ADAPT

Awareness of Disaster Prevention for Vulnerable Groups

Guidelines on community-based management of data-based disaster prevention for vulnerable groups
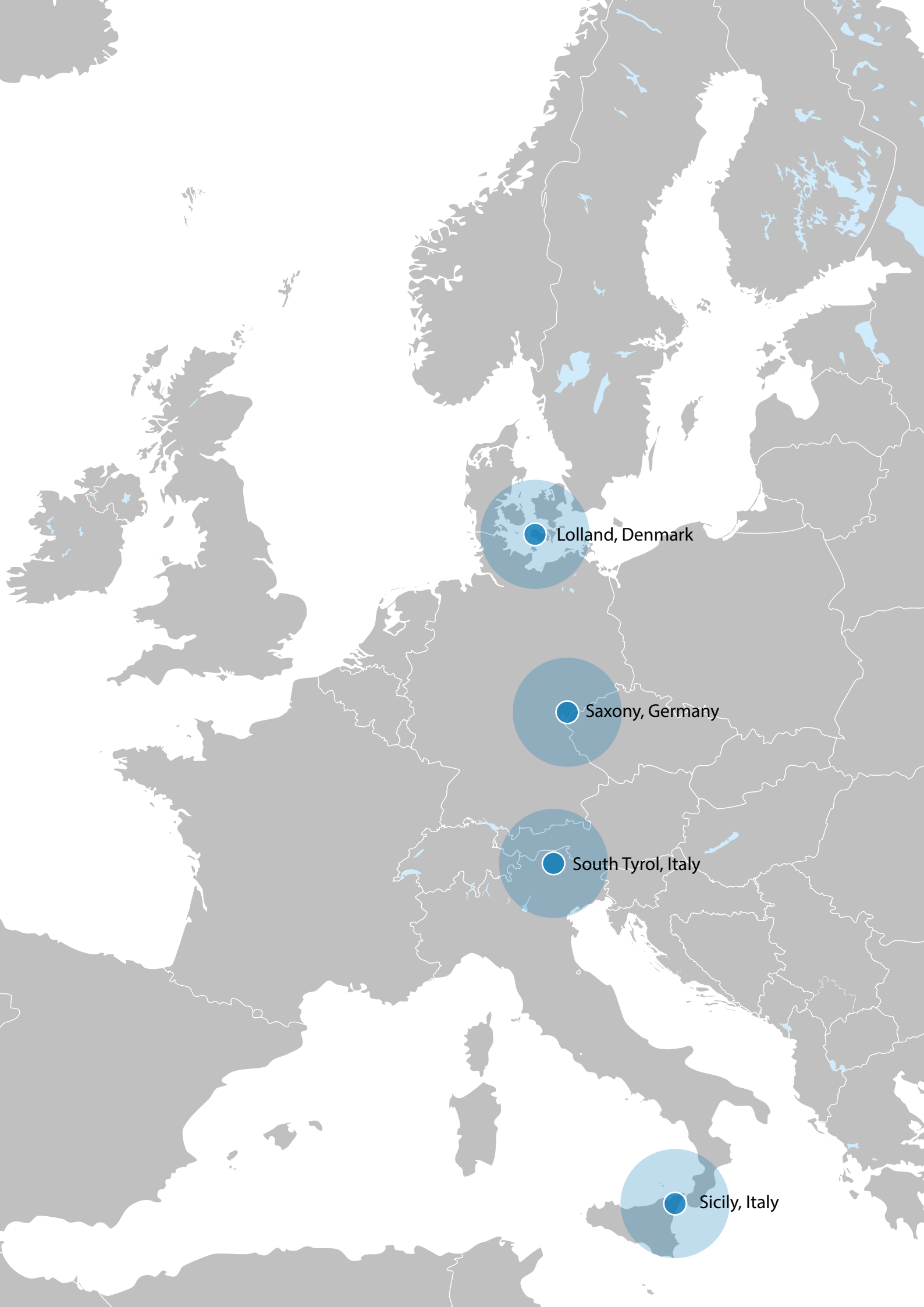
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1. Introduction

1.1. ADAPT

In disaster situations, such as floods or earthquakes, the elderly or people with disabilities are particularly vulnerable and require additional attention. However, their special needs are often neglected in existing municipal emergency plans, particularly if they live at home and not in a care home. During emergency evacuations, their location and special requirements are often unknown to relief workers. The reason for this is not the lack of information, which is available as both formal and informal knowledge, but the lack of structure to this knowledge. The ADAPT project (Awareness of Disaster Relief for Vulnerable Groups) aims to alleviate this problem by making and keeping this information relevant by involving the local communities themselves in improving this part of their resilience to disasters.

The approach of ADAPT is based on two main pillars:

The first pillar is a database platform (ADAPT-DB), which collects information on vulnerable persons in disaster risk areas in a structured form. Rescue services can access this data in emergencies and therefore will be better prepared on arrival at the site of an evacuation.

However, the ADAPT-DB as such is merely a specialised software tool. It relies on the communities that implement it for data collection and data maintenance, and for solving all the technical, legal and social challenges that come with it.

Hence the second pillar is our community-based management approach, which this document describes. We have compiled guidelines on how to deal with typical challenges our project partners experienced. The project consortium offers pointers for raising public awareness of disaster risks and so improving resilience and enhancing preparedness. The guidelines also offer advice on setting up and maintaining an ongoing workflow for managing data collection, and for any communities who wish to implement the ADAPT, or similar, solution. We also describe the implementation processes in the participating communities as case studies. Contacts from project partners are available, also after completion of the project, to answer questions of interested parties facing similar challenges.

ADAPT was carried out in four local communities based in three European countries (two in Italy, one in Germany and one in Denmark) with very different types of daily life, welfare systems and voluntary organisations. The communities involved were affected by different types of natural disasters; they were also characterised by the presence or absence of detailed emergency plans covering vulnerable people and bya greater or lesser involvement of stakeholders (public and non-profit organisations).

There are differences among the communities involved in this research which result from their different welfare systems. Denmark has a welfare system where public authorities are key, while in Italy the involvement of NGOs, and particularly volunteers, is much more prominent. The potential social added value of voluntary organisations of a certain size is similar in all European countries involved.

Discourse by the project's academic partner, the University of Rome Tor Vergata, on the role volunteers play in the resilience of vulnerable groups, is included in this document.

The other members of the project consortium were aid and welfare organisations from three countries:

› Associazione Nazionale Pubbliche Assistenze (ANPAS) from Italy
› Arbeiter-Samariter-Bund Deutschland (ASB) from Germany
› Dansk Folkehjælp (Danish People's Aid - DPA) from Denmark
› Landesrettungsverein Weißes Kreuz (WK) from Italy

The project was coordinated by SAMARITAN INTERNATIONAL, a network of European aid and welfare organisations, of which these four organisations are members.

The six project partners conducted the project over the course of two years (2014-2016) and created and developed the project's two main pillars. Together with local stakeholders and municipal authorities, they implemented pilot schemes for ADAPT in three communities: Klausen in South Tyrol, Italy, Saponara in Sicily, Italy, and Vogtland County, Saxony, Germany. The feedback from and experiences exchanged at local levels proved invaluable in developing ADAPT-DB and collecting the knowledge and results that form the basis of the project's community-based management approach described in this document.

ADAPT was made possible by a grant from the European Commission, DG ECHO Prevention and Preparedness.

1.2. Adaptability to local circumstances

The ADAPT project was implemented in three very different communities; this required the project being adapted to local circumstances, with the exception of some general such as the significant added value of volunteer organisations[1].

