Oldřich Krulík, Buhoslav Pernica, Libor Stejskal, and Jakub Kašík

More Security Issues are Needed on the European Union Agenda: Beyond an Academic Concept of In/Security in the Era of Global Terrorism

January 2009

Economics of Security Working Paper 7

This publication is an output of EUSECON, a research project supported by the European Commission’s Seventh Framework Programme.

Mgr. Oldřich KRULÍK, Ph.D., Ing. Bohuslav PERNICA, Ph.D., PhDr. Libor STEJSKAL, et Mgr. Jakub KAŠÍK

Key words: security, safety, concept, risk, threat, security policy, terrorisms, European Union

JEL Classification: D74, H41, H87

Introduction

Security as an objectively existing quality (Manners, 2002: 19; Waissová, 2005: 8) which can be discussed in innumerable ways, but it may hardly be ignored and its significance (let alone its existence) may hardly be doubted. Security is a fundamental human need which is a subject of our efforts for its satisfaction and its chronic deficiency leads to frustration. Considering the differing views on how the term “security” itself should be defined and what specific aspects or issues it should include (and which ones it should not), there can be no doubt that virtually no area of human activity can manage without holding an opinion on security issues. Security is not a mere construct inferred from academic debates. Nothing can change this despite the fact that this phenomenon has become an overused topic of societal debates, election campaigns and media (virtual) reality. Presence or absence of danger (in/security, un/certainty) can be described in so many forms, that are not easy to be transparently arranged or even mathematized (Manners, 2002: 21; Waissová, 2005: 7). It is in fact necessary to give up the quest for the objective truth, because of the fact, that the security disciplines are very subjective per se. Security is an omnipresent phenomenon and it is difficult to choose the best concept for a security research for this reason, although many authors are insisting on their concept being the best one, e.g. Buzan et al (1998). This paper deals with these matters presenting an academic concept of in/security in the context of a revise of the security agenda of the European Union (e.g. with regard to the Directive of the Council on the identification and designation of European Critical Infrastructure and the assessment of the need to improve their protection (COM(2006)787)).

1 A concept of in/security

The security is a changeable phenomenon which can be seen from many points of view therefore the security research is using a security concept only. As such, it is usually tailored for the purpose of a paper, book, etc. The in/security is a social phenomenon which can be reflected by language. We tried to apply a linguistic approach to explain the in/security phenomenon in European culture context. We have chosen some words referring to in/security phenomenon and we have been looking for their etymology of non-Slavic (English, German) and Slavic (Russian, Czech) languages. These words are: in/security, un/safety as terms for conditions of in/security; risk, danger/dangerous, threat as terms for describing the level of in/security; stability, certainty, turbulent, hazard/jeopardy as terms for describing the dynamics of in/security.
Security and safety are abstract nouns derived from adjectives secure and safe. Safe meant free from hurt or damage in the 13th century, and in 14th century it meant free from danger, secure. In medieval English safe was sauf, saf, originally inflected sauve, save from (old) French sauf (Anglo-Norman sof) having the same meaning as Italian salvo originated in Latin salvus = uninjured, entire, healthy. Secure means sure, safe. Secure was used since the 14th century as word meaning trustworthy, steadfast, subjectively certain; since the 15th century secure meant objective certain furthermore. The origin of the word secure is in the Italian siero originated in Latin sē/cūrus = careless, without suffering. (Onions et al, 1966) The etymology of German die Sicherheit, containing the adjective sicher and the suffix –heit, is derived from Latin word sēcūrus, as well. (Kluge, Seebold, 2002) Morphologically similar words for the English word security are in the Slavic languages: безопасность [bezopasnost] (Czernyj, 1993) and безопасность [bezpecnost] (Rejzek, 2001). Both words contain the same suffix без/bez- = without, and the same suffix -ость/ost for words meaning situations, outcomes or characteristics. (Petr et al: 296-297) The base of the Russian word безопасность [bezopasnost] is the noun опасение [opasenie] = fear, distress. The base of the Czech word bezpečnost is the noun péče [peece] = care. Obviously the Czech word bezpečnost is a calque of the Latin word sēcūrus having the meaning in Czech being without suffering, or fear (of future). The meaning of the Russian word безопасность and its relation to Latin sēcūrus is much more disguised than it is in the case of the Czech word bezpečnost. The word опасение is related to the verb насечь [pasti] = graze. The origin of this word is in the Latin word pāscō = feed, graze, and in the Latin word pānis = bread. (Czernyj, 1993) In this point of view, безопасность means being careless for bread, being not obligated take care so closely for being alive.

