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Sundry Observations on Urban Security and Terror-Resistant Action Plans in Urban Areas[1]

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ABSTRACT: Urban security is playing a timely and an increasingly crucial role in urban studies. The study provides a commentary on key contributions based on lessons that have been learnt from threat assessments and surveillance in urban areas by revisiting scholars' views on the urban terrorism discourse with respect to prevention strategies on local level. Besides, based on a holistic approach covering physical environmental, human, organisational and smart technological features, a coherent and general framework for developing terrorism-resistant action plans is provided. Finally, the paper raises issues of increasing concern to a range of urban professionals, and offers a conceptual advance on the research, especially for academic circles focusing on local economic development issues.

KEYWORDS: Urban security, surveillance, risk management, urban resilience, smart technologies

JEL Codes: F52, H55, R58

Introduction

Vulnerability to and the best ways to combat terrorism have inevitably become a major field of interest for the past few years, especially in the USA and in the UK. The 9/11 terrorist attacks opened up new venues for research in homeland security, with particular emphasis on the vulnerability of cities and urban areas to prevailing terrorist threats (e.g. Wise, 2002; Thatcher, 2005; Sternberg, 2006). Although there are scientific

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studies and policy proposals concerning crime prevention[3] that revealed that terrorism entails ongoing risks to urban areas (e.g. White–Sutton, 1995; Cozens, 2002; Edwards, 2007; Coaffee, 2009; Edwards et al., 2014), subsequent scientific investigations with respect to establishing a coherent framework for counter-terrorism are few and far between. It is no real surprise that scientific journals in the fields of regional and urban studies and policy only issued a couple of pioneering works on 'urban terrorism' and 'urban security', since the lack of data – no open access data due to security reasons –, as well as the derogatory sense of terrorism – the negative emotional connotations attached to it – keep many scholars from carrying out in-depth investigations into the subject in question.

Although terrorism is a global problem, the fear for it has not been intrinsically real in Europe until now. However, due to shocking events in the last two decades, such as the Madrid train bombings in 2004 (known as 11-M in Spain), the London incident in 2005 (known as 7/7), and more currently, the terrorist attacks in Paris (November 2015), the Brussels (March 2016) and the Istanbul (June 2016) explosions, the lorry attack in Nice (July 2016) and the Istanbul nightclub shooting (January 2017), mankind faced the truth that horrifying acts of terrorism are actual challenges in Europe as well. According to the Global Terrorism Index Report 2016, deaths from terrorism have risen dramatically in the last fifteen years; the number of people who lost their lives in terrorist attacks has increased sixfold since 2000 (IEP, 2016). The Trend Report 2016 produced by the European Police Office (Europol) revealed that twelve EU Member States reported to have concluded a total of 217 court proceedings in relation to terrorism. Altogether, a total of 211 failed, foiled or completed terrorist attacks were reported by the member states, more than half of them by the UK. Incidentally, France (424) and Spain (187) have reported the highest numbers of arrests for terrorism-related offences (Europol, 2016a).

Now that European people call for more actions to be taken by governments to protect security, scholars, professionals and policy-makers can no longer overlook the consequences of events like acts of terrorism in urban areas, especially in large (global) and in second-tier cities. Thus, commenting on terror-resistant urban action plans should be regarded as a sorrowful yet urgent matter in European urban studies.

[3] According to Hughes (2003, 85), crime prevention is "[a]ny action of technique by private individuals or public agencies aimed at the reduction of damage caused by acts defined as criminal by the state".

Research motivations and aims

The fundamental nature of developing counter-terrorism action plans is that practical and crucial aspects are considered by professionals, officials, security agencies, along with policy- and decision-makers. Consequently, creating terror-resistant action plans is a practical matter rather than a theoretic concern. However, technical terms used by scholars, studies and narratives with a broad conceptual and theoretical background (e.g. risk management, resilient thinking and resilient planning, smart technologies and Big Data) and expertise should not be set aside, since they provide fresh perspectives, when putting terror-resistant strategies into practice.