Despite the different approaches, the project's main pillars proved transferable to all communities where NGOs have a strong stake in civil protection. Preliminary feedback from those communities indicates that the implementation of ADAPT has resulted in improved emergency plans for vulnerable groups, which will be evaluated further as part of regular civil protection exercises.

These following guidelines are intended to help organisations, municipal authorities or other stakeholders wishing to replicate and/or build upon the project's results in their own community. Notwithstanding the challenges inherent in a complex situation with multiple stakeholders and the approaches to solve them as presented in the following pages, ADAPT was from the beginning designed with adaptability in mind.

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1   See the corresponding chapter on page 25.

1.3. Technical adaptability by design

When choosing the project's IT service provider and during consultations, we took great care to focus on open or common standards. The ADAPT-DB allows for data input and output in simple spreadsheet form, but also via a documented API, which allows for easy integration into all kinds of current data processing workflows encountered in the course of the project.

To ensure greater adaptability, the ADAPT-DB is available under an open source license. As such, communities who wish to use the software and customise it to their needs can do so. The ADAPT-DB is a web-based application written in the standard programming language PHP using the common Symfony framework. Public or private institutions who wish to create a customised version will therefore be able to call on a large number of software companies specialising in these tools. Adapters are not restricted to a single vendor.

The complete source code for the ADAPT DB and starter documentation is available on the project website.

1.4. Flexible expansion of coverage – improving best effort

Stakeholder commitment and data availability may vary locally and over time. In some cases, a demonstrable starting point is favourable. ADAPT-DB allows multiple data sources and can be expanded later on. For example, an NGO involved in civil protection or offering social services can start with a limited database, collect its first tangible results and then canvass the support of additional stakeholders to gradually include more and better managed use cases with wider applications.

2. Guidelines for community-based implementation and management of ADAPT

2.1. Problem awareness for stakeholders

An important element of implementing ADAPT in a community is to get local stakeholders interested in participating and contributing. They need to understand the public interest and benefits of their own interest in project implementation and gain a sense of ownership of local implementation. An organisation or other player proposing ADAPT for implementation in their community has to make clear that improving the civil protection system with ADAPT is a matter of societal prevention and preparedness. Relevant stakeholders may include local civil protection players such as: the mayor's office, the fire brigade, other local NGOs involved in civil protection and potential data providers such as meals on wheels services or home care services. Even though the local level is always the "first responder" in emergencies, depending on the structure of the civil protection system, different regional or national stakeholders may also be of interest (civil protection authorities or non-local data providers, such as insurance companies).

Convincing stakeholders and making them aware of the problem is not a one-way street. Stakeholder awareness is a triangle: they can help to convince other stakeholders, they have to help convince citizens, citizens may interact with them or with the initiating NGO.
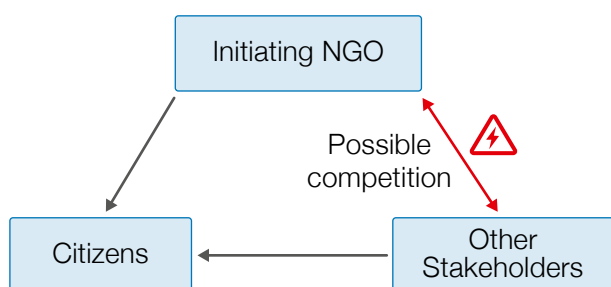
Approaching local stakeholders may pose some challenges, many of which depend on regional circumstances and structures.

If the initiator of the ADAPT project is an aid or welfare organisation, some possible stakeholders may be competitors with regard to some of their activities and may have reservations to cooperating. The initiator will have to anticipate their concerns and offer appropriate solutions. Arrangements that should be discussed include, for example, access to the data collected. In this case, giving technical responsibility to a neutral or public institution like the mayor's office may allay concerns that data is being handed over to competitors.

Another possible issue is that the civil protection system may not be open to NGO participation in all EU member states. A very restrictive, state-focused civil protection system may need a public civil protection stakeholder to lead the effort to implement ADAPT. NGOs may not be able to initiate an ADAPT project in the short or mid-term in such cases [2].

All kinds of stakeholders will have practical questions before committing to implement ADAPT and often questions on data protection will be raised. An initiator will have to draw up a concept covering important aspects of an ADAPT implementation where stakeholders may raise questions, before approaching them. This includes in particular: an plan for assigning technical responsibilities later on and a thorough review of the legal situation regarding responsibilities in civil protection and data protection. An initiator should also have some idea of the distribution of administrative responsibilities later on, including data maintenance and ongoing dissemination.

The key question to answer before approaching any stakeholder is "why is ADAPT important for you?" It is important to show every stakeholder that ADAPT is not solely in the interest of the initiator, but also in their own interest. They should see themselves as a part of the project instead of simply supporting one.

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2   This situation was encountered in the project with our Danish partner DPA, where the situation did not allow ADAPT to be implemented within in the project timeframe. For details, please see the description of the local situation in the corresponding case study on page 22.

2.2. Communication plan and dissemination to the target group

Communicating implementation of ADAPT to the relevant actors beyond the stakeholders directly involved can be beneficial in finding further partners and later on expanding the area covered by implementation to neighbouring communities or your own region.

A wide range of communication means is possible. During initial cases of implementation in the framework of the project, ADAPT was met with great interest at different events and in different contexts. Talks about ADAPT were given at specialised trade fairs, networking conferences of organisations active in civil protection and those working with the target group. Talks were also held with regional authorities not directly involved in local implementation. The project's academic partner used the preliminary results for their research and so was able to present ADAPT at a scientific conference (ESA Prague 2015), followed by additional publications [3]. Further communication in the public sphere took place using new and traditional media, including social media and websites of partner organisations as well as local papers in the participating communities.

Stakeholder awareness is a crucial prerequisite to effective dissemination to the target group. Different stakeholders may enjoy different levels of trust within the local populace or within different parts of the populace. Thus the more stakeholders participate, the better dissemination to the target group will be. Reaching the target group follows the basic rules of advertising and marketing. Multiple contacts with the target group increase the chances of successfully engaging people. Since this can be a long process, it is important to start the process of dissemination to the target group early on.

All locally available options should be used (leaflets in public places visited by the target group visits (doctors' surgeries, etc..), info events, info in the local paper, etc.).

Dissemination to a wider group of relevant players as well as to the target group will benefit from a "working title" for the local initiative that is descriptive and not too technical. Including the project name "ADAPT" may work (depending on the local language) e.g. "ADAPT community disaster management". In other cases, different branding for local implementation, possibly based on civil protection services that are already well-known locally, may be the better choice.

Dissemination does not end with initial implementation, but is an ongoing process. Depending on local circumstances, further engagement of the target group may take the form of reminder campaigns or the mention of ADAPT in loosely related contexts (e.g. ICT courses for the elderly, annual membership drives for civil protection or welfare NGOs).

Volunteers play a very valuable role in dissemination and consequently signing up vulnerable people for local implementation of ADAPT as they can be active in advertising as well as in data collection (see the chapter on administration). As part of the community, they are very well suited to use dissemination models and techniques specifically tailored to local circumstances (e.g. specialised interview methodologies, focus groups etc.) [4].

This is a unique quality which volunteer organisations bring to the implementation group which cannot be matched no fully compensated for by purely state-led efforts [5].

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3   See also the general article on the research done in this regard in the corresponding
     section starting page 25 which also includes literature references for further reading.