The word risk means chance or peril of destruction or loss. The origin of this word has been derived from French word risqué, Italian risico, rischio. Italian rischiare, risicare means run into danger. (Onions et al, 1966) For risk we are using das Risiko in German. The etymology of this word refers to the Spanish word risco meaning reaf, rock, or submerged rocks. A phenomenon determined as a risk means that our plans can fall through this phenomenon. The German etymology dictionary (Kluge, Seebold, 2002) refers to a similar origin as the English risk. This origin should be derived from Romaic *rixicare and Latin rixāri meaning fight. The same meaning have the Czech riziko and Russian риск [risk] springing from the German word das Risiko. (Rejzek, 2001; Czernyj, 1993) If we find a phenomenon as a risk, we could be ready for fighting with this phenomenon in the future. This phenomenon can be dangerous; it can evolve from a risk to a danger.

The original word meaning of danger was power of a master, dominion, hesitation. – To be dangerous means fraught of danger, to have a potential for inflicting injury to someone. The English word da(u)nger is borrowed from the old French word dangier. It has its origin in Romaic *domniārium, formed on dominus, diminus meaning lord, master. (Onions et al, 1966) The German has the word das Gefahr for danger. This word originated from medieval German gevörre = trick, delusion and old German word fāra, or old Saxon fār meaning snooping, nosiness, trailing. The potential origin of these words is the Germanic word *fāro = snooping or old Nordic fār = hostility, illusion. (Kluge, Seebold, 2002) Slavic languages form the meaning of danger in another way; danger is a direct opposite to security/safety. A danger in Russian is опасность, (Czernyj, 1993) and in Czech is nebezpečí. (Rejzek, 2001), which has been formed as opposites to безопасность, and bezpečnost. Not to be secure/safe is expressed in Russian находиться в опасности [nachoditsja v opasnosti], and in
Czech být v nebezpečí [beet v nebezpeczi]. Regardless of it, there is an extra level in Russian and Czech for it, what English means under the term to be in danger, or German means under in Gefahr sein. Russians say: находящийся под угрозой [nachodjajshaja pod ugrozoj], (Melnikov et al, 1982) and the Czechs: být ohrožen [beet ohrzen], it means both nations will have to fight the phenomenon/risk, if it is felt as угроза [ugroza], hrozba or ohrožení [ohrozeni] which origin is in *groza = thunderstorm and onomatopoeic describing the voice of thunder. (Rejzek, 2001) It is (potentially) dangerous, when we hear the voice of thunder, when a storm is beginning, or when it is getting closer to thunder, when we have a clear evidence of dangerousness of a phenomenon with potential to harm our lives.

In the old English, threat had those meanings: throng, troop, oppression, and affliction. One of old-English meanings was denunciation of evil to come. Probably the word threat is cognate with Latin word trūdere = thrust. (Onions et al, 1966) To feel in danger, it was for Slavic’s sufficient to hear thunderstorm. It was not adequate for Anglo-Saxons; they felt in danger, if they were waiting for trouble, a kind of instability. Trouble meant mental distress formerly (in 13th century); than the meaning shifted to public distress, pains, exertion. The word trouble originates from old French truble, turbule, tourble, derived probably from Romaic verb *turbulāre, or the feminine noun *turbulus, or Latin noun turbidus meant disturbed, turbid. (Onions et al, 1966) To be in trouble, to be in a turbulent, uncertain environment is a peril, because we cannot foresee outcomes of our behaviour in this environment. A peril is an experiment literally, because this word originated from Latin peric(ulum) = experiment. (Onions et al, 1966) To be in danger, means to be exposed to instability, to phenomenon’s eroding status quo.