Certainly, these separate but interconnected fields have different theoretical histories and practices, still a better unpacking of what terror-resistant action plans might look like in general and nowadays, and how these differ from existing counter-terrorism or security plans, would help practitioners to add new approaches to the topic. From a scientific point of view, there is a need for suggesting at least some 'points of alignment' with policy-oriented considerations. Although terrorism bears different meanings (see e.g. Merari, 1993), this study always refers to terrorism in urban areas including all forms of violence that have negative impacts on the urban environment and lifestyle.

As there is no room here to give an exhaustive presentation of the very broad literature of urban security and to present an overview of grand economic, sociological, psychological and criminological narratives (however, see Edwards, 2007:Ch. 20; Edwards et al., 2014), the current research focuses on providing a possible and coherent framework of systematic guidelines for reviewing local-scale attitudes and practices with regard to counter-terrorism.

In light of this, the study is aimed to revisit scholars' views on the urban terrorism discourse with respect to prevention strategies on local level. To this end, first I give a general overview of relevant issues of local economic development and risk management in light of shocking events, such as acts of terrorism. Besides, some insights are provided regarding developing terrorism-resistant action plans by focusing on the elements of possible risk event strategies, covering physical environmental, human, organisational and smart technological aspects.

Local economic development and risk management in light of terrorism

Global terrorism opened a 'new chapter' in risk society (Beck, 2002). Urban security and community safety defined in a broad sense have become central to recent attempts to secure places and build sustainable communities (Coaffee et al., 2008; Coaffee, 2009). On the one hand, urban areas hold out a promise of economic prosperity and dynamics, on the other hand, social exclusion, violence and insecurity are a part of everyday life (Moser, 2004). At present, the challenge is to learn how to ensure and improve urban security by exploiting the opportunities urbanisation offers. This should take place in the knowledge that shocking events hinder economic development and weaken local communities and institutions, thus make every effort to promote sustainable development futile.

Although Stimson et al. (2006) did not specifically emphasise urban security while discussing the various tasks of regional and local economic development, we may come to the conclusion that regions need to be prepared for unforeseen challenges, processes and incidents (ibid, V):

> *"Events that have occurred over the past five [fifteen – the author] years – such as the 9/11 terrorist attacks, continuing the rapid advances in technology, the rise of sustaining economic growth in China and beginning to unfold in India, the Indonesian Tsunami, Hurricane Katrina devastation in New Orleans, the invasion of Iraq and continued unrest in the Middle East represents on-going and unforeseen risks and new challenges which continue to confront and impact nations around the globe and the regions and localities within them. Regions need to be fast and flexible and agile in order to be not only expeditiously adaptive to change, but also to be proactive in developing strategies to address and shape their futures."*

Accordingly, Stimson et al. (ibid, X) added that

> *"... [t]his requires commitment to good practice techniques ... It requires commitment to sustained leadership. And it requires the development of comprehensive and integrated information system to understand and monitor the performance of a region and to help develop and test scenarios for future paths for regional development."*

To put it plainly, apart from issues relating to urban security, all the afore-mentioned 'requirements' should be regarded as emerging issues concerning regional and local economic development in a rapidly changing world. On the one hand, these issues certainly arise from an upward trend in competencies, effective management of regional endowments and

resources, human and social capital, business environment and market intelligence etc. On the other hand, and with particular regard to the subject matter, shocking events, such as terrorist attacks may even reinforce tendencies towards strong governance and leadership, whilst also making information system and monitoring at local level necessary.