4   For an example of specialised methodologies for volunteers, see
     the ANPAS case study, starting on page 12.

5   Also see the section on the added value of volunteer organisations, starting on page 25.

2.3. Collecting information and data protection

When handling the personal data of vulnerable groups, data protection is an obvious concern. That is why compliance with data protection when processing data of the target group is of the utmost importance.

The EU data protection directive (95/46/EC)[6] allows for certain national exceptions. Some member states have included civil protection purposes in their list of exceptions. Any local community wishing to implement ADAPT should check their specific national or regional legal situation.[7]

Notwithstanding special national or regional exceptions, there are three general rules to follow to ensure compliance with data protection in the context of ADAPT:

1. The target group receives clear and correct information about data use and objectives
2. The operator has a signed consent form from every registered person from the target group
3. Public authorities can serve as guarantors for data protection. In many cases, this would be the mayor's office, as the highest municipal authority for civil protection. National exceptions, if there are any, may also mandate public involvement.
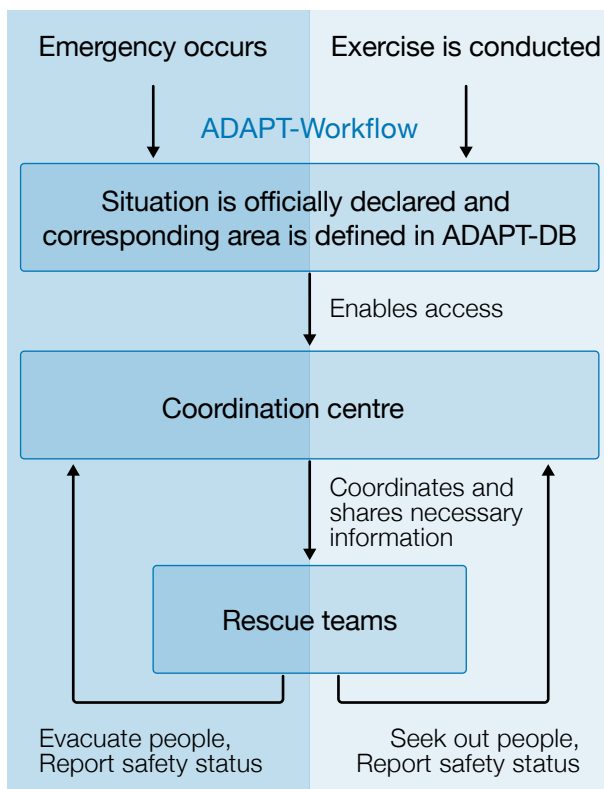
In the course of the ADAPT project, small or medium sized sign-up events proved very effective to ensure compliance with all three rules. They allow volunteers to thoroughly explain the purpose of data collection to the target group, collectively or even one on one. At the same time, members of the target group who wish to sign up can do so on the spot. If such an event is planned as a kind of "town hall meeting", this allows for direct participation of a representative of the municipal authorities.

Allow multiple ways to register, if legally possible. For instance, if web-based consent for processing personal data is valid in your jurisdiction, use web-based registration on the municipal website in addition to paper forms.

Share the consent and sign-up forms with relevant local stakeholders and partners so that they are widely available. Doctors' surgeries or pharmacies are good examples of places were the forms should be available. The staff there should have been informed about ADAPT. Depending on your local circumstances, there may be other appropriate places.

Using data for civil protection exercises or for implementing the ADAPT-related part of evacuation procedures should be included in the consent form. This ensures that local implementation partners

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6 The upcoming General Data Protection Regulation (2016/679) will probably not entail major changes relevant to ADAPT; nonetheless we recommend reviewing its findings before it comes into force in 2018.

7 While, ultimately, it will often be the responsibility of participating public stakeholders, such as the municipality, to ensure compliance with data protection, legal expert opinion provided for the first implementing communities helped expedite the process. Any NGO presenting ADAPT to local stakeholders should do their own legal research, or have it done by a legal expert.

will be able to use the system effectively and routinely in an actual emergency. Also, it may increase confidence in the system among the general populace. During an exercise, a rescue worker could, for example, ring the doorbell of a sample of registered people and remind them that, if a real emergency took place, they would come to evacuate them.

The local implementation partners should define a process on how to implement the ADAPT mechanism which closely reflects the intended actual workflow in emergencies.

2.4. Cooperating with data providers and creating interfaces

The implementing group should define a person or (if a dedicated IT partner takes part) an organisation responsible for clarifying technical questions. This includes consulting with data providers as to whether they can deliver data to the ADAPT-DB in an appropriate form, such as spreadsheets, or whether and which custom interfaces have to be created. It also includes technical supervision of the set-up process in the local community and regular maintenance tasks.

Working relationships for updating data have to be negotiated with all data providers. Of course, the general rules for complying with data protection apply, or data providers will not be able to cooperate. Procedures on access rights have to be defined, namely "who has what kind of access to data and when?"

These relationships should also define update frequency and, particularly if the number of data sources is high, a regular meeting of all contributing data providers with the implementing group.

For information on the technical formats for data transfer, please refer to the accompanying documentation for ADAPT-DB, which is available on the project website. As ADAPT-DB is open source software, the creation of customised interfaces is possible, where the pre-defined options are not appropriate [8].

2.5. Ensuring continuous data quality

To ensure continuous data quality, it is necessary to establish data and data provision reviews on a regular basis. The review group should have a low fluctuation regarding its members, and include representatives from technical, administrative and political fields. The first task of the group will be to define a standardised review process. This may require manual checking (in case of purely or mostly opt-in data collection) and will thus be a labour-intensive task.

Methods and processes for exchanging data with stakeholders and data providers have to be agreed upon on a case by case basis. The ADAPT-DB interfaces were chosen with interoperability in mind and should enable partners with different IT capacities to provide data easily.

The processes to ensure data quality may differ significantly depending on several characteristics of the community. The options to involve public authorities, volunteer involvement and NGO involvement may differ, in addition to several other factors. In the following diagram we have marked estimated prototype communities illustrating the extremes of this spectrum, from a highly state-centred system to a system essentially reliant on volunteers.

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8   To facilitate data exchange, the technical format for data exchange should be adapted to a standardised European digital identity format, should such a format be defined and established in the future. This would additional data sources to be added easily as they become available.

The diagram shows, as a qualitative example, the varying degrees of characteristics that communities in different countries or regions may have. Local approaches for long-term implementation of ADAPT combined a process for ongoing data maintenance should take these characteristics into account.

The diagram is intended to show that the differences between local communities include aspects such as:

› Type of welfare state: more or less central role of public entities in welfare
› The role of NGOs: marginal, integrated or as a replacement for public entities
› Access to data: ease of access to information and whether the available data is quantitative or qualitative
› Technological skills: widespread or limited / sophistication of existing IT infrastructure
› Community risk level: higher/lower risk level of disasters or other emergencies
› Community resilience: High/low resilience level, as proven by previous emergencies

Identifying these dimensions for a community can be a starting point when considering the approach to take in order to implement ADAPT. It is not a tool to objectively judge a community in any respect, but can form the basis for flexibly planning and adopting appropriate measures, be they technical, administrative or social.

2.6. Operating/running an ADAPT-DB

The requirements for running an ADAPT-DB comprise relatively standard technical tools. ADAPT-DB runs on a webserver with PHP and a MySQL database. In addition, local operators will have to deploy common cryptographic functions to ensure compliance with data protection. This includes encrypted transmission of data via TLS and encryption of data at rest via hard drive or file system encryption on the actual machine running ADAPT-DB. In addition, technical redundancy and adequate maintenance and backup schedules should be in place. For details on technical operation, please see the manual accompanying the ADAPT-DB download on the project website.