The word stability appeared in 15th century as stabele derived from old French (e)stabletē with etymology from Latin words stabilīs = constancy, stabilēre = to secure, stabilis = settled, on which French stabilité and English stabiliticy were directly modelled. (Onions et al, 1966) The same etymology has the German verb stabilisieren, noun die Stabilität, and adjective stabil derived from Latin stabilis, an adjective of eventuality to Latin stāre (statum) = to stand, to stop, to stay. (Kluge, Seebold, 2002) The same etymology has the Czech word stabilita, too, (Rejzek, 2001) in Russian another word was rather used than стабильность [stabilnost]. It is устойчивость [ustojcivost], or устойчивый [ustojcivyj], but these words were derived from verb стоять [stojet] = to stand, to stay. (Czernyj, 1993) If something is stable, e.g. a phenomenon causing in/security, there are conditions of certainty. The noun certainty is derived from adjective certain, an old French word certain originated from Romance *cert nus, or Latin word certus = settled, sure, a formation on cernere = sift, separate, decide, decree related to Greeks krīnein = separate, kritós = chosen, choice. (Onions et al, 1966) Fest has the similar meaning in German like the English word certain. Its etymology is unclear. Maybe, the word could be based on Fuß = foot in meaning foundation, something sure, fixed, settled. (Kluge, Seebold, 2002) In Russian adjective уверенний [uverenij], and noun уверенность [uverenost] are usually used. Both words are based on noun вера [vera] = belief. Our уверенность [uverenost], steadfastness in development of our environs, is based on our belief, trust, that circumstances will not be changed dramatically. (Czernyj, 1993) In Czech adjective jistý is used for something, what is certain, and from this word derived jistota = certainty, or adjective určitý [urcitzity], and from this adjective derived noun určitost [urcitzost] = certainty. Jistý might be originated from the pre-Slavonic *istb = real, or from the old Indian iše = he owns. Určitý is based on verb určit, old Czech u/fici = say, actually, possibly named, because of its stability. (Rejzek, 2001)
The opposite to certain is uncertain, or put another way, turbulent. As already mentioned, turbulent means threatfull, actually. Our certainty, our stance on a floor is not stabile under turbulence circumstances. Die Turbulenzen causes in German our Unsicherheit, our uncertainty. They express the potential harming of our security. A traditional Czech opposite to jistý, or určitý is nejistý and neurčitý meaning uncertain, with difficulties regarded as constant, also worth of a name. The similar meaning has the Russian adjective неустойчивый, an opposite to устойчивый. Going to uncertainty was considered for hazard, for game at dice originally in 13th century, a game about our future with the destiny. In reality, hazard originated from azzahr, azzär = gamming. (Onions et al, 1966) Verbs riskieren in German, риск [risk] in Russian, and riskovat in Czech have the same meaning – to steak something, to do something dangerous. There is yet another word in English describing the state of uncertainty. It is jeopardy, meaning a chess problem early, now risk of injury or death. Jeopardy is an adoption of an old English iu (ieu, giu) parti = a divided game, even game, uncertain chance. The old English iu parti is based on medieval Latin jocus partitus (jocus partitus); iocus = joke, game, amusement, partitus is past participle of partirī = divide. (Onions et al, 1966)

The linguistic approach to in/security as a cultural phenomenon shows us that there is a generous linguistic consensus. A describing of a situation of in/security can be based on the terms of similar etymology and similar meaning. As a consequence of this cultural unity, it is supposable that a concept for describing of in/security can be based on this terminology minimum. (see fig. 1) Because of the changeability of in/security this concept is not static. A mobile risk and a mobile subject that are taking care for its security can get closer to each other. Any security environment can be described by risks. The subject has a security policy which is based on two options for its security decision making. The subject can either avoid risk or fight risk to get more security or vice versa get less in/security. Avoiding risk (getting out strategy) and fighting risk (fighting risk strategy) are two basic options for a security policy of a subject. A level of in/security is measurable by probability of injury or harm of the subject. To have an affable probability of injury or harm of the subject is a goal of security policy.

![Fig. 1 A concept of description of in/security](image1)

![Fig. 2 A subject of security policy and risk](image2)

A subject can specify a security policy in case it is able to monitor risks (e.g. intelligence data are needed), to guard itself from its boundary of security. An expansion of this boundary is usually demanded in order to feel safe. It can happen by technology (see fig. 2) or as a
placebo-effect inducted by ideologies, religion or religious beliefs. We refuse this approach and we assume that there is only a “feeling of being safe” based on knowledge of the injury, harm, or damage probability to a subject. If this probability is under ½, the subject can be sure that it will not be injured, harmed or damaged by a risk. It is in an out of danger area/environment, in a space, where it can generally feel sure. Over the ½ worth of probability the opposite can happen. Subject cannot be sure, that it will not incur any injury. But the subject can take an acceptable risk and even in an area/environment of acceptable risk its position can be stabile. So there is an area/environment of stability divided into an out of danger area and an area of acceptable risk. The subject is in danger if its probability of injury or harm will get over the area/environment of acceptable risk. Dwelling in a danger area/environment is considered hazardous, because a subject can incur injuries, destroying it completely. It can happen especially in a peril area/environment.