Shocking situations influence the existence values of a given place. According to McCann (2013), existence values associated with a sense of place are the values that individuals or communities attach to well-being. From an economic point of view, if a community is at risk from terrorist attacks, a reduction occurs in business confidence, which may lead to business relocation. Coaffee (2009) and the report of the International Centre for the Prevention of Crime (ICPC) (2010) suggested that crime prevention and successful communities improve the quality of life by not only living and working in well-designed and attractive environments, but also by eliminating crimes, as well as by increasing our ability to live together. According to Coaffee (2009), there is a need to 'design-in counter-terrorism' by the addition of advanced security design features (ibid, 7):

> *"In short, the threat of terrorist attack over the last fifteen years has had huge material and symbolic effects upon the contemporary urban landscape in areas perceived to be at risk. Urban terrorism has created security threats to which municipal and national governments have been forced to respond in order to alleviate the fears of their citizens and business community."*

Unfortunately, so long as terrorist attacks exist, urban areas and their infrastructure must be considered to be at risk[4]; consequently, urban security tasks should be directed towards risk management and the development of proactive urban action plans[5]. However, some officials may be of the opinion that by designing terror-resistant urban areas, planners and policy-makers waste resources and time that could be used for prime pur-

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[4] Ross (1993) gave an overview of the advantages urban environment offers to terrorists. He identified logistic advantages (e.g. better fields of fire, closer proximity to targets and resources, larger availability of weapons and explosives, anonymity, greater immediate audience, quicker access to media, ease of surprise and speed) and the advantages of possible support and recruits (from barrios, ghettos, slums, shanty towns and universities).

[5] In addition, such considerations may also prove to be beneficial in terms of natural hazards, such as earthquakes and storms (see Little, 2004), or in terms of sudden market losses and social disruption (see Stimson et al., 2006).

poses, such as fostering growth and development, identifying the key elements of capacity increase, or becoming more competitive. On top of that, developing terrorism-resistant action plans has major financial implications. Thus, a decision must be made on whether investing in reducing such risks to those directly affected is more or less beneficial to society than using funds for other purposes. It is usually other economic and social areas and issues that bear the brunt of the pain. Consequently, affected parties in each community have to ask themselves whether they are willing to change, and whether they are prepared to put up with the pain that comes with it.

The effects of the risks faced by the local population and institutions as well as visitors in a given urban area are what we may refer to as urban risk. The concept of urban risk management is generally difficult to grasp and as such it is often disregarded by the local government, local development organisations and institutions, along with other decision-makers until one or a series of tragic events occur and cause long-term and irreversible damage to the local economy and society. Needless to say, developing viable strategies not only requires a careful assessment, but the benefits and costs of providing a certain level of security and safety should also be considered. According to Edwards et al. (2014), public safety policies anticipate risks through reducing the situational opportunities for crime.

Within the context of pre-risk time, real time and post-risk strategies, the first two types of strategies are recommended against terrorism.[6] In the pre-risk phase of risk management, either a preventive strategy, i.e. the minimisation of the risk before causing any harm, or a dismissive strategy, i.e. the eradication and avoidance of the event, could be suggested. The purpose of action plans based on these approaches is to reduce the possibility of a forthcoming threat.[7] In a real-time risk event, responsive (reactive) strategies should be followed in order to remedy the situation.

[6] In the post-risk stage, recovery and hedging strategies are needed. A recovery strategy involves creating incentives to make progress after the risk. A hedging (compensation) strategy refers to the use of financial instruments in order to receive compensation for loss. When fighting terrorism, these types of strategies are not the best options.

[7] It must be noted that prevention, which is especially important in this context, should not be associated with pre-emption. Prevention means intentional preparation for a future scenario that we expect, whereas pre-emption is an action that acknowledges the unpredictability of the future.

These strategies are designed to stabilise the situation as quickly as possible. This approach suggests that the local community should prepare for the consequences by reducing vulnerability.