Neither this guideline nor the documentation of the ADAPT-DB software is a replacement for including trained IT professionals whenever the project is implemented.

3. Case studies from participating communities

3.1. Case study Associazione Nazionale Pubbliche Assistenze, Sicily, Italy

3.1.1. Description of the community and background

In our evaluation of possible participating communities in Italy, we concentrated on those localities in the Sicily Region at risk from severe flooding. The candidate communities were:

› Paternò (Catania Province)
› Piazza Armerina (Enna province)
› Saponara (Messina Province)

With particular regard to the size range of candidate towns, we decided to implement ADAPT in Saponara with 6,000 inhabitants.

We considered Paternò and Piazza Armerina to be too large (over 30,000 inhabitants) for a focused community-based management of the project and therefore not as well suited to the scope of ADAPT.

In addition, Saponara has been identified as a town with real and recent experience with their flood risk. A severe flood struck the town in 2012; four elderly people died in the disaster. Saponara is also a risk zone for additional types of disasters, such as landslides and earthquakes.

Furthermore, the municipality of Saponara was very interested in joining the project and was willing to assist in the acquisition and comparison of data. Another factor that would facilitate access to key stakeholders was that ANPAS has a local and very active branch in Saponara, founded after the last flood in 2012.

Coordination with local stakeholders in the selected community

Local stakeholders had already been contacted for their support. ANPAS had identified the following main stakeholders in Saponara.

› Regional Department of Civil Protection
› Local Civil Protection (Municipality)
› Province of Messina Fire Department
› ANPAS ASSOCIATION. "RIVIVERE A COLORI SAPONARA"
› Municipality OF SAPONARA
› COMMMADER OF LOCAL POLICE - CARABINIERI – SAPONARA
› PSYCHIATRIC DISABLED CENTRE – KENNEDY
› ELDERLY RECOVERY HOUSE "IL MONASTERO"
› SOCIAL ASSISTANT OF HEALTH TERITTORIALY SERVICE - MESSINA
› MINORS COMMUNITY HOUSE "MADRE TERESA DI CORTIMIGLIA"
› Local Red Cross Association
› National Health Service – Messina Province branch

3.1.2. Existing information and how it was used

Data availability in the selected community

After the devastating 2012 flood, a Local Emergency Plan (LEP) was designed and set up. In accordance with Italian law, the LEP contains comprehensive information about responsibilities and tasks in the event of an emergency. The LEP also identifies different possible disaster scenarios, based on the history of past disasters, and the area affected. The scenarios provide the Civil Protection System with all information on possible damage and loss and how to prevent or mitigate such damage. The main players and operative components of the Civil Protection system are all involved in the LEP, and a local coordination system (COC) to deal with emergencies has been set up, defining all relevant functions: supply, the population census data, viability, health, volunteer involvement, essential services, etc.

There are fourteen defined functions in total, with one person responsible for each. All information and, more importantly, how to use it is part of the LEP. The mayor is the main person responsible and coordinates the fourteen functions.

In communication with local stakeholders, and in accordance with the Local Emergency Plan, the following possible existing sources of data have been identified:

› Municipal (regional and national) records of all inhabitants of Saponara
› Pension (retired people) records for elderly people
› Municipal records of all inhabitants of Saponara receiving benefits for the elderly and disability benefits and assistance
› National health service data on the elderly and disabled in the Saponara community

3.1.3. Access to available data

Access to this data is technically possible, since all the above-mentioned data sources are part of the Italian Civil Protection System and in the event of an emergency, and also for prevention matters, they operate together.

Technical challenges

The main problem is to combine the different data sources. Sometimes there are two or more sources of information about the same person and the selection procedure must be done manually, even though in some scenarios the "Potential Identity" matching function of ADAPT-DB can help with this. Another technical challenge is the skills and capacity management of the local IT officer in the municipality. According to the small communities' purpose, in Italy, and in Sicily in particular, small municipalities (5.000 inhabitants or less), do not have a dedicated, structured IT office to manage the database. In "peace time", the records of the population are quite easy to manage, but in an emergency criticality and the poor current level of technical skills becomes apparent.

The implementation of ADAPT DB requires external experts to input and maintain records and maintain the database itself.

Legal challenges

There were no major challenges regarding legal issues, because for emergency purposes data can be made available to the "civil protection system". As the project's legal counsel determined, Italian law n° 225 / 1992 and its updated versions even allow data usage for prevention purposes. In the Sicily Region, where the selected community is located, there is a regional law supporting the national one, which gives the civil protection system the task to organize regular exercises or drills, based on information and data provided by the institutions involved.

3.1.4. Approaching the target group

A roadmap was set up to gain a clear picture of the target group. The main player is the local partner from ANPAS, the volunteer association "Rivivere a Colori Saponara", which oversees this task. The main steps comprised:

› An in-depth analysis of the Local Civil Protection Plan is used as basis for the roadmap. In Saponara the data of vulnerable people are not available in the local civil protection plan. This was identified as a major gap that we intended to close with the following steps.

› Determination of available data and study of it: figures, main characteristics, local or personal knowledge of individuals in the target groups, etc.

› Interviews with "most vulnerable people" in the target groups – Since the municipality of Saponara is not large and the target groups are quite easy to identify, the local knowledge of volunteers helped to identify the most vulnerable people, in collaboration with the local authorities.

› Creation of a direct relationship with the vulnerable people and their relatives to prepare them in the event of an emergency and to obtain better knowledge of their degree of vulnerability.

› Local meetings organised with these vulnerable people to explain the project and its objectives.

To implement these steps a local conference with all the volunteers was held in July 2016 under the scientific coordination of the University of Rome Tor Vergata (ADAPT's academic partner). The main characteristics defining vulnerability and "people in danger" were explained to volunteers and some "interview simulations" were done.

By September 2016 the Saponara local action group had a clear picture of the target group and their main characteristics, combined with the data to confirm it. The gathered information will be useful for prevention as well as in actual emergencies.

3.1.5. Maintaining data quality

As we mentioned before, this is the major challenge we face. With the involvement of the local volunteers and their daily work "in the field ", and after the involvement of the vulnerable people and their families as explained above, the local action group is quite optimistic that it can keep data up to date and ready to use.

3.1.6. Civic added value

We can identify more than one civic added value; first of all the involvement of local volunteers. Moreover, the composition of the local action group covers the majority of social and civic networks in the Saponara community. This direct knowledge of the vulnerable people, with direct contacts between volunteers and them and their families, is a civic added value. It is not only useful for the purposes of ADAPT, but also for the implementation of social measures inside the community. The logic of this mechanism is that in small communities, it is desirable that all players contribute to the common objective. Since Saponara was affected by a severe flood in 2012, this awareness has increased. Using this awareness to involve all citizens in their different roles is crucial when faced with emergencies, both natural disasters, but also less catastrophic everyday emergency situations. Clearly defined roles for all involved are key. People should not only be educated in terms of typical prevention, but should also be ready to do their part or play some role in case of an emergency.

This is the basis of the Italian civil protection system: Everyone is involved, albeit on different levels, in an emergency. Therefore it is of utmost importance to prepare citizens and civil protection components.

