preparations have not been made and coordinated with all relevant parties" (Quarantelli, 1986). The same perception is shared among the majority of professional emergency managers who refer to the convergence of volunteers as a "disaster within a disaster", because the mass of people willing to help requires the management and coordination by experienced human resources (Fernandez et al., 2006). The United Nation (UN) General Assembly underlines another important feature of spontaneous volunteers, they are often the real first responders because first volunteers converging are the most proximal persons. This proximity means also knowledge of the place hit by a disaster, important information that can determine first rescue operations. As Quarantelli and other researchers, the United Nations General Assembly claims also that spontaneous volunteers, if not supported or integrated into management planning, may be harmful to themselves and the other, because they may be the first on the disaster site, but not the most suited to carry out emergency operations (United Nations General Assembly, 2016).

3. Italian background, from spontaneous volunteerism to Civil Protection and back

Among other European countries, Italy is one of the most heavily exposed to different natural hazards and related economic losses (Frigerio and De Amicis, 2016), where hydrogeological events and earthquakes are the most diffuse phenomena which cause enormous human and material losses. Figures about human consequences of floods and landslides are impressive. Between 1950 and 2008, across Italian territory, landslides caused 4103 fatalities, while in the 50year period 1965–2014, 771 persons were killed by 441 flood events at 420 sites, not counting injured and evacuated persons, damage to public and private proprieties (Salvati et al., 2018).

Floods and earthquakes hazards are widespread across the country. In 2034 Italian municipalities, which represent a 25% of the total existing ones, floods and landslides have caused causalities; 91% of the Italian municipalities registers high level of hydrogeological hazard, with 3 million families at a high level of vulnerability (Trigila et al., 2018). Emilia Romagna, Tuscany, Lombardy, Piedmont and Veneto are the main regions with a high valuea of flood hazards, while 37.6% of Italian municipalities fall into the two higher classes of earthquake hazard (Zones 1, the most dangerous areas, where major earthquakes may occur and Zone 2, areas that may be affected by rather strong earthquakes) (Frigerio and De Amicis, 2016).

Furthermore, Italian hydrogeological risk is increasing each year, as stated by the Italian Institute for Environmental Protection and Research in its last Report where it is reported that, from 2015, a new 4% of the Italian territory is at risk of flooding events (Trigila et al., 2018). Similarly, the frequency of significant losses caused by earthquakes has increased over the last decades, increasing the weight on the public financial funds (Zanini et al., 2018).

In order to understand the analysis of the six case studies and related findings, it is necessary a brief description of the first and most relevant Italian disaster management agency and its employed processes, as recommended by Gupta et al. (2016). Furthermore, the Italian Civil Protection Service is also one of the first subject to whom our findings are addressed. In fact, the Italian Civil Protection System is the first institution in charge of carrying out emergency operations and the first subject, apart from disasters victims, spontaneous volunteers have to deal with. The following Section briefly presents the Italian Civil Protection Service and its evolution process from emergent volunteerism to a hierarchical functioning based on a command and control direction.

3.1. Italian National Civil Protection service

"*The Italian Civil Protection Service is the set of activities put in place to protect the integrity of life, properties, settlements and the environment from damages or risk of damages arising from disasters: risk prediction and prevention, rescue to affected populations, contrast and overcome of the emergency and mitigation of risks*" (Italian Civil Protection Department).

The Italian National Service of Civil Protection was established in 1992, by the Law n. 225. It is a complex and hierarchical system composed of several entities and levels: the central government of the State, the Regions and Autonomous Provinces, Provinces, municipalities and mountain communities. All these components act according to the principle of subsidiarity, i.e. the first response to the emergency, whatever the nature and

extent of the event, needs to be guaranteed at the most possible local level, starting from the municipal structure. The intervention of the upper components depends on the extension and the intensity of the emergency or on the risk to address.

In case of events that request extraordinary power and means of response, the Civil Protection Department assumes the coordinating task of the whole emergency response, while in ordinary time, it has a national guiding role for the whole Civil Protection system.

Beside different governmental levels, the system of Civil Protection is composed of other operating structures such as the National Fire Department, the Armed Forces, the Police, the National Forestry Corps, the scientific community, the Italian Red Cross, the structures of the National Health Service, the National Mountain and Alpine Rescue Corps form and the voluntary organizations. The Civil Protection service operate also for prevention, through raise awareness campaigns, education and training within civil societies.

3.2. The voluntary work of Italian Civil Protection, born from spontaneous volunteerism

Nowadays, voluntary work is one essential pillar of the Italian Civil Protection system. Affiliated and trained volunteers sustain professionals of Civil Protection system in all activities, from prevention to emergency operations. To become a Civil Protection volunteer and to be part of an emergency responder team, a person must prior complete a training program composed of different modules.

This form of volunteerism, defined as "affiliated", was mainly born from the first great and spontaneous mobilization of citizens during catastrophic events that hit Italy in 1966, 1976 and 1980, but the first roots of emergency volunteerism can be traced in another episode dates back to June 1859. On the 24th June 1859, nearby the town of Solferino, within a territory that would become part of the Italian Country, it took place an episode that was decisive for both Italian unification and the formation of the International Committee of the Red Cross. In June 1859, in the aftermath of a bloody battle, Henry Dunant, a French businessman who arrived in a small town nearby the battlefield, was so impressed by the amount of abandoned wounded and dying soldiers that he decided to spend next days in helping those men, by collecting donations, fundraising, mobilizing volunteers and helping them regardless their army belonging. Once back to France, he collected his memories of those days in a book, the memories of Solferino, a sort of manifesto containing 2 appeals that led to the foundation of the Red Cross and Red Crescent Movement and to the starting point of contemporary international humanitarian law (Bugnion, 2012).

Coming back to more recent events that have led to the Italian Civil Protection foundation, in November 1966 the city of Florence was hit by a massive flood caused by the break of Arno river's banks. A river of mud filled historical treasures, such as museums, churches and libraries, all full of works of art. Young people immediately converged to the Capital city of Tuscany from across Europe to clean up the city and rescue paints, sculptures and books. They were not organized, nor trained, but they arrived to help even before the intervention of the government. An Italian journalist named them "the Mud Angels", an expression still used to refer to volunteers helping during a floods emergency. As a consequence, the National Law n.996 1970 is the first that mentions volunteering in relief operations. According to this law, spontaneous volunteers must be registered in a list at the local Prefecture to be part of the emergency response system. Later on, in 1976, another great mobilization of people after the earthquakes in Friuli (in the Northeast of Italy) and after the other one that hit the South of Italy 4 years later, finally boosted the foundation of the Civil Protection. Those events and the consequent waves of solidarity made it clear that what was lacking was a system able to manage the available but untrained and unorganized workforce in case of disaster events.

Over the years, volunteering was more and more considered as a resource for the country by the Public Authorities and these started to identify volunteers as crucial pillars of a society able to support and assist the population.