What is worth the probability of injury or harm for an area/environment of acceptable risk, an area/environment of stability, a danger area/environment or a peril area/environment depends on the kind of a risk and on the kind of a subject. A natural disaster as a risk is able to impact on men/women, a family, a village, a city or a state as subjects and it can affect their lives significantly. But each of them will have another probability of injury or harm. Each subject has a different circle of security but the same security policy goal, which we have called as a feeling safe. This goal of a reasonable security policy is not to permit any diminishing of that boundary of security; vice versa this circle of security should expand, the area/environment of stability of the subject should expand. An expansion of this area/environment can happen in two ways: (a) the subject can fight or annihilate risks; (b) the subject can try to enlarge its area of acceptable risk. A combination of both ways is also possible. A strategy of fighting or annihilating risks is a proactive security strategy. The other strategy is a strategy of adjustments to risks. Which one is the best suitable strategy for achieving the goals of a security policy depends on the security environment, e.g. a subject living in Japan would not be afraid of an earthquake. Such risk cannot be fought by a subject living in Japan that has to accept this kind of risk if he/she wants to live there. On the other hand, living in the world where a man/woman can die of infectious diseases a proactive strategy focused on fighting these diseases, e.g. by vaccination, sanitation, or separating of infectors, is a good part of good security policy.

Gaining of information about risks, their hazard areas, and their impacts on the subject can break the uncertainty of the subject. This kind of intelligence is a precondition for an expansion of area/environment of stability of the subject. Such proper pieces of information about risks are needed for an effective and rational guarding of the subject. According to limiting of human senses it is necessary to gain proper information and to make a rational decision that will increase the security of the subject, e.g. if the thunderstorm is a risk and a lightning is able to injure the subject, it makes no sense to light a Candlemas candle, although it has been observed many times that this candle flame is “a good safeguard” against a lighting. Lighting never strokes twice at the same place but the best solution of this problem is an installation of lightning conductors. The safety precautions such as the installing of lighting conductors can be seen as a good example of guarding by a subject against the risk that we are not able to fight. This installing of lighting conductors is caused by an expansion of boundary of security. The subject is feeling more secure; the installation of lighting conductors is obviously independent on her/his belief in the power of Candlemas candles.
2 A Candlemas candle effect and the European security agenda

It seems that a security environment can be very complex and it is able to change very quickly. A tangible evidence of it is the change of security environment after the 9/11 attack on the WTC in the U.S. Threats and risks determine the security environment of a subject, a player (actor) choosing his/her security options to achieve goals of his/her security policy. The subjects and the risks/threats can be seen as variables of any security policy analyses. Players and risks/threats are a variable part of security environment. They are usually systematized by authors to highlight the causality of an effect of threats on the behaviour of subjects and their reaction relating to this effect. Such situation causes a kind of entropy, where there are many risks/threats and many subjects potentially interacting with each risk/threats. Preferring the institutional aspect, the subjects of a security policy can be systemized according to taxonomy of Buzan et al (1998: 2001) e.g. into following system units:

- Individual (resident, inhabitant, citizen, immigrant, tourist etc.), family;
- association of the citizens; non-governmental organisation (local, nation-wide, internationally operating, activity type-based);
- private company (small enterprise, larger company, supra-national business entity, state holding company);
- association of the private firms (representing, for example, one sector of industry);
- community (small municipality, union of municipalities, large municipality – nation capital, conurbation);
- region (union of municipalities, self-governing territorial units, region level according to NUTS classification);
- state (including the security priorities of particular countries holding the Presidency);
- supra-state structure (international organisation, European Union);
- entire world (global international community).