3.1.7. Possible follow-up

The ADAPT-DB is a very important tool and it is possible to replicate its implementation in other small to medium sized communities. But just as important is the local action group role as a focal point in approaching the target group and building up the database, with the involvement of the main local stakeholders and not only public institutions. The methodology explained above on how to improve volunteer engagement with the target group, is one of the most important aspects that can certainly be replicated in similar communities in Sicily and other regions of Italy. Italy has a huge number of small to medium sized municipalities and ADAPT could most likely help to minimise risks and improve the preparedness of the civil protection system in most municipalities.

3.2. Case study Arbeiter-Samariter-Bund, Saxony, Germany

3.2.1. Description of the community and background

Overview: the German civil protection system
The German emergency and disaster response system reflects the federal organisation of the country. As Germany consists of 16 federal states (Bundesländer) with their own legislature for several areas (education, school system, rescue services etc.) there are 16 different emergency response plans in the country. In all 16 federal states relief organisations play an integrative role in the response system and are given materials, vehicles, and training (e.g. via the Federal Office for Civil Protection and Disaster Response). The welfare organisations often mentioned by name in the laws and regulations of the federal states are: Red Cross, ASB, Malteser, Johanniter-Unfall-Hilfe and DRLF (German Life Saving Association). These organisations have a special role in the system and are non-profit, volunteer and welfare organisations. Very often disaster response is specified in federal state laws in combination with rescue services. Other key players in Germany are THW (Technical Relief Association), the volunteer and professional fire brigades and special units of the police as well as medical centres and hospitals.

In the event of an emergency the counties (Landkreise) have to declare officially a state of emergency. This immediately changes the situation, as the state takes on the responsibility for insurance for volunteers, loss of income and tactical management, but also is given special rights to act in an emergency, such as redirecting traffic, confiscation of vehicles and buildings, special rights for the police, etc. This issue is highly complicated politically, as illustrated by its usage during the arrival of unusually large numbers of refugees in Germany in 2015. Only one region declared a state of emergency, even though more than 250 could have. This is very often a question of financial resources.

The last bigger natural disaster, when several regions and three states declared a state of emergency were the floods in 2014 in Eastern Germany in the federal states of Saxony, Thuringia and Saxony-Anhalt.

A very emotionally laden issue is the role of the military within Germany. The constitution makes it very clear that the German armed forces only exist for defence and are not to be deployed inside the country, even to assist other security agencies. In declared emergencies soldiers have been used to build tents, save dams and dikes and evacuate citizens, but only in a strictly civilian context. This is still an ongoing discussion, also between the military and NGOs. Since the terrorist attacks in Bavaria and the shootings in Munich it is once again being discussed whether military forces can be requested to assist the police and security agencies.

The Federal Ministry of the Interior has a framework plan with clear instructions for nationwide disasters and external aggression. In such cases the Federal Parliament can declare a constitutional crisis or emergency. In such a situation, a whole system of guidelines and rules is activated as well as restrictions for citizens. To react to major disasters (more than 3 federal states affected) the Federal Ministry has implemented 24 Medical Task Forces (MTF) all over the country, often involving the above-mentioned rescue organisations.

Reflecting the military defence of the country, the Ministry has a concept for "Civil Defence" (Zivil-verteidigung). This concept was reformed in 2016 to reflect potential new hazards such as terrorist, hybrid and cyber-attacks. Many aspects of this reform have an impact on welfare organisations.

Community selection

The local partner group was located in Saxony, a federal state that has been hit by floods several times in the past decade. The Vogtland Region is a mainly rural and structurally weak region with a high rate of elderly people. During the division of Germany from 1949 to 1989 it was a border region between East and West. Today it has an international border with the Czech Republic. The region has a high rate of rural depopulation of younger generations (there is an annual drop in the population of 1.4%).

ASB Vogtland, as the local branch of ASB, is a key player in the region for social services, focussing mainly on care of the elderly (in-home care, mobile care, temporary care, etc.), kindergartens, and childcare. It plays an important role in the local area for welfare and volunteering and has a strong network of partners in disaster response, including the local fire brigades.

3.2.2. Existing information and how it was used

There is no central system to collect data as envisaged by ADAPT. The following sources of information were searched for data and information on civil protection:

› Civil protection plans of the region / county, the federal state and federal government.

Evacuation plans were evaluated and reviewed with a focus on vulnerable groups. As a result, and after discussions with stakeholders and the very well-structured fire brigades in the region, it became clear that offsetting up such a database would be very useful to assist vulnerable groups in the event of an emergency and / or evacuation in different scenarios.

› Records of inhabitants with several indicators

The region is characterised by an aging population and is underdeveloped with regard to economic indicators and has lost a significant number of younger (and technophile) inhabitants during the past years and CSOs find it difficult to find committed volunteers in the field of disaster response.

› Network of fire brigades and relief organisations

All CSOs operate in several networks. Particularly in the field of disaster response there are several formal and non-formal networks. One of the strongest players in the region is the volunteer fire brigades. As the welfare organisations are more active in the social field and fire brigades more in civil protection, the project could offer both groups a good win-win-situation.

Access to available data

One of the main problems was to gather data for the project, as there is no previous system to register or collect data on vulnerable individuals. The emergency plans only identify centralised places and critical infrastructure (e.g. hospitals, care homes for the elderly, etc.); data on vulnerable people

living at home is missing. After discussions and meetings with stakeholders in the region and after checking all relevant issues on data protection with lawyers it was clear that opt-in collection of data from scratch was necessary. To do so, the local group created a questionnaire with an integrated consent form that was distributed to care centres, mobile care services and also as an insert ina local newspaper.

Technical challenges

Once the project started it became clear very quickly that the central organisation interfacing with a potential ADAPT database would be the fire brigade in the Vogtland region because they are in charge for evacuation and rescue in disaster situations in the region. It was decided that ASB Vogtland would collect relevant data because of their access to the target group and hand over this data to the fire brigades. They would then run the ADAPT instance and can also interface it with their own technical systems as needed. In particular, integration with an iPad app used by the firefighters in Saxony would be part of local follow-up, as the project timeframe proved too narrow to clarify all issues with the stakeholders involved (not only local, but also at federal state level).

3.2.3. Approaching the target group

The main method of reaching out to the target group in the region was a questionnaire we developed with the local stakeholders. It was distributed as an insert in the regional free newspaper to reach as many people as possible. The questionnaire and its integrated option for sign-up were checked for compliance with data protection laws and combined with information about the project and the objectives of the questionnaire. Replies were to be sent back to ASB Vogtland and consisted of the following clusters of information (besides identification and location of the person):

1. Mobility (I can use stairs and walk without problem)
2. Orientation (I am always orientated in time, place)
3. Daily support (I can do all daily tasks (cooking, personal hygiene, cleaning) without assistance)
4. Medical and care assistance (I use)
5. Remarks / additional information

Clusters 1-4 could be rated to show the level of need or assistance and can be translated into requirement categories in ADAPT-DB. Under cluster 5 responders mentioned wheelchairs, that they cannot walk long distances, etc.) In combination with the address and the floor on which the responders live, this information makes up the basis of the datasets to be saved. The fire brigades as key players in the event of evacuations were quick to show interest in using this data.

The questionnaire was sent out in the name of ASB Vogtland, ASB Germany and the City of Auerbach, relying on the trust of the target group in the municipal authorities and/or the well-established local ASB branch.

In addition to the distribution of questionnaires, a dissemination project week was held, where elderly people were informed about the project in person. The event was also a field test for the questionnaire and sign-up form and resulted in the first sign-ups.