The reason for arguing for pre-risk and real-time risk event strategies is very simple. Professionals, policy-makers and decision-makers should not restrict themselves to comments on quick fixes after a shocking event has happened. Since terrorists use novel tactics and methods, the dynamics of terrorism must be analysed by security agencies on a continuous basis. However, we should not forget that it takes professionals a reasonable time to manage risks and formulate strategies. As pointed out by Little (2004:57),

> *"[p]rotective technologies have a key role to play in making our cities safer but only if supported by the organizations and people who can develop preattack security strategies, manage the response to an attack, and hasten recovery from it. Investments in emergency response technologies, strategies, and organizations have the potential to be particularly cost-effective because they are not tied to a place or event."*

Some attempts have been already made to understand the features of risk management regarding counter-terrorism; however, there is a need for fresh perspectives or approaches, mainly due to the rapid technological improvements and the dynamism of online social networks. Although, a schematic, but useful representation of tasks in support of new forms of action plans and strategies for following a counter-terrorism design was proposed by Coaffee et al. (2008), the model remained traditional as neglecting an interesting avenue for research concerning the interaction of regulatory methods and smart technologies in threat assessment.[8] Little (2004) presented a holistic approach concerning counter-terrorism in urban areas; however, the approach remained unspecified at many points, and the diverse elements of counter-terrorism were not precisely systemized.

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[8] In this model, some decision support tools for an effective counter-terrorism design were identified, including the exploration of existing literature, data and practices, the analysis of the dynamics of terrorist methods, the shift in research focus to new (resilient) thinking, whilst also keeping acceptability, adoptability and proportionality in mind. Besides, the following outcomes of design methodologies were distinguished: 1. Decision support tools for counter-terrorism design; 2. Implications for policy and thorough understanding of the multi-dimensional aspect of terrorism; 3. Realisation of the impact of counter-terrorism measures from an aesthetic and social point of view; 4. Transferable and adaptable findings; 5. Indication of future research requirements (Coaffee et al., 2008).

Towards a possible framework of terror-resistant action plans in urban areas

The physical environmental aspects: preparing built environment for forthcoming threats and quick recovery

Physical destruction has been considered a substantial impact of warfare on cities for a long time. As Coaffee (2009) presented, since the late 1960s, as a direct response to urban riots, defensive architecture has been increasingly used by built environment professionals in American cities in order to deter crimes. Similarly, many local authorities in the UK have resorted to the same idea since the late 1970s.

O'Rourke et al. (2003) gave a comprehensive overview of the services required for a relatively quick recovery, while analysing the physical damages and losses of infrastructure systems of World Trade Center after 9/11. The most important lessons for the future from a physical environmental aspect were summarised as follows (ibid, 289):

> *"Advanced geographic information systems, remote sensing, condition monitoring, model-based simulation, and systems engineering coupled with the capability of producing precise digital base maps, which can integrate the spatial characteristics of infrastructure, provide unparalleled opportunities. Legitimate concerns about security and attendant restrictions on information are equally important factors that may become barriers, unless we develop suitable procedures for information accessibility and dissemination. It is extremely important to develop a consistent policy regarding the need to know versus the need to secure information and databases about critical infrastructure systems."*

Such post-9/11 experiences help practitioners to revisit issues and tasks in order to improve the built environment. For instance, Bosher et al. (2007) emphasised that there is a need to shift from the previous reactive emergency planning approach to one that protects the built environment. This means the protection of the physical and built environment by designing smart building structures and controls, which are mainly passive features. There are a number of ways to enhance buildings structurally and to make them 'blast-resistance' (Little, 2004), e.g. by providing additional reinforcement, using active sensors and control systems against biological and chemical weapons attacks, building connections in the structural frame for increased ductility, combining fibre wraps to prevent columns and slabs from shattering as well as using high-performance glazing materials. As for urban transport systems, protective actions for

explosive devices could be taken; however, these solutions can usually do little to defend people. Ticket and vending machines, bicycle parking racks and left luggage lockers can still be placed some distance away from the main station facilities (Coaffee et al., 2008).

Additionally, various modern surveillance technologies are installed in large numbers. According to Savitch (2008) and Coaffee (2009) these technologies include panoptic devices (e.g. cameras, closed-circuit television cameras, mirrors, street watchers), advanced technological detections (e.g. biometric devices, motion or thermal sensors) and moveable or permanent barriers as well as fortress construction (e.g. balustrades, crash-rated bollards, fences, gates, police patrols, road closures, safety cordons, solid walls).