Each of these units is able to affect these risks/threats of which systematization can be very extensive. Just natural disasters can be systemized in compliance with the World Bank (Dilley et al, 2005: 25-27) into 9 groups: drought, storms, floods, earthquakes, volcanoes, extreme temperature, landslides, wave/surge, and wildfires. But besides natural disasters there are: manmade non-intentional disasters; manmade intentional disasters (including terrorism, sabotage, impact of organised crime etc.). Literature is usually blind to this entropy focusing on analysing aspects of a “universal” security environment. It is a pity because a security policy written into a strategic document is not an academic matter but a matter of our current life. Security should be accountable if we take into account that a government is responsible for security of a state, citizens, etc. The European security agenda must not become a Candlemas candle. There is not a security without plausibility of the security policy. But our belief in our governments or in the European Commission will not bring more security. To avoid the Candlemas candle effect we should pay closer attention to the practical aspects of security policy. In this context, it is worth of mentioning, e.g., the Directive of the Council on the identification and designation of European Critical Infrastructure and the assessment of the need to improve their protection (COM(2006)787 final) of 12th December 2006. The directive defines four categories of potential adversary effects to society. These can be used to define a minimum societal consequence that the
failure of an infrastructure must have, before being classified as European Sceptic. The four categories of criteria identified by the directive are (Thorton, 2008):

- Potential to cause casualties and public health consequences (an estimate of the number of deaths or seriously injured), due to the destruction or disruption of an infrastructure.
- Economic effects (significance of economic loss and/or degradation of products or services). In effect, an estimate of the economic loss caused by destruction or disruption of infrastructure in any of the impacted Member States.
- Public effects (number of members of the population affected including the effects on public confidence, psychosocial impact).
- Environmental effects.

The directive also explicitly adds that the cross-cutting criteria shall take into account the availability of alternatives and the duration of disruption/time for recovery of service. Although estimates on the number of casualties or potential for economic loss can be made, no direct method of quantifying public effects is known. Therefore a qualitative approach has been taken, whereby five different categories of impact are considered:

- Impact on Government services;
- Impact on public confidence;
- Impact on social order;
- Population impact;
- Geopolitical impact.

It can be desirable to develop another approach for evaluation of impact of terrorist attacks on an individual or on the whole society, especially when a short-term, long-term, separate, or complex impact should be indicated. The bad consequences of a homeland security management failure are not only a big numbers of dead, a big property damage, or number of displaced people as was seen in the Katrina-case, (Davis et al., 2007: 1-7) but also consequences, e.g. a perceptible decline of public confidence in government or a significant decline of investor’s confidence causing a stampede of direct foreign investment, investment in stock, or investment in government bonds. These visible and invisible consequences can die down immediately but they normally do not. In this point of view a terrorist attack can be seen as a malicious injury of a society or a hard curable disease making the society weak. A terrorist attack is usually focused on “the state body” of a society which should inflict enormous damage on the state power. (Traverton&Jones, 2005) In our global world this is based on confidence of natural and corporate bodies dwelling on the state territory in the ruling government and its ability to ensure security needed for economical and social activities of these bodies on this territory, for economical and social development. (Benson&Clay, 2004) A terrorist attack inflicts short-term or long-term disabilities of social live in the attacked society. The disabilities can stretch from little ones, such as disappearing of litter bins out of public open spaces to minimize any opportunity for hiding of a bomb, to big ones. Such one can be e.g. a proclaiming martial law.

Speaking about measuring disasters and terrorist attacks impact on the society and nation power, we should take three aspects into an account: (1) taxonomy of threats and risks, (2) visible damage such as causalities, damage to property, production losses, etc., and (3) disabilities of social life in the attacked society. Taxonomy of threats and risks is a well
known part of the risk management. A consequence management, a part of crises management, (Larson&Peters, 2001: 257) focuses on the second aspect. These consequences can be measurable in a polygon chart. The extent of a disaster or terrorist attack can be measured by the area of the polygon.