For future dissemination, ASB Vogtland personnel who carry out membership drives will be provided with information materials and sign-up questionnaires.

3.2.4. Maintaining data quality

Once the first set of collected data is considered complete, participants will receive a letter explaining the project and what the data will be used for. The fire brigade, with the support of ASB Vogtland, will fill the local ADAPT-DB with existing data and combine it with their own mapping systems. The maps will be tested regularly in training practice. These datasets will make it clearer what kind of assistance is needed before fire fighters move out to deal with an evacuation. The collection of data will, of course, remain an ongoing process, even after the project has ended.

3.2.5. Civic added value

As disaster response is mainly organized on volunteering base, ADAPT is a good support system for the volunteers. It prevents situations that can overwhelm volunteers in an evacuation situation. If it is clear how many vulnerable citizens live in a street to be evacuated, the volunteers can come prepared. Preparedness is the main pillar of local civil protection mechanisms.

Improvement of the level of preparedness benefited both sides – vulnerable persons plus their families and rescue organisations. The resilience of the population to create a strong and effective civil protection system must be increased. With ADAPT one further step in this direction has been taken.

3.2.6. Possible follow-up

The result of the project can easily be adopted and copied in other regions. Communication with stakeholders, municipalities and ministries will go on to implement ADAPT, where necessary, as some regions and especially big cities already have their own systems and evacuation plans and have implemented evacuation scenarios with a focus on vulnerable groups.

At a European level it was very important for the project participants to create different systems for civil protection, data collection and preparedness. This created a new network which is a base for other common projects.

Technical integration of the pilot implementation of ADAPT-DB with other civil protection IT tools will also be followed up on after the project comes to a close. This may be at a local or possibly at a national level.

3.3. Case study Landesrettungsverein Weißes Kreuz, South Tyrol, Italy

3.3.1. Description of the community and background

The province of Bolzano lies in the heart of the Alps and therefore the major natural risks are landslides and flooding. In the evaluation of possible participating communities in South Tyrol, Italy, White Cross tried to find a community of the right size that was willing to take part in the project. The best candidates identified were Bruneck/Brunico, Schlanders/Silandro, and Klausen/Chiusa. Finally, White Cross decided to focus on the community of Klausen for the following reasons:

› Klausen, as a town in a valley with a river flowing through it, has a typical disaster risk scenario for the region.

› The municipality of Klausen was interested in the project and the mayor has a good relationship to our local branch. The main reason for this open-minded approach of the mayor was due to the fact that the local civil protection emergency plan for Klausen had been evaluated by an external evaluation team. They identified a clear shortcoming in that there were no suitable plans for a quick evacuation of vulnerable groups.

› The local civil protection authority of Bolzano was not the only institution extremely interested in joining the project. Klausen is also the nearest community of the three candidates to the provincial civil protection headquarters in the city of Bolzano, thus facilitating local project coordination.

Selected community: selection process and challenges
The evaluation of the communities revealed Klausen to be best suited to participate in the project. Klausen fulfilled the criteria for participation in the project to the greatest extent.

For White Cross the fact that the local civil protection authorities wanted to take part in the project was the best starting position imaginable. With their contribution, all project results will continue to be used for other local communities as well and the database that is part of the project will ultimately be hosted by the local authorities.

Townhall meeting on ADAPT in Klausen, South Tyrol

Coordination with local stakeholders in the community selected
All relevant local stakeholders listed above were contacted and they were willing to join the project. They comprise:

› the local branch of the White Cross

› the civil protection branch within the White Cross

› the municipality of Klausen

› the local fire department

› the provincial civil protection authority of Bolzano

3.3.2. Existing information and how it was used

The existing information is essentially based on three pillars:

› the local civil protection emergency plan
› basic data from local health services
› the civil protection browser of the regional civil protection department

Starting from this point, a possible design of the data sources and data collection became easy.

3.3.3. Access to available data

Initially, discussions with stakeholders were hampered by the legal uncertainty surrounding data protection issues. Once the report from our lawyers was completed and approved by all stakeholders, negotiating was much easier and step by step all relevant parties agreed in theory in giving access to their databases. Nevertheless, some challenges were found in the detailed planning as can be seen below. But one detail is clear and should be stressed: none of the stakeholders stepped back from their commitment and they still want to make the project a success.

Technical challenges
The main technical challenges were due to the fact that on provincial level it was rather difficult to progress the concept quickly. Therefore, to be able to achieve the project's aims, we inserted an intermediary step between the starting point and our desired optimum solution. This means that the database will be installed and hosted by White Cross in Bolzano for the time being. All interested persons will be listed in the database and in order to be participate in the ADAPT approach for more resilience in Klausen, they have to fill out and sign a consent form. By doing this, we will be able to list these citizens in our database. This is the first step. Having a call centre active 24/7, in case of an emergency, we will be able to respond within few minutes and inform the local rescue forces about the persons to evacuate and their special needs.

In a second phase, about the second half of 2017, we will be able to get automated data updates from the health services and host the database at a regional level on the servers of the civil protection authority. And – in this second phase – having all the experience from our pilot action in Klausen, and with the commitment of our stakeholders at a regional level, ADAPT will be activated for the whole province of South Tyrol step by step. This is the point where we can proudly say that our project goal has not only been reached but expanded.

Legal challenges
All legal questions and issues have been resolved with the report of our lawyers as planned in the project. Nevertheless, all stakeholders had to determine internally whether our results of the legal appraisal would be applicable for them. But so far all checks of our legal findings have simply confirmed them. In general, we found that having our legal report on hand when conducting discussions with stakeholders opened many doors previously closed.

Approaching the target group

During the fourth international workshop in Klausen a public meeting was organized where every interested citizen could obtain detailed information on the project and the database system. One very important detail in this context is the fact that this type of meeting is not only an opportunity to give technical explanations, but it is also the right moment to explain the wider application and

give a bigger picture of the situation of local civil protection. Such an event is perfect to disseminate knowledge on how to behave in the event of a disaster, explain the role of an active citizen in civil protection and consequently improve resilience in towns. For an NGO, this is the perfect moment to be visible as a facilitator, helping citizens to feel and be safer.

Together with this public meeting, local advertising and a local information campaign have been launched to raise awareness. This is an important part of how the project could be handled in the future. Every citizen could have access to their personal data and check whether they are included in the ADAPT database or not. And, of course, everyone could apply to take part or – the other way around – decide to opt out. This is extremely important because of the fact that even the best technical solutions may exhibit some shortcomings. With the possibility to check personal information, some responsibility could be handed back to the individual. An important and interesting sociological side of this project to raise general disaster risk awareness among the general public.

For the reasons mentioned above, in the final phase of ADAPT in South Tyrol, after the original project comes to an end, a citizens' portal will be created where all citizens can control their status. This access will be connected with the health insurance card. This will make ADAPT an instrument commonly used by public authorities.

3.3.4. Best practice for operations management

As explained above, our initial approach to locate the database from the beginning on the public servers with a direct interface to the municipal registration office and public health service proved impossible to achieve within the project lifecycle. But the option remains on the table, because in our many discussions with stakeholders there was never any negative feedback. The problems were related to technical matters and regarding resources that were not immediately available. Rather than doing only half the job, we decided relatively early to finish the project and choose an alternative technical approach by runningthe pilot implementation of ADAPT-DB on our own IT infrastructure. This allowed us to achieve the objectives of the project. This decision would also allow to better disseminate the project results, helping us to continue the work on ADAPT by bringing it to a regional level as part of the follow-up.

3.3.5. Maintaining data quality

In the first phase, all listed persons will be contacted regularly to guarantee a high level of data quality. In the meantime, it will be possible to create a direct connection to the database of the municipal registration office for automated data updates. By end of this year, when the local health services will have their information system ready to share data with us, we will have, as a third layer, the information of the health service for further cross-checking of data. At that point, data content and maintenance responsibilities will be handed over to the local civil protection authority to add ADAPT as a layer on the civil protection browser. This will be the moment when ADAPT reaches its final intended use as an everyday tool of rescue workers.

3.3.6. Civic added value

The civic added value is clearly visible in the fact that by communicating the basic problem of vulnerable inhabitants living alone, both stakeholders and inhabitants were brought to reflect on their position and situation. And having citizens discuss civil protection issues means raising awareness and improving resilience. With an NGO as local partner, risk communication becomes a win-win for everybody.

3.3.7. Possible follow-up

Since the ADAPT project in South Tyrol in its final phase will be managed by the local civil protection authority in its own CP Browser. Once the system has passed the first field test successfully, it can easily be expanded to include other municipalities without much effort. Regional coverage, spreading outwards from the pilot action in Klausen, is the final aim.

3.4. Case study Danish People's Aid, Lolland, Denmark

3.4.1. Introduction

Danish People's Aid (DPA) is ADAPT's partner in Denmark. In the initial phase of the ADAPT project, DPA was looking to identify a pilot area where the ADAPT project could be implemented locally. Denmark is not very prone to natural disasters; however, the most common type is flooding when the sea water level rises, leaving the coastal areas flooded. With the global phenomenon of climate change, it is thought that coastal flooding will happen more often, and property owners, municipal and national authorities are therefore increasing their preparedness in the hope of ensuring better protection in the event of flooding. One of the areas which has experienced flooding on several occasions is Nakskov, which is a small town in the southern part of Denmark on an island called Lolland. DPA has a local chapter of the organisation in Nakskov where DPA is particularly involved in social work focussing on vulnerable people.

The DPA ADAPT project team contacted the local chapter of DPA, and also the municipal office of the Department of Social Welfare to establish the relevance of the ADAPT database in Nakskov. The feedback was that the current emergency structure, which leaves full responsibility to the authorities, was sufficient (see the next section for more details on the system). It is important to note that when flooding and other natural disasters happen in Denmark it is extremely rare that there people are injured. The DPA project team then contacted the national lobby organisations for the elderly and disabled to ask their assistance in identifying areas where the current system can be improved. Both organisations requested feedback from their local chapters over the entire country and again the response was that the current system suffices. The reasons for this lie in Danish emergency structures combined with the overall comparably low risk of natural disasters, as described in the following.

3.4.2. Emergency structures

In Denmark the state has the responsibility for providing assistance and relief during times of disaster. The state and the government determine the legal and financial framework for civil protection, and the regions and municipalities are responsible for putting the necessary plans and structures in place to respond to emergency situations. Danish citizens are thus protected by a 3-level rescue preparedness system, which consists of protection provided by a combination of governmental, regional and municipal emergency systems. An emergency will be responded to at the lowest necessary level, so most often emergencies are responded to by the municipal emergency services. Only if the emergency has a certain scale or covers a substantial geographical area will the regional or national emergency services become involved.

The Danish Emergency Management Agency (DEMA) is responsible for providing protection on the ground in collaboration with key stakeholders such as the police, the health services (hospitals, ambulance services, etc.) and social services. NGOs and civil society organisations do not play a formal role in the provision of protection to citizens in Denmark. During large scale emergencies (or in preparation for these), volunteers who are trained and have signed up with DEMA may, however, play a crucial role in boosting the capacity of the professional emergency services. These volunteers are organised by the public DEMA structures and not through NGOs.

3.4.3. Collecting information on elderly and disabled people

The various government agencies in Denmark collect information on citizens whom they assist or who have been in contact via their services. All information is linked to the specific person via a personal and unique number (CPR number) consisting of the person's date of birth (six digits) followed by four unique digits. As all personal information is linked to the CPR number, the government authorities can merge the information they have available on each person. Also, each person in Denmark is registered in a central database with information on their physical residential address. Hence the database is able to provide information on the number of people living at each address in Denmark. It is also possible to tell the age of the people living at each address through the personal and unique number as it contains the date of birth. Consequently, in the event of an emergency, the authorities will be able to say precisely how many people are registered as living at a specific address or street, and their age composition.

At their workshop in Denmark, the project partners discussed existing data exchange in civil protection with Peter Søe, Chief Fire Officer for the Lolland-Falster region

The data in the database is protected by very strict data protection laws, and so access to the information is limited to officials who have a specific and urgent need for the information. Upholding the protection of personal data is taken very seriously and the database has in-built measures in place to track who has accessed which information and when. There have been cases of civil servants being dismissed after unauthorized access to private data.

In the case of senior citizens or citizens with disabilities, the social services in Denmark provide a number of services as part of the welfare system. The services are based on provisions in the social welfare acts and are implemented locally at the municipal level. These services could be, for instance, tools to assist the person living with a disability (e.g. wheelchairs, etc.) or it could be monetary assistance to mitigate additional costs incurred due to the disability (e.g. transport, housing, etc.). These services are provided in accordance with social services legislation specifying the disabled citizen's right to a specific service. If a person, for instance, needs a wheelchair, the wheel chair will be granted to the citizen in accordance with a clause in the social service law. The service provided will thus be registered under the person's personal and unique number in the social service database on services provided to people in a specific municipality.

The social services are able to extract information on inhabitants in a geographic location who, for instance, have received wheelchairs or other tools to help with a physical disability, and are therefore able to identify people living with a disability in their municipality. Likewise, the social services

are able to extract information on people who, for instance, need the daily services of a nurse to administer medication or help with meals. This information can be extracted in emergency situations and will guide the emergency services to people in need of special care and assistance.

The social services database is continuously being updated by the staff in social services or in the health system who manage social and health services on behalf of the state and the municipality in which the elderly or disabled citizen is living. Data is updated whenever there is a change in the services provided to a specific person. When a person dies, this is also automatically updated in the database. In the event of an emergency, the information in the database will thus be up-to-date. Though the data collection system in Denmark is very different to the ADAPT-DB and does not offer data specifically on the situation of the elderly and people with disabilities in disasters, the system is nonetheless believed to reflect and fulfil the current needs by most stakeholders and public authorities alike. This is obviously also related to the very low perceived disaster risk in Denmark.

3.4.4. The role of volunteers in civil protection

In Denmark, in the event of a disaster, civil protection services are delivered by municipal service providers. If the disaster is too big to be handled by municipal services, regional or national service providers will be called on to assist. These services do not rely on assistance from NGOs or on participation by volunteers. Also the information and data which is collected on elderly or disabled citizens is protected by very strict data protection laws, and the information is therefore not available to people outside tpublic authorities. Therefore. in the event of an emergency, the public authorities will have the best picture of who needs assistance.

One exception is in the national fire brigade where there is a tradition of volunteers working alongside professional full-time firemen. Both volunteers and firemen have the same training and skills (for the same position), but to save costs, only core skeleton staff are on full-time contracts. The volunteers are contracted on a part-time basis and typically have other day jobs. The volunteers are available for emergencies in less populated areas and for bigger emergencies where a lot of firemen are needed. They sign up, are available and are paid for being available during specific times, and the service they offer is at the same level as full-time firemen.