Eventually the Law n. 225 of the 24th February 1992 founded the National Service of Civil Protection in which accredited local voluntary organizations are recognized as "national operative structures", an integral part of the public system. Local voluntary organizations are the first eligible responders to an emergency situation, due to their geographic proximity and the principle of subsidiarity on which the entire Civil Protection system is based. The development of small groups and associations as part of local administration led to the expansion of specializations and to the integration of Civil Protection voluntary work with the public service.

Nowadays, Civil Protection volunteers are fully legitimated with a high level of autonomy and their organizations receive funds and resources from the national system. About 1 million people are Civil Protection volunteers all across Italy through over 4.000 accredited organizations. Civil Protection Volunteers have also a representative body, the National Council of volunteers, a collegial body whose aim is to advocate to improve volunteering system. Civil Protection volunteers do not receive any compensation, but in case of service during their working time, the National System reimburses their employers, whether public or private.

Despite the entire Civil Protection system was born from spontaneous volunteerism, it is one of the first actor still struggling to recognize unaffiliated volunteers as a potential resource, mainly due to their lack of professional training and previous experience in emergency operations.

The general negative attitude of the Civil Protection towards spontaneous volunteerism derives also from the lack of a formal system or national guidelines aimed at involving SVs into emergency management. This inadequacy contradicts a reality where spontaneous volunteerism is massively present at the aftermath of each catastrophic event, providing demonstrated benefits to both emergency response system and affected communities. The next analysis of six case studies shows this discrepancy between the legislative framework and the praxis, at the same time underlying new trends and possible future pathways for the Italian emergency volunteerism. In fact, some Italian cities have recently adopted a sort of code of conduct or have published basic instructions towards citizens willing to volunteer in case of disaster. One of these cities is Genoa, also a case study of this research presented and analyzed in Section 5.

4. Research method

This study is based on a research project about the management of SVs during six recent emergency events occurred in Italy. The paper firstly presents each case study within its own reallife context and gives main and most relevant information about the organizations that managed spontaneous volunteers. Then the six case studies are compared and evaluated, in order to identify strengths and weakness, common and essential elements that may determinate a successful involvement of spontaneous volunteerism into emergency operations, especially within Italian context.

The study firstly aims to generate a wide overview of the observed phenomenon and its inchoate trends, trying to fill research gaps, in fact, in Italy any analysis of the role, potential and contribution of SV have been not yet conducted in a systematic manner.

The second aim is to provide some hints and partial state of the art of emergency volunteerism, that may be useful for future policies and guidelines for Spontaneous Volunteer Management (SVM). These recommendations are the results of the analysis of similarities and differences

between cases and how those features affected each SVM.

The case study has been considered the most appropriate method for our purpose because it deeply explores an event based on a comprehensive understanding of processes and set of decisions, within its own context, not as isolated phenomena (Yin, 2009). In emergency situation, the context is part of the phenomenon itself, so the description and analysis of a case considering its whole setting is particularly crucial while inquiring emergency management system, where numerous factors affect the way a system responds to a crisis, such as the nature of the disaster, type of involved organizations, the normative framework, the local culture, the official responder's role, etc. The case study approach is commonly applied to understand dynamics and processes of a disaster response (Chen et al., 2013; Comfort, 1994), while considering the complex instance as a whole (Morra and Friedlander, 1999). Case study, survey, report and news analysis are the most suitable tool also for the wider humanitarian operations research, being methods that enable modeling the complexity of the observed context (Kovacs and Moshtari, 2018).

A deep analysis of a single case study about SVM performed by an Italian nongovernmental organization (NGO) has been previously conducted (Paciarotti et al. 2018) and integrated into this research where, indeed, the multiple case studies approach has been applied. The observation of different case studies has allowed the analysis of current and inchoate trends in emergency volunteering and its management in Italy, while comparing the strengths and weakness of each contextualized case.

A multiple case study approach offers a comparative perspective, while keeping contextual differentiation, as Goodrick stated "comparative case studies are particularly useful for understanding and explaining how context influences the success of an intervention and how better to tailor the intervention to the specific context to achieve intended outcomes" (Goodrick, 2014). The multiple case study methodology considers and analyses data both within each situation and across situation (Yin, 2009), it permits comparisons while contextualizing differences between hazards and management systems (Waldman et al., 2017).

The criteria to select events to be analyzed and compared as case studies are the following:

– The selected events guarantee a wide geographical coverage of Italy. In fact, 2 disasters hit the North of the country, 3 occurred in the Centre and 1 in the South.
– They are all contemporary events analyzed within their reallife contexts (Yin, 2009), spatially and timely defined (Johansson, 2003).
– They focus on SVM implemented by organizations that are not part of the Italian Civil Protection system, a this is the main purpose of our research;
– They regard two type of natural hazards – floods and earthquake – which register a high frequency on the Italian territory. The disasterspecific research is also aimed at increasing its relevance towards Italian administrators and emergency professionals.

Data were triangulated by combining different methods, techniques and source of evidence. The description of each event was based on official reports released by public institutions and organizations involved in the emergency response operations, then integrated with media articles and interviews with representatives of those entities. Questionnaires were the main tool to collect qualitative and quantitative data about SVM. Existing development of theoretical propositions on this topic guided part of data collection and analysis: questionnaires structure was based on main and most prominent guides and manuals on this topic, such as the ISO 22,319 "*Security and resilience – Community resilience – Guidelines for planning the involvement of spontaneous volunteers*" (ISO/TC 292, 22319: 2017), guidelines and toolkits published by American, Australian and New Zealand Governmental actors (FEMA, 2005, ANZEMC, 2015; MCDE, 2006; Shaw et al., 2015), and by experienced and eminent noprofit organizations within emergency volunteerism's field such as the Australian Volunteering ACT (2015).

The structure of the administered questionnaire is presented in Table 1 (the entire questionnaire is in the Appendix Section):

For each case study, main entities (not part of the Civil Protection Voluntary System), that managed spontaneous volunteers were identified through an online keyword researches on social media, local and national newspapers, excluding from our survey independent volunteers and those who selforganized their operations, for example within their own neighborhoods. 12 organizations have been identified and contacted with a response rate of 58%. In each case study at least two types of organizations that managed spontaneous volunteers have been identified, both communitybased organizations, the first one a catholic faithbased organization, the other one part of the biggest Italian association not linked with the Catholic Church and close to the Italian leftwing parties. In one case, the Genoa flood, also the Municipality managed volunteers, but responsible person for volunteerism did not accept to take part in the survey due to the collapse of the Viaduct Polcevera that happened on the 14th of August 2018.

The questionnaires were administered to those persons who were in charge of SVM during each event, to inquire how each step, procedure and action recommended by main guidelines and relative ISO Standard to correctly involve SVs in emergency operations were actually performed. For each organization, that accepted to take part in the survey, one person was interviewed by phone or by a facetoface interview. All interviews were recorded and conducted in September 2018. All interviewed persons, at the time of the emergencies, were in charge of the management of spontaneous volunteers and they all have a complete overview of the entire process of their management. All of them were present both on the accident scene and carried out administrative and reporting activities. Subjects of analysis are all small entities, where, during the emergency response, several tasks and roles were carried out by the same person.

Collected data and findings were compared to each other and to existing literature both to test them and to make results more reliable (Baxter and Jack, 2008). The generalization of our findings has been analytically conducted by applying the principle of induction, that is done through inductive theorygeneration or defined as conceptualization (Johansson, 2003). Our findings are thus based on a deep analysis and comparison of facts in the cases. Evidence has been presented in the following tables in the next Sections.

In Section 6, each case study has been compared with the others and with the ISO Standard 22319:2017, in order to present strengths, weaknesses, common elements and distinctive features. This ISO Standard has been selected as a valid evaluation tool, because it contains the main and most important elements about SVs management that are present in other prominent guides, as those edited by the American Federal Emergency Management Agency or the Australian Government. Furthermore, it represents a common standard applicable to all types and sizes of organizations that are involved in the planning for, and management of, SVs (e.g. local, regional, and national governments, statutory bodies, international and nongovernmental organizations, businesses and public and community groups).

In this research, for the analysis of emergency SVs and related organizations in charge of their management, the Disaster Research Center typology is applied as a tool for organizations' classification (Dynes, 1970; Dynes and Quarantelli, 1968). This categorization of organizations responding to a disaster is based on 2 axes: whether the organization is guided by either old or new social structures and whether it performs either old or new tasks, identifying four types of organizations as follows: established organizations, expanding organizations, extending organizations and emergent organizations. According to DRC typology, an "established organizations" perform disaster response according to their mission

(paramedic organizations, Civil Protection and fire departments) and they are part of the official emergency response system. "Expanding organizations" help people in need because of their mission, but not necessarily during emergencies. They can often rely on numerous volunteers in carrying out their regular activities (Lodree and Davis, 2016). These organizations operate regular tasks as helping people in seeking assistance through new and ad hoc structures. "Extending organizations" perform new tasks outside or beside the official emergency management and employ the same existing structures. An example of an extending organization is a private company that donates some of its products as support or relief equipment." Emergent organizations" are often new in terms of structure and tasks, because they did not exist prior to the disaster. Thus, they are often inexperienced and more informal in performing their emergency operations. These organizations may have a crucial role because of their proximity to the disasterhit area and victims. Indeed, they often are the first to arrive on the emergency site (Ibid.).

Table 1
Sections of the administrated questionnaires.

1. Preparedness: The first section of the questionnaire is aimed at defining whether an entity has an existing emergency plan and/or it inquires organization's experience in managing volunteers in ordinary times. We added this last part because the objective of our study are those organizations that are not part of the official emergency responder system, therefore they often do not have any emergency plan, nor previous experience in this field.
2. Emergency response:
   - Volunteers role assessment
   - Volunteers' calls and recruitment messages
3. Volunteer Reception Center (VRC)
   - Location and accessibility
   - Needed equipment
   - Personnel of VRC
4. Volunteer Registration and training
   - Requested information; Online-offline registration
   - Type of training and related trainers
5. Safety and security of SV
   - General and specific training
   - At the center/on the field training
   - Information material
6. Volunteer identification system
7. Services for volunteers
8. Communication with volunteers
9. Follow-up and long term activities
10. Relations and coordination activities with other entities and institutions.

5. SVM in **6** emergency events in Italy

The below Table 2 summarizes main information about analyzed cases and related organizations that managed SVs.

As mentioned in Section 4, for each case study, organizations that managed SVs have been contacted, at least two for each case, receiving a response only from faithbased organizations, except for one that is linked with left parties. In Italy, organizations pertaining to the Catholic Church are widely spread across the whole country through regional and local branches. They may differ for management structures, delivered services and number of workers, but all aim at supporting people in need with the important contribution of volunteers in carrying out their everyday activities. Similarly, organizations linked to left parties, whose aim is to support disadvantaged people, count about 5 800 local Cultural Clubs throughout the Italian territory.

Table 2
Summary information about six case studies and related organizations that managed SVs.

Year and place of the disaster event	2012 Northern Italy	2014 Senigallia	2014 Genoa	2015 Benevento	2016 Center Italy	2017 Livorno
Type of event	Earthquake	Floods	Floods	Floods	Earthquake	Floods
Type of organisation	Federation of faith-based local organisations	NGO faith-based organisation	NGO faith-based organisation	NGO faith-based organisation	National Federation of local no-profit organizations	NGO faith- based organisation
Type of organisation (DCR typology)	Emergent organization	Expanding organizations	Expanding organizations	Expanding organizations	Expanding organization, born as an emergent organization	Expanding organizations
N. of volunteers managed in ordinary time	Not applicable	over 100 persons	over 50 persons	over 50 persons	Not applicable	about 300 persons
N. of volunteers coordinated in emergency	120	1500	300	1290	200/300	100
Existing emergency plan (that includes SVM)	No	No	Yes (since 25 years)	No	Yes	No

5.1. Earthquake in North of Italy 2012

In May 2012 a seismic sequence occurred in Northern Italy and it was characterized by two main shocks with a magnitude range between 5.5 and 6 of magnitude. Despite the moderate magnitude, the earthquake was characterized by a series of events that generated extensive damage in a densely inhabited area, one of the richest Italian industrial district (Meroni et al., 2017).

Overall, the consequences of such events resulted in 27 victims, significant damage to public and private structures, and damage to historical heritage such as churches, towers, castles, and palaces (Mucciarelli and Liberatore, 2014). The earthquake was classed as an interregional disaster that required an intervention managed at the national level. People affected by the quake, estimated at 80,000 persons, came from 40 different municipalities (Cimellaro et al., 2013).

From the 8th day aftermath the main shocks, several catholic noprofit organizations from affected area founded a Federation with the mission to collect aids and deliver support to the victims. According to abovementioned classification, it can be categorized as emergent, because it has been created in the

aftermath of the quake, but it was actually founded by existing organizations that are instead recognizable as expanding. Dedicated personnel were sent close to the epicenter of the quake to collect and distribute aids, welcome and manage spontaneous volunteers who were prior registered at the local sending organizations. Only a specific number of volunteers was periodically sent on the field, according to the request of the volunteer's manager. During first two months, the Federation for the earthquake emergency managed approximately 100 volunteers, each of them for a minimum period of 7 days. The main task of volunteers was to deliver food and essential goods to displaced or isolated people, following precise instructions of their coordinator. The support provided to the earthquake's victims continued also after the first emergency phase, when the emergency headquarter was moved to another area and located in a mobile home. Other mobile homes were available for volunteers who could volunteer for at least one week in order to support local population in rebounding after such catastrophe. As stated by SV' coordinator: just the presence of volunteer brought human richness.