Savitch (2008) added that most of these controls shrink and narrow city space, and so they become disturbingly Orwellian by creating unfounded suspicion and stultifying social relations, but at the same time surveillance is necessary, because the local population demands protection. Certainly, technologies should be applied in favour of citizens, because unless local communities understand (or are engaged in) the design and ongoing development of such technologies and constructions, it is highly unlikely that they will support such structures.

The human aspects: gathering expertise and increasing participation in risk management

Building enhancement and reinforcement are impossible without the careful monitoring of processes. Obviously national governments have responsibility for the safety of inhabitants, but affected parties at local level can also prepare for incidents. Many of us may think that homeland security has the sole responsibility of creating counter-terrorism technologies; however, citizens are usually the best first responders to a crisis (Atkins 2006). Local problem-solving depends on community preparedness, which is strongly connected to the knowledge, experiences and ideas of the various members as well as to the active involvement of all affected parties in a given area.

Skills in risk assessment should be regarded as an asset, when establishing procedures for countering terrorism (O'Rourke et al., 2003); moreover, it is important to realise that the preventive action should be founded on knowledge, instead of speculations or fears. Also, professionals and specialists who have expertise in risk assessment need to learn to work

together to eradicate threats or minimise the vulnerability of urban infrastructures as well as to strengthen structures under multiple loading and to ensure the continuity of basic services. According to Little (2004:55),

> *"[g]iven the high cost of implementing an effective urban physical security strategy, the participation and knowledge of all affected parties, including policymakers, law-enforcement officials, building owners and occupants, planners, architects, engineers, and security specialists will be required."*

An effective team should consist of professionals with a variety of backgrounds, e.g. public utility planners, emergency planners, local security agencies and groups, and even communication experts. For instance, according to Coaffee (2009), the media can play a significant role in shaping public opinion by being supportive during the development of terror-resistant action plans; however, empowering the media is quite risky, because ignorance and misinformation can be destructive, when reporting a crisis.

Unless communities understand and are engaged in the design and ongoing development of planning processes, it is highly unlikely that they will support such action plans and strategies. Naturally, the lack of public will and public need is no use in risk management. Consequently, as argued by West and Orr (2005), conversation and certain recurring themes are relevant factors in debates over emotion and reason to legitimise specific ways of thinking about terrorism, not to mention that officials play a central role in managing citizens' fears of terrorism. In other words, the 'effectiveness' of risk management is strongly related to the degree of cooperation and interaction among all affected parties and local stakeholders. Consequently, local crime prevention and safety promotion are associated with the ambitious and aspirational governing processes of multiagency or partnership approach (Edwards et al. 2014), and with working relationships in order to stimulate the proactive and voluntary engagement of private sector (Europol, 2016b).

It is also necessary to reach a consensus or at least a compromise on adequate and acceptable standards and means of monitoring (e.g. in the case of surveillance technologies). An effective and state-of-the-art information and monitoring system makes it possible not only to strengthen controls, but also to develop a smart, agile and resilient local learning infrastructure on the long run. In addition, analysts have to be skilled subject-matter experts, who evaluate information from all available resources, and then analyse it to provide timely and objective assessments.

Problem solving and strong communication skills are crucial for success, which means that analysts have to be prepared to think creatively and critically, and they have to present the outcomes of analyses directly and concisely to policy-makers or advisers.

The organisational aspects: emphasising the importance of institutional resilience and resistance

It is generally accepted that a key feature of successful regions is the ability to change their institutional structures in order to cope with changes. In the most minimalist sense, institutions can be looked upon as the entire formal legal architecture within which economic activities take place; however, there is a subtle shift in importance from the formal architecture of the institutional structure to the behavioural aspects (McCann, 2013). The behavioural aspects of the institutional structure help organisations to be 'resilient' in times of adversity.

Today, resilience is a very promising research topic in regional science. The attention directed to resilience and related matters might be construed as a response to today's general feeling of uncertainty and insecurity, and a search for formulas for adaptation and survival (Christopherson et al., 2009). In the scientific literature one may find some theoretical streams of resilience, such as the ecological (or ecosystem), engineering, economic (or socio-economic), regional and institutional resilience.

Institutional resilience (or resistance) can be interpreted in two ways: it refers to a practical response to the declining lifecycle of organisations in order to survive and prosper in a changing and uncertain environment, whilst also making their competitive advantage adaptable (Burnard–Bhamra, 2011) on the one hand, and, more importantly, resilience has been used to describe how cities and nations attempt to 'bounce-back' from disaster in addition to the integration of security and contingency features into planning governance systems in urban areas (Coaffee, 2009), on the other hand. Borrowing from Savitch (2008), cities usually suffer short-term negative effects from an attack, but show varying resilience, that is, their recovery time varies under different conditions, and much depends on the size of the city, the state of its economy as well as its social coherence and interactions.[9]

[9] For instance, tourism is particularly sensitive to violence; however, if a city and its organisations were resilient, it would be expected that tourists return within a reasonable period of time (Savitch, 2008).

The capacity of institutions in the security sector to react and adapt to changes relies on a special set of circumstances, including collective behaviour, public opinion, motivational sphere, physical and material basis of social life, etc. Aguirre et al. (2005) noticed that institutional resilience is in close connection with the most important parts of the whole organisational system, which are called 'high reliability organisations' (HROs). These organisations play a central role in avoiding or examining the problems and the vulnerability generated or created by shocking events. In addition, salient characteristics of HROs include mindfulness, vigilance, readiness for trouble, training and social arrangements, incorporation of fresh knowledge into the organisational structure (Aguirre et al., 2005). Terrorist attacks could create serious challenges in functional networks and services; consequently, professionals and policy-makers should do their best to develop and deploy an institutional background similar to that of HROs in order to combat terrorism.

The smart technological aspects: threat assessment through understanding the dynamics of online social networks

There is at least one of key emerging themes which take academics and professionals beyond the orthodox-political concerns with the built environment, and human and organisational aspects. Of increasing importance is the manipulation of 'smart' technology not just for refining surveillance, but in creating new opportunities for terrorism (and organised criminality). Enhanced interconnectivity, in particular through the increased functionality of social media platforms, has offered new opportunities for terrorist groups to target specific audiences and spread propaganda (Europol, 2016a). Urban infrastructure becomes increasingly digitalised and premised on the *Internet of Things* (IoT), or *Internet of Everything* (IoE). This indicates major vulnerabilities for hacking into the transport, energy and health systems etc. that constitute the mundane social and economic life of urban areas. A large number of the propaganda activity takes place via the Internet, actually via the *Darknet*[10], with a great number of websites.

Rapid technological advancements and smart technologies generate new, and possibly, greater threats to security rather than social and economic policy responses to underlying conflicts. Although the nature of

[10] The Darknet refers to areas of the Internet that are not indexed by common search engines (Europol, 2016a, 2016b).

terrorist communication is constantly changing as new technologies become available (Europol, 2016a, 2016b), we have little concern about the factors that promote the propagation of information in online social networks (Burnap et al., 2014).

Advanced hardware, software and technological methods to develop computational algorithms may let experts find patterns and relationships in large volumes of data. Understanding the dynamics of online social networks may help in better following events as well as solving issues, such as preventing terrorism (Guille et al., 2013). In order to fight cyber-terrorism more efficient, planners and practitioners need technically-savvy specialists (data scientists), who organise and interpret Big Data and inform decision-makers. In a provocative study on Big Data, Boyd and Crawford (2012:663-664) stressed that,

> *[o]ne the one hand, Big Data is seen as a powerful tool to address various societal ills, offering the potential of new insights into areas as diverse as cancer research, terrorism, and climate change. On the other, Big Data is seen as a troubling manifestation of Big Brother, enabling invasions of privacy, decreased civil freedoms, and increased state and corporate control."*

Although, we have little information about the ethical implications of the Big Data phenomenon (Boyd–Crawford, 2012), the diffusion of information through social micro-blogging technologies, such as Twitter, has been already being used by law enforcement officials and journalists to request information (Burnap et al., 2014). Accordingly, Europol (2016b) called attention to the fact that, there is a need to inform law enforcement about *Big Data*, *IoT* and the *Cloud*, and the opportunities that come with them; consequently, the ethical aspects should be discussed with awareness in the near future.

Besides, skills in econometrics, geospatial modelling and survey research also contribute to fight cyber-terrorism. Strong analytic, research and investigate skills combined with smart technological expertise provide new opportunities in the future. The security industry and government agencies have to catch up to this new form of interconnectivity; as a result, technical intelligence (TI) and forecasting will ensure to adapt to the ever-changing technical issues that arise with the 21st century. As security agencies attempt to extract intelligence from unstructured data, strategic planning and decision-making become easier on local and regional levels as well. This also strengthens predictive policing, in other words, it

helps to predict where crime might occur, so that police can be allocated with maximum efficiency.

Conclusions

Urban security emerges with significant implications for the spatial planning of cities in Europe in the near future. Terrorism is still a great fear, and continues to be a central point on the government agenda. It must be underlined that counter-terrorism action plans should be distinguished from social programs (for drug treatment, child welfare, jobs etc.) (Witte, 1996), that affect urban crime on the long run. In the light of above, the most important features of terror-resistant action plans can be summarized in a conceptual framework (*Figure 1*).

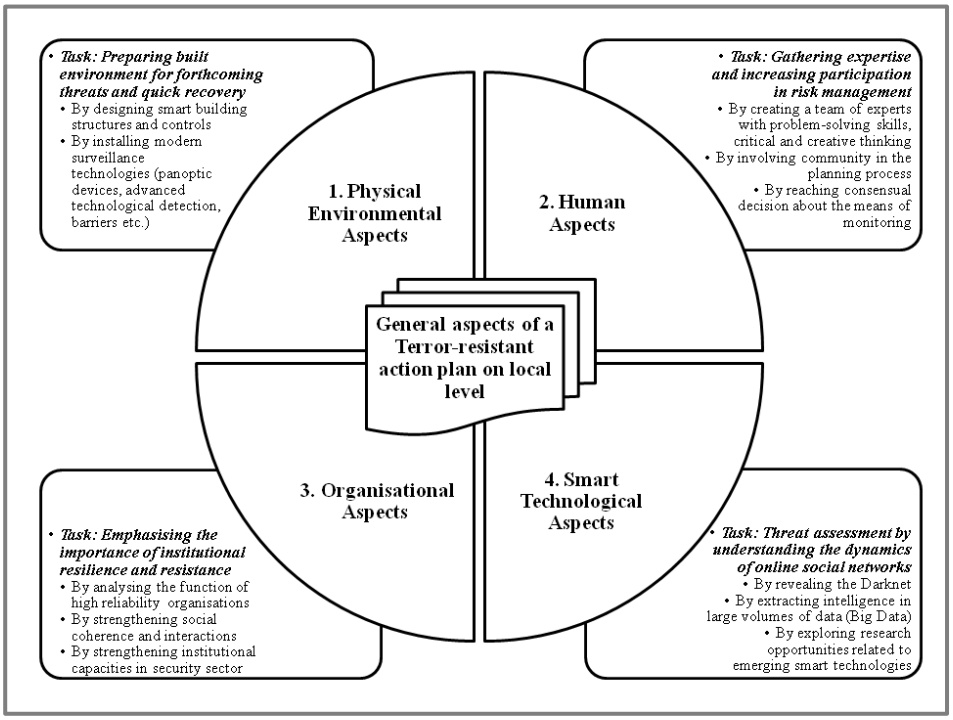

Figure 1: **A general framework of terror-resistant action plans on local level**

Source: Own construction.

The current challenge is to release tensions over surveillance, expertise, community preparedness, institutional resilience and smart technologies. Resilient thinking requires city design and engineering solutions to 'harden' buildings against attacks, as well as an expert system that makes coordinated efforts to prevent attacks. If we are to take the achievement of urban resilience seriously, we need to put the goal of the resilient city into the practice of city planners, engineers, architects, emergency managers, developers and other urban professionals. Increasing attention should be paid to the specific roles played by key urban managers in constructing new forms of institutional arrangements, governance arenas and partnerships. Such managerial networks in turn influence urban form and design solutions that keep the city safe.

Besides, as cybercrime is becoming more aggressive, changes in the profile of cybercrime offenders are suggested. It is essential to familiarize with hidden services (Darknets), and update the digital forensics capabilities (Big Data, IoT, the Cloud). Urban developers face with complex technical developments, so creativity and talent is needed to solve technical challenges. As a result, counter-terrorism requires intelligence analysis that goes beyond the traditional mindset of surveillance techniques. Unfortunately, most (governmental) organisations still do not know how to utilise the data that they have to get in order to take actions at the right time. Certainly, this issue requires law enforcement and greater flexibility. In addition, law enforcement should continue to engage with private industry in order to increase confidence and effective investigation, on the one hand, and, with academia to explore research opportunities related to emerging technologies, on the other hand.

There is no doubt that terror-resistant strategies and action plans alone are insufficient to avoid all risks. Moreover, not every town or city in the world, and certainly in Europe, has to develop action plans and strategies against terrorism. Also, a risk society cannot protect people against all types of danger; however, it has to prepare for preventing the worst by establishing reliable expert systems, in which local population can place their trust.

According to Glaeser and Shapiro (2001), urban density means that it is possible to destroy on a large scale within a short time; as a result, terrorist attacks target the areas with highest population density. Iconic structures and buildings, cultural symbols, business and financial centres, other

crowded places such as shopping areas, commercial infrastructure, stations and transportation systems, sports and conference arenas all seem to be the targets of terrorism. In other words, as Savitch (2008) put it, cities' intrinsic characteristics such as high-density and thick infrastructure, concentrated high-value commercial assets and a global or international profile make them victims or targets of terrorists. Cities that will or plan to organise global or continental political, cultural and sporting events (e.g. political summits, Olympic Games, world and continental championships, international conferences, etc.) are in the greatest danger and therefore have to prepare in time for eliminating or minimising the possibility of incidences and consequences of terrorist threats.

The greatest risk, however, is not the delay in preparation or decision-making, the lack of responsibility or uncertainty of personal conditions, but the fact that the initial hypothesis against terrorism is wrongly formulated. On the one hand, statements such as 'it cannot happen here' or 'it cannot happen with us' are unlikely to help decision-makers develop a good way of thinking on the matter; on the other hand, the pressure from 'they are going to attack us' may fuel fear, which according to urban theorist Richard Florida has a debilitating effect on culture. As a result, the most important question remains unanswered, i.e. how local communities can bridge the chasm between the hazard of terrorist attacks and the decision to develop terror-resistant action plans. Accordingly, the public has to understand the truth about real dangers.

Regarding the future issues, as social sciences research has recognised the threats of terrorist incidents, the focus of research attention must now be how to provide further 'points of alignment' in order to prevent terrorist attacks in urban environments. Risk management presupposes a shift in focus to planning strategies, and as always, changes require sacrifice and effort. As Coaffee et al. (2008) suggested scholars should participate in shaping decision support tools for counter-terror design by analysing the existing literature, data and practices concerning risk management whilst also emphasising the shift in focus to resilient thinking. In addition, the place to study 'where the action is' in social control should be seen as a subject to rethinking (Edwards et al., 2014).

Experience in various engineering fields, such as chemistry, computer science, electrical and mechanical fields, as well as mathematics, statistics, economics, finance and operations research is important to fight

against ever-changing, challenging, complex and fast-paced global terrorism. Scientific and professional collaborations may help to build up well-managed networks of counter-terrorism, and take the matter further.

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