So is there a role for NGOs and volunteers during emergencies in Denmark? Of course there is. During the latest flooding in January 2017, volunteers provided good additional support to house owners needing help to put up barriers to the water coming in from the sea. Each property owner has the responsibility of protecting their own property and often property owners organise in groups so that they can assist each other and work together to put up barriers when the water levels are expected to rise. Here additional 'hands' from volunteers may be very helpful as the warnings often leave little time to respond. The flooding experienced in January 2017 was the worst in more than a hundred years, and yet very few (less than a hundred) insurance claims have been received so far. This is largely due to preparedness by DEMA, public authorities, local communities and by the additional 'hands' offered by volunteers.

NGOs also play a key role in providing input to law makers when services need to be increased or altered. Organisations with specific knowledge or which represent particular population groups are invited to provide comments when policies are being drafted. Often these organisations will have specific experience with services or systems which are inadequate or where public authorities are not co-operating well enough, and therefore leave citizens in an unsatisfactory situation. During the ADAPT project, DPA consulted NGOs representing the interests of the disabled and senior citizens to identify gaps or grey areas in the present civil protection system. These NGOs are member-based with local chapters in different parts of Denmark. They are in touch with disabled and elderly people on a daily basis and collect information and case stories with examples of services or structures which need improvement. In the consultations with DPA, the NGOs did not point to specific elements in the Danish system which need improving for the time being, but they will continue to observe this aspect.

4. Volunteer organisations: Bridging the gap between citizen and civil protection authorities and their emergency plans

This section explains some central points of the research carried out by ADAPT's academic partner, the University of Rome Tor Vergata, over the course of the project. For more detailed information, a research paper published in 2016 is available for download at:

http://www.hrpub.org/download/20160229/SA6-19605703.pdf

Università di Roma

Tor Vergata

Civil protection authorities build up very detailed emergency plans but these often have some gaps with respect to the most vulnerable groups of people (especially the elderly and disabled). Voluntary organisations can play a positive role in building a bridge between the most vulnerable citizens and civil protection authorities in three directions.

First of all, identifying vulnerable people is not easy. In existing datasets, they may be mixed up with younger individuals, people without disabilities or other persons not requiring special support in disaster situations. Voluntary organisations are able to supplement such data with other relevant information.

Second, identification is sometimes rejected because the individuals do not want to be labelled as vulnerable. Voluntary organisations can help counter these concerns, because they tend to build and maintain a relationship of mutual trust in the course of providing services to these individuals or the local community.

Third, the spheres of life that are most relevant to integration in the risk management system are health and social relations. An in-depth examination of these two aspects allows a usable database to be developed for an emergency situation.

Discussion with stakeholders at the international workshop in Saponara, Sicily

4.1. The added social value of voluntary organisations

What is the added social value of volunteering in prevention and support for the elderly and people with disabilities, and volunteers' contribution to improving the resilience of local communities?

Voluntary organisations and their volunteers can have a positive influence on several dimensions of social cohesion, because they build confidence through their activities involving proximity and relationship networks.

The alphabet of social cohesion (the distinctive traits of the voluntary work)	
The twenty one dimensions	
1. Social sostenibility	2. the valorisation of the territory
3. diffused relations and the linking social capital	4. the partecipative organisation
5. the democratization and the participation	6. the value of listening
7. the reproduction of relations	8. communication
9. frame of programming and co-projectuality	10. citizen education
11. sinergic action with public entities	12. the ethic of the gratuity and of the gift
13. flexibility	14. the innovation
15. universality of access	16. the risk
17. construction of the evaluation of quality	18. the immagination
19. the valorization of the phisical proximity	20. the development of the knowledge work
	21. governance

Voluntary organisations can have an impact on several dimensions of the Alphabet of social cohesion that are relevant to this approach for increasing the resilience of vulnerable or marginalised groups, the *marginal resilience* of the community in which they are working. Their capabilities in this respect include:

1. capability of multiplying relationships (social capital);
2. capability of promoting sharing through communication;
3. capability of simplifying and promoting the participation of their own partners and citizens as protagonists of their actions;
4. capability of educating active citizenship through the development of political roles;
5. capability of social and technological innovation in line with the social cohesion of local communities; and
6. capability to activate a local presence close to people in the area.

Does an added social value exist in voluntary work in prevention aimed at vulnerable people?

Yes, if it is managed with a non-hierarchical structure that facilitates communication and participation, is a multiplier of communicative relationships, is an innovative social use of technologies with the capability of managing complex situations, is a multiplier of linking social capital, and is close to people in the area because it has its roots in local communities.

In our project we were able to evaluate the degree of the identified social value of voluntary organisations that are essential for increasing *marginal resilience*. The leading role of voluntary organisations increases the degree of social cohesion and resilience of local communities with no additional economic costs. Furthermore, their presence in risk management models means a level of detail can be achieved (especially with regard to the vulnerability of the elderly and the disabled) that cannot be reached otherwise by the government or civil protection system.

4.2. Extending community resilience

Voluntary organisations, therefore, can help extend the resilience of communities. The work we have described with the most vulnerable people increases the *marginal resilience* of communities.

The term "marginal" refers to population segments that are traditionally considered marginal to the centre of the local communities. *Marginal resilience* is critical in determining the ability of a community to respond to natural disasters and, more generally, to acute crisis situations.

Marginal resilience is the ability of a local community to respond to natural disasters through the leadership of disabled people and older people (marginalised groups of the population) and the active presence of voluntary organisations.

It is important to include this in the concept of resilience because it allows us to gain an understanding of how and how far a territorial community is able to ensure inclusion and, at the same time, involve the public.

The leading role of people with disabilities and the elderly (where this is possible due to personal autonomy) helps to change the idea that civil protection interventions should be a strictly centralized and top-down matter.

In addition, voluntary organisations play a vital role in the link between marginalised population groups and the rest of the local community and in this way, even before natural disasters strike, contribute to an increased awareness and prevention.

Contacts in partner organisations / links to more information

More information on ADAPT and the current contact information of the coordinator can be found on the project website at:
http://adapt.samaritan-international.eu

The ADAPT-DB can also be downloaded from the project website under an open source license as well as any updates to the case studies published after publication of this document.

For information on the case studies, please contact the local coordinators:

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For information on the special role of volunteer organisations in extending community resilience, and ongoing research in that area, please contact:

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Glossary

ADAPT
Awareness of Disaster Prevention for Vulnerable Groups, the EU co-financed project during which this guideline on community-based management and the ADAPT-DB software solution was developed.

ADAPT-DB
Software solution developed as part of the ADAPT project and published as open source software for free use by others. ADAPT-DB saves and structures data of people who are particularly vulnerable in the event of a disaster and makes the data available for the emergency workflows of local civil protection units.

API
Short for Application Programming Interface. In our case, it means a technical interface through which the ADAPT-DB can communicate with other software (such as pre-existing civil protection applications).

CSO
Civil society organisations

NGOs
Non-governmental organisations

Marginal resilience
Term used in the sociological research accompanying the project, meaning the resilience of people marginalised by society or on the margins of society. In the context of our project, this term was applied to the resilience of the vulnerable groups (the elderly and people with disabilities). In contrast to the term vulnerable groups, it includes the effect the level of social inclusion has on the resilience of these groups apart from the effect of their differing physical abilities to act in case of disaster.

Social capital
Social capital is the set of social relations available and usable for each individual and group of a territorial community.

The ADAPT project was coordinated by SAMARITAN INTERNATIONAL, the network of European Samaritan organisations.

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