5.2. Senigallia flood, 2014

On the 2nd and 3rd of May 2014, severe and unprecedented flooding caused three deaths and damage to a wide territorial section of the Diocese of Senigallia, located in the Marche Region, EastCentral Italy. The City of Senigallia, of approximately 44,000 inhabitants, and its neighboring smaller cities were the most affected areas and where the break down in electric and phone services, and extensive flooding of urban and residential areas occurred. Statistics on the damage and affected persons showed the severity of the event: 7 727 families were affected by the flood (all reported damage had a total cost of €134 million), among them, 1 250 completely lost their properties; 542 private businesses reported damage and other losses, which amounted to €46 million (Monachesi, 2015).

From the first moment, Caritas Senigallia was officially engaged in the rescue and recovery activities, and participated in the Municipal Emergency Coordination table, chaired by the Mayor of Senigallia himself. Among other tasks assigned to Caritas, the Mayor informally requested Caritas to coordinate all SVs and to manage all donated goods. Apart from Caritas Senigallia, two other entities had a prominent role in managing SVs—the informal group SOS Alluvione Senigallia and the Social Centre Arvultura. Both referred in different ways to Caritas Senigallia for coordinating their SVM.

Despite Caritas Senigallia's mission to serve people in need, in relation to the flood emergency response, it could be considered as an expanding organization, because it is not an accredited association of the city's Civil Protection Department. In fact, according to DRC classification (Dynes and Quarantelli, 1968), Caritas Senigallia simply maintained its previous tasks (to support the local population) by establishing an ad hoc structure, which it had exclusively operated during emergency times. The number of SVs coordinate by Caritas Senigallia is impressive, from 700 volunteers during the first week up to 1500 at the end of the second weekend from the flood. The successful management of such big number of persons, carried mainly out in close coordination with other official responders, allowed the quick recovery of the most affected areas. Volunteers helped flood's victims by removing waste, water and mud, and by offering appropriate assistance to all victims of the flood. All interventions that were performed by SVs managed by Caritas were appropriate and wellcoordinated with other actors, as the Civil Protection and Fire Brigades.

The involvement of local volunteers facilitated the growth of an active citizenship, raised awareness among the local population about how to behave in case of flooding and increased the solidarity and mutual support among local communities, which allowed Senigallia to rebound from the devastating effects of the flood within a few weeks.

5.3. Genoa, floods of 2014 and the hybrid innovative system

Genoa, the capital city of Liguria Region is located in the North West of Italy and it is the sixth biggest city of the Country, with about 580,000 inhabitants.

On the 9th and 10th of October 2014, around 70 mm of rain fell in 24 h in Genoa, causing severe floods. Heavy rain also fell across wider areas of the region of Liguria, causing rivers overflows, floods, severe damage and one dead. In Genoa shops, public buildings and residential areas were seriously damaged, cars were washed away, piling on top of each other and streets were covered by mud and heaps of debris. The at that time Regional Governor estimated the damage only to public infrastructures at 200 million euros.

Above mentioned disaster was not an isolated event. From 1970 flood and landslides have caused over 100 deaths and missing people in all Genoa's region. Floods in this area are defined as flash floods, i.e. circumscribed and extreme flooding that violently hit only certain and known areas. Water usually quickly recedes, leaving heaps of overturned cars, furniture and mud dispersed across the streets. Hydrogeological risk of Genoa is high and increasing, determined by the result of hazards and vulnerability that are progressively raised because of climatic changes and continuing urban development which creates greater vulnerability (Faccini et al., 2015).

The high frequency of floods events has pushed local public institutions to adopt several measures to prevent, reduce and mitigate emergency consequences, such as an Emergency plan in 2010 that is
constantly updated and a warning system towards all households of the city. Some adopted actions are designed to transfer responsibilities for local safety from the public institutions to citizens. Furthermore, those municipalities at the highest risk of flooding have developed their own disaster risk reduction strategy, that includes plans and actions for both preparedness and emergency response. All the relief operations are managed at the most possible local level, firstly by the affected municipality in coordination with voluntary organizations of Civil Protection, local media and in close collaboration with the City institutions. Furthermore, the emergency local plan foresees the involvement of citizens in prevention, preparedness and response phases. In fact, the nine local municipalities that composed the city of Genoa are the first institutions managing spontaneous volunteers. Each municipality provides a place where citizens willing to support the affected population can converge to. In each municipal reception center, SVs are usually briefly registered, insured and assigned with simple tasks. In that time, about 5700 persons without any affiliation wanted to volunteer for supporting the affected population.

Despite the institutional capillary organization in managing spontaneous volunteers, not all unaffiliated volunteers referred to a municipality to offer their help in relief operations. Some citizens preferred to selforganize their operations, others rather replied to pleas and calls for volunteers released by local associations and nongovernmental organizations.

Among others, the nonprofit organization Diocesan Caritas of Genova (DCG) coordinated and managed SVs in response operations to the flood emergency of 2014. It is important to underline that DCG is not an accredited voluntary Civil Protection organization, nor it is its aim to become so. The frequency of flood events within Genoa' territory has led DCG to provide itself with a general emergency management plan. According to DCR classification, DCG may be considered both an expanding and an established organization. The general emergency plan foresees the creation of ad hoc units to be activated during emergencies, as all established organizations. Each unit has default tasks that differ from ordinary times and emergencies. During both situations, all DCG' s operations are aimed at supporting the local population, especially those who are most in need. In case of emergency,

Table 3
Evaluation of SVM performance by applying the ISO Standard 22319:2017 checklist.

		2012 Northern Italy quake	2014 Senigallia floods	2014 Genoa Floods	2015 Benevento Floods	2016 Center Italy quake	2017 Livorno Floods	Comment
Assign responsibility to lead, manage and coordinate SVs		Very low	Low	Very low	Very low	Low	Low	None organization was officially designated as SVs manager by an official responder
Understand the motivation of SVs		Very low	Very low	Very low	Very low	Very low	Very low	None inquired motivation of SVs
Clarify issue of liability		Medium	Medium	Medium	Medium	Medium	Medium	All ensured an insurance cover and included liability terms into registration form
Defining relationship with SVs (only working independently of official responders)		Medium	N.A	Medium	N.A.	Medium	N.A.	It is not applicable to those organizations without an existing SVM plan
Understanding the concerns of stakeholders	Of official Responder	Low	Medium	Medium	Low	Low	Medium	Importance was given to beneficiaries of SVs operations, less to their relations with others.
	Of beneficiaries	High	High	High	High	High	High	
Risk assessment and risk reduction		Medium	Medium	Medium	Medium	Medium	Medium	
Selection of SVs		Low	Very low	Very low	Low	Low	Low	
Coordinating SVs		High	High	High	High	High	High	It includes: SV registering process, identification system, resources, communication process
Set expectations of SVs		High	High	High	High	High	Medium	Psycho-social support lacked for all or it was defined as inadequate
Monitoring task of SVs		Low	Low	Low	Low	Medium	Low	The monitoring was mainly carried out informally.
Identifying needs for training or instruction	For official responder	Absent	Absent	Absent	Absent	Absent	Absent	No attention was paid to official responder's familiarity with SVs.
	For SVs	Medium	Medium	Medium	Medium	Medium	Medium	
Recognizing and rewarding SVs		Medium	Low/Medium	High	Low	Medium	Medium	Some organizations organized ad hoc thanking events, others included rewarding activities within wider events.
Longer-term issues	Evaluation	Low	Medium	Low	Low	Low	Low	In both quakes, SVs came mostly from other parts of the country, thus their longer term engagement was unrealizable
	Longer-term engagement	N.A	Medium	High	Medium	N.A.	Medium	

Scale: Absent; Very low; Low; Medium; Medium/High; High; Not applicable (N.A.)

DCG has decided to provide immediate relief and support to the affected population, but not taking part in the official system of Civil Protection. In ordinary times, DCG delivers assistance and support to people in need also counting on a workforce composed of over 500 volunteers.

Totally DCG registered and assigned 300 volunteers within the first two weeks, among them a 30% were persons already affiliated to the organization for voluntary service within DCG's social services. During the emergency, most of the already affiliated volunteers continued to deliver DCG's ordinary social services that were not been interrupted because of the floods. In fact, as above mentioned, the flash floods hit only certain areas of the city, leaving completely untouched others.

DCG had an unofficial coordinating role in managing spontaneous volunteers by providing them the equipment and needed resources; experienced trainers; volunteer's temporary identification system; administration support to volunteers for their preservation of salary/retribution while volunteering; a general emergency coordinator and coordinators of volunteer's team on the field; insurance coverage for volunteers and professionals; a communication office for releasing appeals and updates.

The analysis of this case study shows important features: firstly, it presents a model of SVM led also by public institutions; secondly, it illustrates the possible coexistence of a hybrid system of SVM operated by both official and not official responders.

5.4. Earthquake in Center of Italy, 2016

The seismic sequence which affected a wide area of the Center of Italy, started on August 24th 2016 and was highly destructive. It caused hundreds of casualties (298 victims), damage, collapses of entire villages and important cultural heritage in four Central Regions (Lazio, Umbria, Abruzzo and Marche). On 9th September 2016, Red Cross estimated approximately 4454 displaced people (IFRC, 2016). On 26th October other two violent earthquakes occurred, followed by further smaller aftershocks, that destroyed more buildings or made them structurally unsafe in several towns and villages in the mountainous Italian central regions, forcing other thousands of people to abandon their houses.

Within hours from the first earthquake, thousands of volunteers from all over Italy converged to the affected Regions to bring what help they could and to rescue possible survivors. First official rescuers, as fire departments, Civil Protections workers and alpine units tried to discourage people without experience to come to volunteer, in order not to hinder first rescue operations. In fact, the most affected villages were located across mountains, hardly reachable through few roads. Almost immediately the whole Italian civil society reacted organizing fund raising, aids collection and subsequently, calls for volunteers. Among those organizations that engaged themselves for earthquake's victims, Brigate della Solidarità Attiva (BSA) was one of the biggest that coordinated other smaller entities in delivering support (inkind donations, voluntary services, food and psychosocial support).

Today BSA is a Federation of local noprofit organizations, a noprofit and independent organization itself, inspired by the Provident societies and labor movements. It is an expanding organization according to DCR classification, whose aim is to support people in need, mainly affected by disasters and emergencies. In responding to an emergency situation, BSA expands its organizational structure by mobilizing volunteers. It was born in the aftermath of a previous earthquake, the one that struck the city of L'Aquila in 2009. During this emergency, a big number of spontaneous volunteers organized themselves through a bottomup decisionmaking process. Few months after, those persons founded a formal, independent and noprofit organization whose aim is to support people in need, not only victims of disasters (for example a target group are foreign seasonal workers who are exploited and forced to live in inhumane conditions).

In supporting victims of the earthquake of 2016, BSA managed hundreds of volunteers from all across Italy. People willing to volunteer applied through an online form. Volunteers were organized in shifts whose duration were from 4 up to 7 days. Volunteer's main task was to deliver aids (food and not food items) to people still living in their houses, mostly in isolated conditions.

Beside the management of a big number of volunteers, BSA had an important role both in recovery and reconstruction phases. The organization partially financed and coordinated fundraising activities to open an aggregation center within a partially destroyed village, a public space for citizens, where to meet up and to rebuild the sense of community. A place where citizen's committees, associations and informal organizations can organize events and meetings, in order to stimulate the social reconstruction of a devastated area.

A research project that gathers academics, architects, lawyers, artists, engineers, sociologists and other figures were born from an initiative of a grass root organization that supported victims of the earthquake. This wide research group try to analyses the whole emergency response, from the first emergency to the ongoing reconstruction phase, in order to underline the pros and cons of a complex emergency management system.

5.5. Benevento flood, 2015

Between 14th and 15th October 2015, a destructive overflow of the Calore River caused severe damage in the town of Benevento and the surrounding area (i.e., the Sannio area), causing two causalities. Overfloodings of waters with a high sediment load occurred, in some areas the water reached 7–8 m and the walls located in the town could not confine it, heavily damaging some industrial plants (Valente et al., 2016). Once the water receded, the town of Benevento was heavily affected by the flash floods event. Cars were submerged, shops, streets and private houses inundated by mud and basements completely flooded. The mobilization of both official responders and civilians was quick and massive: the army and young students together exited on the streets to shovel the mud, while tons of aid were sent to a local faithbased organization, Caritas Benevento. Within

the first week, Caritas Benevento managed 778 spontaneous volunteers, who became 1290 at the end of the first month after the catastrophic event, without an official mandate from the public institutions (Caritas Diocesana di Benevento, 2016).

Regarding volunteering operations, provided services were he following:

– Coordination of teams of volunteering for cleaning and shoveling operations (outside and inside private houses, totally 145 interventions);
– Meals delivering to the affected population and to spontaneous and Civil Protection volunteers (tot 21.030);
– Shelters for unaffiliated and Civil Protection volunteers;
– Psychological support services for adults and children;
– Participation to Municipal Operational Center's meetings.

Even without specific experience in emergency operations nor having it specifically as its mission, this organization quickly set up a volunteer reception center, a form for their registration and a team for their management.

Caritas Benevento performed a management of spontaneous volunteers that in each phase strongly respected main toolkits and ISO 22319:2017

*5.6. Livorno **flood,** 2017*

On 9th and 10th of September 2017, heavy rainstorms hit the Tuscan city of Livorno causing three streams to overflow, landslides and serious damage to buildings, roads, railways and bridges. This disaster caused 8 fatalities and enormous damage, which were estimated at 4 billion euro only to public facilities. As in Genoa, it was an event of flash floods, with water violently hit only certain areas of the city, leaving completely untouched others. As a consequence, recovery operations mainly carried out by numerous citizens were managed or selfcoordinated at a neighborhood level. Among other associations, as sports clubs and parishes, the local NGO Caritas Livorno (CL) immediately started to support the affected population, during 1st day mainly informally and in a more structured manner from the 2nd day.

In ordinary time Caritas Livorno manages about 300 volunteers, at least 50 persons each day, but it had no previous experience in operating within emergency contexts. CL personnel could count on a counselling service delivered by experts of emergency operations, who immediately arrived on the site to support CL's personnel. Under the supervision of those experts, CL set up a Volunteers Reception Center (VRC), published a registration form, created a team for training and coordinating SVs and an identification system for them. Within 2 weeks CL managed at least 100 persons, most of them volunteered for a minimum period of 5 days.

The contribution of volunteers, both selforganized and managed by local organizations, was crucial to quickly restore living conditions within affected areas. The commitment of citizenship for their town and for their own security did not end after the emergency. Once the mud was removed, some citizens who volunteered during the emergency, created local civic committees with the aim of giving voice to the people within public arenas. Main requests submitted to the local administrations regard transparency in the reimbursement system for flood damage and the improvement of the whole emergency preparedness and response system.

In the following Section, an analysis and comparison of the six SVMs are presented.

6. Results

The performances in involving SVs within the six case studies have been rated by applying the checklist included in the ISO 22319:2017. In Table 3, each task has been rated on a fivepoint scale, from a very low to a high level of accomplishment of the ISO 22319:2017. Whether the organization managing SVs neither approached the specific ISO Standard's section, the rate assigned is "Absent", while if the ISO Standards' section is not applicable to a specific case acronym "N.A." is reported.

From the first analysis carried out by applying the ISO Standard, important issues have emerged as follows:

"Assign responsibility to lead, manage and coordinate SVs" and "Understand the motivation of SVs"– all organizations result inadequate. The first is a natural consequence of the missing mandate for SVM, an assignment of responsibility by official responders of public institutions done only informally in two cases. Furthermore, none organizations planned or carried out activities aimed at understanding the motivation of SVs. This issue is widely discussed both by Academics (Francis and Jones, 2012; Finkelstein et al., 2005; Holwitt et al., 2017) and practitioners as being crucial to a successful involvement of volunteers. This research shows that, in our analyzed cases, this aspect did not influence the success of the entire SVM process.

"Selection of SVs" – none organizations rejected a single person willing to volunteer, nor carried out a proper selection process, besides the questions included in the registration form. Some interviewees declared that registration forms helped them to make a sort of selfselection, others that the list of tasks to be carried out by volunteers selfdiscouraged those who were inappropriate. As per the above issue, this result opens up a discussion about the necessity of a selection process, a demanding task that may request time and experienced human resources to be appropriately carried out.

"Coordinating SVs" – all case studies were rated with the highest score, despite some differences below analyzed. According to each emergency situation, all organizations provided adequate information about volunteer registration processes, appropriate Volunteer Reception Centers; enough detailed information about tasks to be performed, related needed resources and risks; adequate training, identification items and coordination mechanisms. All SVs received basic services, as meals and transport. Furthermore, all organizations provided insurance coverage for their volunteers and clarified issues of liability through their registration forms.

"Identifying needs for training or instruction – for official responder". None organizations consulted official responders or other stakeholders in order to increase their familiarity with ways to engage SVs to ensure that volunteers' contribution is effective. This shortage is partially a consequence of the missing official assignment of responsibilities for SVM, but it is also a field where organizations may improve. By informing official responders about processes of coordination, roles and tasks of SVs, it would open the way for an easier recognition of emergent volunteerism by emergency professionals. This issue has been demonstrated also by other researchers in analyzing similar case studies and contexts. For example, within German emergency response system, a research has identified the lack of communication between professional rescue teams and SVs as one of the main obstacle for their cooperation (Lorenz et al, 2018).

"Longerterm issues – evaluation". One issue that should be considered more by organizations managing SVs is the evaluation of volunteer's performance and their management. Given rates to our case studies are generally low despite all organizations have declared to had carried out a sort of evaluation, that for five out of six was merely a qualitative report that included interviews with beneficiaries. Only one organization, supported by Academic researchers, conducted a deeper analysis and evaluation process, with the aim of establishing principles and procedures to

be followed in case of future similar events. What is completely missing is the quantification of the contribution of the SVs, both in terms of working hours and saved expenditure. This kind of evaluation would be useful in lobby and advocacy activities towards public institutions.

A second step of the analysis of the collected data was a comparison aimed at underlining common and distinctive features of each SVM. Table 4 shows the results of this compared analysis, by following the organizational structure of the administrated questionnaires:

Table 4
Compared analysis of six SVM.

Emergency response components	Common elements	Distinctive features
1. Preparedness	• All organizations had previous and long-lasting experience in managing volunteers (not in emergencies), all more than 50 volunteers. • Not in emergency, all organizations have precise procedures for managing volunteers: registration, insurance coverage, training and a dedicated coordinator.	Two entities already had an existing emergency management plan that includes SVM procedures.
2. Emergency Response	• All organizations defined SV roles and needed resources. • In all emergencies, volunteers were given the information where and when to converge to.	Only one organization requested SVs to carry with them some needed equipment. All others provided them with all needed resources.
3. Volunteer Reception Center (VRC)	• There is no standard model of VRC. It depends on the size and type of emergency and on the morphology and urbanistic of the affected area and its surroundings. • In all analyzed emergencies, it was considered appropriate for its purpose.	In cases of earthquake, the VRCs were not located at the heart of the most affected area.
3.1. Personnel of VRC	• No one foresaw a dedicated person for screening volunteering requests. • All were equipped with lap-top and vehicles for transportation of volunteers.	Only in a case, there was no SVs coordinator, a big lack according to interviewees of that organization.
4. Volunteer Registration and training	• All mixed digital and off-line registration. • None operated a sort of volunteers selection or screening.	• Three organizations asked only personal information. • Other three added other requested information as availability, preferences, equipment, previous experiences.
5. Safety and security	• All provided an overview of the emergency situation and a training on tasks to be performed as volunteers with related needed resources. • All volunteers were covered by insurance.	One organization had no personnel with previous experience in emergency management.
6. Volunteer identification system	All provided volunteers with at least one identification item.	In two cases, SVs were recognizable only during the first intervention. In order to create more empathy with the beneficiaries, SVs removed any identification item from the second intervention.
7. Services for volunteers	All volunteers received meals. According to actual needs, SVs could rely on basic services (transportation, accommodation).	Only one organization provided reimbursement for lost working days.
8. Communication	Main communication channel was by phone.	One organization provided transceivers to volunteers.
9. Follow up	All organizations performed follow up activities.	In three cases managing organizations did not maintain any contact with volunteers.
10. Relations with institutions/other organizations engaged in SVM	• No one had a proper and official mandate for managing SV by the institutions. • No one reported problems of overlapping with other organizations engaged in emergency operations.	• Only in one case, the mayor publicly declared one organization to be in charge of SVM, but none official and written mandate followed. • During the emergencies, three organizations participated at the local institutional meetings aimed at coordinating emergency response. The other performed a sort of informal coordination with local institutions.

7. Discussion

From the analysis and comparison of the 6 case studies important elements of discussions have emerged as follows.

From an operational point of view, all analyzed case studies accomplished the key stages for the correct involvement of spontaneous volunteers, according to ISO 2319:2017. Important improvements might be done regarding specific tasks, as the SVs selection process or the provision of psychological support for volunteers. The general lack of experience in emergency management operations was compensated by an eradicated culture of volunteering and longlasting expertise in managing volunteers during ordinary times. This is valid also for the case in which SVs were managed by an emergent organization (North of Italy's quake, 2012). In fact, that organization was founded in the aftermath of the disaster, but as a representative confederation of other organizations with previous and extensive experience within the volunteerism field, whose personnel were temporarily moved to the emergent entity.

Those organizations that for the first time operated in emergency, successfully managed a big number of spontaneous volunteers by applying their already existing rules of conduct and management principles to a new context. Furthermore, the research underlines how civil society organizations already active in supporting people in need, also in emergency benefit of a deep engagement into social issues and of a high level of reliability.

From a wider point of view, within the Italian emergency management sector, this research underlines the benefits that a correct involvement of SVs could lead to, despite organizations managing them are not official responders. After Senigallia floods emergency, it was officially stated by the local Municipality that the Civil Protection could operate on public proprieties because of the operations conducted by SVs within private houses (Paciarotti et al., 2018). Spontaneous volunteerism in emergency means also more participation of citizens in policymaking process and deeper community ownership. Our research has demonstrated that citizens who volunteer in emergency response will be deeper engaged in future activities of preparedness and prevention, as shown by citizens of Livorno. Similar dynamics have been observed in Genoa, where citizens who volunteer during emergencies, actively participate in each phase of the disaster risk reduction strategy of the city, from preparedness to recovery. In Genoa, the voluntary intervention of citizens was even more dramatic due to delay in the intervention of Civil Protection (Springhetti, 2015). Emergency volunteerism has demonstrated to increase resilience, as the response to the Earthquake in the Center of Italy has shown. During that emergency, important longerterm projects were born from voluntary movements, with the aim of reconstructing destroyed social and economic fabric. The participation of citizens has increased the effectiveness of prevention, response and recovery operations (Marana et al., 2018).

This research has shown some important contributions made by SVs, but it is still lacking a quantification of the value of spontaneous volunteerism in emergencies, especially in terms of numbers of performed recovery operations, working hours, number of beneficiaries assisted, costs for SVM, etc. While the Civil Protection publishes systematically exhaustive reports about its whole emergency response, including an extended section on volunteers' role, organizations managing SVs reports are often limited to the number of volunteers involved. In these times of a general contraction of public spending, a clear demonstration of the economic value of SVs, in term of public funds saving, would accelerate their

public recognition and regulation. This effort has been already made by an interesting research from the Czech Republic that has estimated the economic value of volunteers, showing that the entire National Integrated Rescue System could not efficiently respond without volunteer support, especially in this country, where large scale floods are the most frequent and devastating natural disasters (Dostal et al., 2013).

Analyzed case studies confirm those points of view that underline a current shifting towards a more flexible volunteer model, an emergency management system that considers different ways of volunteering, including the sporadic and episodic ones. Towards this direction, important best practices are emerging all over the world. In the United States, the Federal Emergency Management Agency has established a framework on how to deal with volunteers during an incident and how to engage them in the disaster management organization (FEMA, 2011). To remain within the European area, Team Oesterreich has represented a big novelty in this sector and it has been replicated and adapted in other countries, as the Netherlands and Germany. Launched in 2007, this Austrian project consists in a database of potential spontaneous volunteers, persons who register in a web database to offer help in case of emergency, in order to avoid the difficulties of handle all the helpers converging in case of emergency. In this way, the volunteers can be selected and contacted immediately, if needed, by every Austrian emergency organization and authority (Neubauer et al., 2013).

The Australian Emergency Volunteering and Community Response to Extreme Weather service (EVCREW) represents another complementary model of emergency volunteerism that may be developed side by side with the traditional one. It aims at matching registered person's skills, qualifications, location and any relevant equipment/ transport they may be able to provide, with the volunteering roles that become available during an emergency. Organizations engaged in the emergency operations requesting additional workforce can receive volunteer support to meet the community's needs, whilst not duplicating the work of other agencies (Mc Lennan et al., 2016).

Above mentioned best practices could be an inspirational starting point for each territory to create its own way of involving spontaneous volunteers. There is no one absolute right model that can be applied to each context. Volunteerism depends on several features, as far as emergency response systems can deeply differ from each other, that is the reason why each model to coordinate SV needs to be tested and evaluated in situ.

Limitations of this study and its potential applicability within other contexts depend on several features, firstly it is only based on Italian case studies and it is focused on small and medium scale disaster events. The aim of the paper is not to provide immediate solutions for volunteer management, but rather to present a partial state of the art of spontaneous volunteerism limited to Italian context and to small and medium size events and suddenonset disasters. Furthermore, it does not inquire the motivations behind spontaneous volunteerism, neither its sociologicalcultural aspects. This research attempts to provide a general framework for SVM and a baseline for future policies towards a bigger recognition and regulation of spontaneous volunteerism by public institutions. Despite these limitations, our study has shown some important elements. It underlines that civil society organizations, as catholic based associations or politically oriented organizations, are important reference points for both the local population and the institutions in case of emergency. Civil society organizations at issue have shown ability, reliability and commitment in SVM in emergency, demonstrating a professional approach respecting main key elements and rules provided by main guides. These organizations, widely spread across Italian territory may be one of the subjects involved for the SVM.

For the Italian emergency system, next step may be a regulation for SVM at institutional local level, for example by appointing potential organization that may in charge, by an accreditation, for managing citizens converging to support the victims of an emergency. As stated by Bergstrom, building resilience is also a political issue that needs to enter the political agenda in order to be fully established. Public policies, regulations and government appeals need to encourage citizens' involvement in societal safety and security protection mechanism (Bergstrom, 2018), facilitating a shifting approach of official responders that mainly continue to rely on traditional models of volunteerism based on centralized command and control style of management.

In Italy, the first signs of these changes can be read in the words of the Civil Protection Voluntary Department's head, who stated that within the ongoing reform process of the National Civil Protection System it is opening the opportunity to regulate the involvement of SVs. This may be done at local level, giving to Regions the power of legislating on this topic (Calzolari, 2018). Considering that so far only 15 Italian Regions out of 19 have prepared their own guidelines for the coordination of emergency operations (Pilone et al., 2016), the still not compliant Regions may include guidelines for SVM in their local emergency plans.

This would represent an important breakthrough for the whole Italian emergency response system, but it has to be regulated considering possible disruptive consequences, as the discharging of responsibilities of governmental institutions or the increasing legal issues deriving from a bigger volunteerism involvement. In building resilient community through a participated process, contribution of citizens and public official should be complementary and not substitutive (Mc Lennan et al., 2016).

8. Conclusion

Spontaneous volunteerism in disasters and emergencies is a relevant topic, internationally attracting growing interest. This paper firstly defines who the spontaneous volunteer is and how this figure lies within the Italian emergency response system. By analysing 6 Italian case studies, this research aims at tracking, comparing and evaluating current trends of the spontaneous volunteerism within the country, a topic still neglected by the Italian research. The value and contributions that spontaneous volunteers may have in relief and recovery operations have been demonstrated during all the events analyzed in this research, even if all smallmedium sizes disasters. The research shows also that communitybased organizations, even if not part of the emergency response system, may be an ideal subject for managing spontaneous volunteers.

Although the applicability of our findings seemingly limited and questionable, this research aims at proposing some hints and inputs for the Italian Civil Protection System's reform process, since in Italy, as in the majority of countries worldwide, the management of spontaneous volunteers is still not regulated or even discouraged by official responders. As shown by this research, a formal recognition of SVs as potential actors of the emergency response system may contribute to improving some of the weak aspects of the analysed SVM.

At the same time, it underlines the main operational strengths and weakness of each SVM performed by surveyed organizations, giving to other potential SVs' managers, important practical guidelines to perform this difficult task in the best and safest way. Some hints proposed by this research may be also useful to better advocate for spontaneous volunteerism's general acceptance, as by conducting analysis and evaluation aimed at quantifying the contribution of SVs in term of working hours and performed operations.

Presented findings may be useful to further researches aim at identifying potential entities to be in charge of SVM, or to model and test a system for involving citizenship into emergency operations.

Appendix A. Questionnaire: The spontaneous volunteer management in emergency

This first section is dedicated to inquire Volunteer Management in ordinary time, in order to assess main management assets also for those that do not have an emergency management plan

A_ Does the organization foresee a volunteer management system?

B_ Does the organization apply policies or has experiences in managing spontaneous volunteer (non in emergency)

C_ Is dedicated personnel present for volunteer's management?

D_ How many persons do usually volunteer for the organization?

E_ Volunteers are formally:

- enrolled
- insured
- managed by professionals
- trained
- other_____

1. Assessing volunteers' roles and tasks

1.1 Assessing needed resources and equipment

1.2 Communication plan and messages for volunteer's recruitment. Information provided:

_ when and where converge to
_ needed equipment to be brought
_ contacts
_ other

2. Volunteer Reception Center (VRC)

2.1 Was it adequate in terms of space and its organization? If not, in what was it inadequate?

2.2 Was it located close by the hit area?

2.3 Was it already property of the organization? If not, was it:

_ rented
_ loaned for free
_other

2.4 Was it accessible:

_by car
_by bike
_by foot
_ by public transports
_other

2.5 Employed personnel into VRC:

_ Receptionist for welcome and register volunteers
_Screeners
_ dispatcher
_Trainers
_ Coordinator
_Other

2.6 Needed resources:

_vehicles to drive volunteers
_PC/tablet for volunteer's registration

3. Volunteer's Registration

_ Online
_ Offline (on hard copy registration forms)
_ Both

3.1. **Requested data and Release of Liability**

_name
_address
_ phone/e-mail and emergency contact details
_ availability
_ skills (languages, communications, computer, counseling, heavy equipment, medical, etc.)
_ previous emergency training/ certification

	_ task preferences _ geographic area preferences and travel capacity _ preferred phase of emergency _ any limitations (health, food, etc.) _ what resources, if any, could be provided _ privacy statement and release of liability _ other
4.	**Volunteer screening** _ interview + registration form _ only through registration form 4.1 Did your organization rejected someone's request to volunteer due to he/she inadequacy?
5.	**Volunteer Training** _ At the reception center _ On the field _ Both 5.1 Was a debriefing conducted: _ before each shift _ at the end of each shift _ at the end of the volunteering service 5.2. Who did train the volunteers? 5.2 Which was trainer's experience in emergency operations or training?
6.	**General Safety** 6.1 Volunteer Instructions about the organization's mission and the specific one in the current emergency 6.2 A briefing and updating about the emergency situation 6.3 The spontaneous volunteer's role, including boundaries and limitations 6.4 Command and communication structures 6.5 Occupational health and safety requirements and safety issues 6.6 Specific training about how to deal with emergency victims
7.	**Training on volunteer's tasks** 7.1 Tasks to be performed for the shift 7.2 Needed resources, where to collect them, how to use them 7.3 Administration requirements 7.4 Communication instructions, reporting lines and requirements 7.5 Specific occupational health and safety requirements 7.6 Any informative materials, guides, handbooks
8.	**Volunteer temporary identification system** _ badge _ wristbands _t-shirts _ pins _ stickers _ other
9.	**Volunteer supervision and operational management:** _ catering _ washing facilities _ transport _ equipment _ other
10.	**Communication with volunteers** _ by phone call

_ short messages system (SMS)
_e-mails
_ social networks
_ other

11.1 Communication channels for volunteer recruitment:
_ local media
_ national media
_ social media
_ web sites
_ other

11. Did the organization create a Volunteer coordination team?

11.1 Which were needed knowledge and skills?

11.2 Was it composed by members with previous experiences in emergency operations

12. Volunteer Safety

12.1. Were volunteer insured for themselves and for damages to third party

12.2. Was any accident or incident reported? (Even minor accidents)

13. Were a risks assessment and a mitigation plan conducted?

14. Follow up activities:

14.1. Evaluation of Spontaneous Volunteers performances

14.2. Celebration events, statements of gratitude for thanking and valuing SV support

14.3. Has been any longer term engagement with volunteers maintain?

14.4. Have any SV become a regular organization' volunteer?

15. Relations, engagement, commitment and coordination with official responders, public institutions and other organizations operating into emergency response.

15.1 were there any coordination activities during the emergency response phase? (round table, coordination meeting, weekly meeting….)

15.2 did you register any overlapping with other entities?

15.3 did your organization receive an official mandate for SVM

15.4 Did your organization receive any gratitude manifestation after the emergency

15.5 were there previous relations with one or more of these organizations

16. did other organizations manage SV?

16.1 did your operation overlap whit their ones?

16.2 did your organization coordinate with others managing SV

General Data about SVM

a. How many volunteers did your organization manage?

b. Approximately for how long?

Any other comment:

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