The approaches used to quantify the potential impacts of the specific threats are those that (similarly as in insurance) are using two basic variables: probability (likelihood) of the threat (from the relatively common cases such as floods to rare incidents such as the fall of an asteroid or the eruption of a volcano and destructiveness (robustness) of the consequences an event has (destructiveness may be perceived not only in terms of casualties, injuries, or estimated material loss, but also in terms of the impact the event has on the public’s psychology, people’s confidence in government etc.). (Benson; Clay, 2004: 50). As the auxiliary variable, the avoidability and/or removability, or as the case may be, the avoidability and/or irremovability of the consequences (impacts) of the particular event may be used. (Horst; Pruyt, 2008: 18-19). The focus of the activities of the most foreseeable crisis managers has to be concentrated on the most frequent and in the same way, the most destructive scenarios. To measure these aspects of a disaster or terrorist attack we should develop a new concept. This concept can be based on an analogy between a human body and human health and a social system, a national state, and its health. In this way, a conceptual framework for a classification of the consequences of threats could be alike the classification of functioning, disability and health of a human body. This classification is known as the World Health Organization’s *The International Classification of Functioning, Disability and Health* (ICF). The ICF is a classification of health and health related domains describing: body functions and structures, activities and participation, and environmental factors. The classification is used in a variety of areas and has specific applications in clinical diagnosis, rehabilitation assessment, and disability policy planning and survey research. The domains are classified from body, individual and societal perspectives. The ICF classification is organized in a hierarchical scheme. The components of Body Functions and Structure, Activities and Participation and Environmental Factors are classified independently. Within each component, the categories are arranged in a stem-branch-leaf scheme, so that a lower-level category shares the attributes of the higher-level categories of which it is a member.

The ICF could become a suitable inspiration for European conceptual framework for classification threats, risks and events in view of their impact on state power, government, and society. This classification can be useful especially for security policy planning, survey research, and support communication within the European Union. There are two critical points of this classification: abundance of statistic records about events disturbing security and their impact on the society and mutual comparability states. That is not a problem of the ICF. Each human body is the same and since ancient regime has raised the number of medical records as much as necessary to be able to assess possibility of death or health consequences of an illness or a bad injury. It could be difficult in terrorist attack cases. The incidents in which the terrorists attack vary over the world. Should be the impact of a terrorist attack in the Czech Republic the same as in Spain living with organizations such as ETA or in Israel living with suicide bombers?
Conclusions

Role of the European Union can be understood as a role of the player, that will alert the individual member states about the importance of individual security topics and/or avoid the depreciation of respective agendas (to be able to exert to get member states to address potential issues). (Pruyt, 2008: 18). The Union' security agenda in the area of the fight against terrorism and organised crime is highly incoherent. The issue of the fight against organised crime falls within the responsibility of MDG Working Group (Multidisciplinary Group) and the issue of combating terrorism is dealt with by TWG (Terrorism Working Group, 3rd pillar) and COTER (2nd pillar). Nevertheless, both agendas are cross-cutting in such a manner that even the team of the Union' counterterrorism coordinator, established not so long ago, has not managed to obtain a detailed overview of all terrorism-related issues that are being discussed.

This is closely connected with the fact that both agendas (more or less in line with the concept of securitization) may be related to a wide range of other sectional issues. Organised crime, in particular, may involve issues such as trafficking of human beings, drug or arms trafficking, violation of intellectual property rights and many other economically-tinged offences including the money laundering, environmental crime, cross-border smuggling of dangerous wastes etc. The agenda needs to be tackled by experts in law, sociology, economics, chemistry, ballistics, ethology etc. This applies to terrorism as well. Only if we take a look into the documents like the European Counterterrorist (i.e. Action Plan of the Fight against Terrorism) or the Counter-terrorism Compendium, it is obvious that this "sexy agenda" (Vico, 2004) is not manageable by a single expert or a group of a few. This area requires experts in international law, protection of critical infrastructure, diplomacy, international assistance providing, media strategies, arms trafficking, CBRN agents handling, migration tackling, public procurement contracting, semantics, interpretation of religious texts, economics, information and communication technologies etc.

The European Union itself has silently dissolved the issue of terrorism towards a more generally conceived crisis and consequence management. This can be seen very illustratively on the difference between the first and second rounds of the Union's counterterrorist per evaluations. The first round, completed in 2005, largely dealt with the legal frameworks applicable in individual member states and also with the above-mentioned police and intelligence cooperation and information sharing. The second round (started in April 2008), however, is wholly within the cognizance of experts focusing on crisis management and removing the consequences of "large-scale disasters". All the above-stated points (at least as far as terrorism is concerned) also apply more or less on the particular national level of individual member states. The former fascination with terrorism is now gone. The pompous counterterrorist strategies are being gradually updated with more and more emphasis on the “all hazard” or “comprehensive approach”.

Literature:


