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New Millennium – Emerging Challenge? Empirical Analysis of the Global Terrorism Operative Cooperation Network

"certain connections may develop between the previously separate types of terrorism"
(Haskó, 2002: 24.)

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Abstract

In this paper, our aim is to empirically explore the emergence and the challenge of terrorist actions realized in cooperation by multiple organizations in the new millennium. We analyze the development of collaboration among terrorist groups describing the trans-regional network constituted by cooperative attacks. We demonstrate the desirable outcomes of partnership for the terrorist organizations concerned and highlight how collaborative terrorist actions have become a major threat for the wider social sphere. In our research, we carry out secondary analysis of statistical data. In the process of data analysis we employ mainly descriptive and some other statistical methods. Furthermore, we apply basic social network analysis tools. According to our preliminary results, terrorism in the new millennium has become globally embedded through cooperative terrorist attacks. This international terrorist network is segmented regionally and certain actors gain greater importance in the structure than others; however, cooperation proves to be advantageous for the terrorist groups concerned.

Keywords: terrorism, cooperation, network embeddedness, empirical research, social network analysis

The problem

Parallel with the cross-border flows of the new millennium, integrating the world into an inter-connected system (Rostoványi, 2002: 72.), to a major extent owing to the information logistics and replacement system covering more than one continent (Józsa, 2002: 100.),

security and terrorism also took a new term (Haskó, 2002: 14–15.). A global space (Kiss, 2002: 39.) and global threats (Rostoványi, 2002: 77.) were developing, in which the challenge caused by the cross-border terrorist networks (Kiss, 2002: 40.) became greater and greater. A threat emerged spreading in all directions globally and cannot be associated with a particular territory (Kiss, 2002: 47.). Besides the spread of conflicts (Kiss, 2002: 42.) it also meant that they became interconnected through the cooperation of terrorist organizations and social actors (Kiss, 2002: 42.), i.e., on the basis of the transnational relations between terrorist organizations, the terrorist actions also became international (Rostoványi, 2002: 80.). A global anti-terrorist coalition (Kiss, 2002: 44.) was formed to combat this transnational form of terrorism (Rostoványi, 2002: 80.) and the internationalization of terrorist organizations (N. Rózsa, 2002: 270.), so a community of states confronts the network of the terrorist organizations (Rostoványi, 2002: 82.).

In the framework of our research outlined in this study, we search empirical answers (1) to the occurrence and spread of operative terrorist actions performed in cooperation.[1] We intend to (2) explore the network structure of the trans-regional integration of terrorism through multi-actor terrorist cooperation (Granovetter, 2006), identify the main actors in this global market of terrorism (Tálas, 2006: 8.) and the role of the weak bridging connections in macro-level integration (Granovetter, 1991). We shall also refer to the effectiveness of such cooperative terrorist actions (3) and, in relation to them, their hazards.

Methodological outline

Our research is based on the secondary analysis of statistical data extracted from the records of the *Global Terrorism Database*. The analysis was conducted on two different levels: on the one hand (1), some main versions of the records – relevant for the topic – were used in their *original form* as contained in the database, yet (2) we also formed a *social network database* with the data of organizations taking part in multi-party terrorist actions and the relations between them. During the data analysis, we use primarily descriptive statistics and simple, two-variable comparisons. The cooperation patterns of terrorist networks are illustrated with graphs, while the structures are indicated with simple network indicators.[2]

Data analyses

Diffusion of cooperative terrorist actions

0.7% of the terrorist actions analyzed in this study were executed in cooperation; on the basis of the information of the dataset, in total 930 such events were identified (Table 1).

[1] In our analysis, we look at a terrorist action implemented in cooperation as some special *innovation*, where there is a new form of organization behind the innovation (Schumpeter, 1980: 111.), so we aim to investigate the dissemination and diffusion of that innovation.

[2] The statistical calculations were made with SPSS 20, and the social network analysis was prepared with the Ucinet 6 and NetDraw software products.

However, the distribution of such cooperative attacks shows very special patterns both in terms of the dynamism in time and regional proportions.

Table 1

Distribution of cooperative terrorist actions by region

Region	%	Colour code
North America	5.1	
Central America and the Caribbean Islands	1.4	
South America	13.8	
East Asia	0.0	
Southeast Asia	5.3	
South Asia	29.7	
Central Asia	0.4	
Western Europe	4.9	
Eastern Europe	0.4	
Middle East and North Africa	28.9	
Sub-Saharan Africa	10.0	
Austral(as)ia and Oceania	0.1	
Total (N = 930)	100.0	

Source: Own calculation and editing based on GTD data

It is a characteristic feature of the dynamism in time of cooperation-based terrorist actions that one-tenth (11.1%) of such attacks were registered until 1990 and only slightly more than one-fifth (23.4%) of all cooperative attacks were made until 2000, too. Consequently, in terms of diffusion in time it may be concluded that *cooperation, as an operative tactic of terrorist organization has become a dominant feature in the new millennium.* However, the regional affiliation of global terrorism is another important factor. Such form of violent activities did not appear at all in the central and eastern regions of Asia, in the Australian region, in Eastern Europe or in the central region of the American continent at all, or only in a negligible proportion (Table 1). Approximately 5% of the cooperative terrorist actions took place in Western Europe, North America and Southeast Asia, while at least one-tenth of such actions could be observed in the regions of Sub-Saharan Africa and South America. *The majority of cooperation-based terrorist actions occurred in the regions of the Near East/*North Africa *and South Asia* as, practically, those two regions provided the scenes of more than half, almost three-fifth (58.6%) of all the related terrorist attacks. Taking into account both the differences in the global space and diffusion in time, other notable tendencies can be observed (Figure 1).

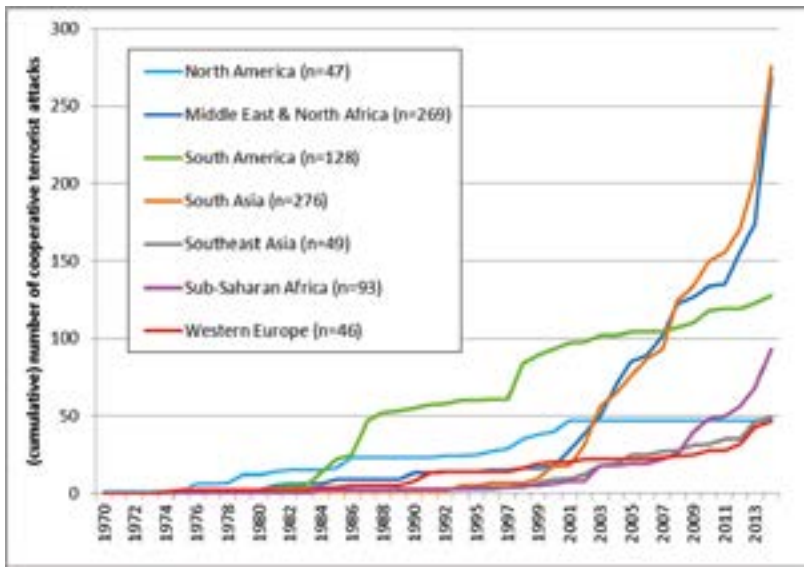

Figure 1

Diffusion of cooperative terrorist actions by region[3]

Source: Own calculation and editing based on GTD data

It may be concluded that the cooperation-based terrorist actions occurred in North America first but by the end of the analyzed period, i.e., 2014, the number remained lower than 50. As time went on, in the middle of the 1980s cooperation as a special form of carrying out attacks appeared first in South America and then, around 1990, among the organizations of Western European region. However, with the exception of South America, in the former regions the number of cooperative terrorist actions remained relatively low. The next milestone occurred in the second half, and at the end of the 1990s and around the millennium, when that type of attack began to spread in the regions of Southeast Asia and Sub-Saharan Africa, followed by a sudden and extremely rapid increase, as a result of which, by the end of the analyzed period, the number of cooperative terrorist actions was by far the largest in the Middle East, North Africa and Southeast Asia. In summary, it may be concluded, that by 2014, *the organizations using cooperation early reached a relatively low level with some moderate increase* and primarily *the organizations adapting that method later applied this "innovation" extensively.* A special tendency was that the growth in South Asia and the Near East/North Africa began parallel with the slowing and end of the growth in North America and that growth has been unbroken in the latter regions, where the diffusion curve is not getting any flatter, suggesting a further rise in the number of cooperative actions and the continuation of this very special innovation.[4]

[3] For the sake of more clarity, the figure only shows the regions which are associated with a higher number of actions, i.e., terrorist markets with major cooperative actions.

[4] The events of the last two years presumably indicate the continuation of these tendencies, but we do not have any data suitable for analysis in that regard.

Structure of the cooperation network

The global network structure of terrorist actions executed in cooperation is[5] not at all consistent: there are significant differences both in the number actors,[6] and in the relations between participants (Figure 2). As an example, the only terrorist action executed in cooperation in Australia and Oceania remains fully isolated in this map, but the situation is also similar in the East European terrorist market and its network relations, where the number of organizations is also rather low.

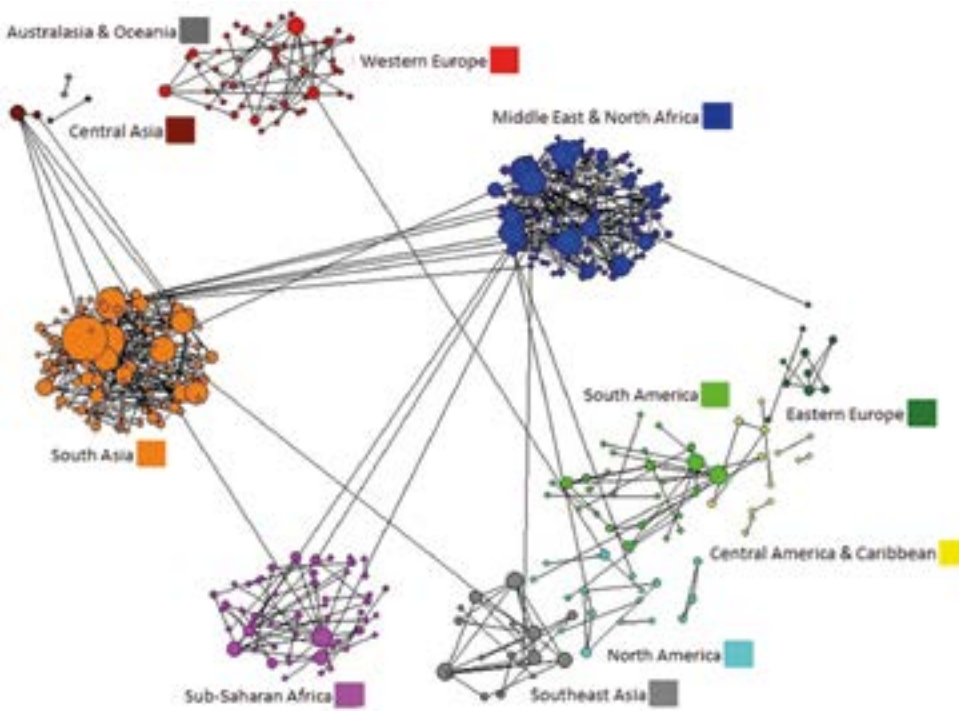

Figure 2

Graph of the global network of terrorist actions implemented in cooperation

Source: Own editing

[5] We wish to stress that our analysis *concentrates on the operative form of terrorism, interpreted at the level of actions* and that any alliance between the organizations is disregarded in this work. The latter is a large area and naturally an extremely interesting part of global terrorism, but *here our objective is to identify the network system of globally integrated terrorism developing on the basis of specific cooperation in actions.*

[6] The network constituting the subject matter of the analysis consists of 435 organizations that can be clearly identified or distinguished in the cooperation structure, i.e., the name of the organization is known (those included in the database as *"other"* or *"individual"* were left out), and their region of operation can also be identified (lack of information and unclear location were also considered missing data).

There are similarities between the central region of the American continent (Central America and the Caribbean Islands) and North America as well as the former Eastern Europe as basically a small number of not very significant organizations operate in the regions, yet they have bridging connections (Granovetter, 1991), i.e., they have relations with organizations from other regions.[7] Such an example is the South American region, which has the most widespread and, to a certain extent, *differentiated* cooperation network, where there are a number of actors that have relations with multiple organizations. Similarly, among those taking part in the network of terrorist actions observed in the region of Western Europe some major actors stand out; however, this region is still also isolated because it only has one common tie connecting it to the global network.

In that respect the Central Asia region is a kind of *contrary one*, which has a relatively high network integration with other regions, yet relatively few actors. However, at regional level the global cooperative network of terrorist actions is still *dominated* by the organizations of the Middle East/North African and South Asian regions, i.e. *"international" terrorism* according to the EU typology (Vincze, 2006: 119–120.) both in terms of numbers, network connections and their importance in the entire structure. These two regions, complemented by the Sub-Saharan and South East and Central Asian terrorist actors who have (multiple) relations with them, can be identified as the *dominant segment of the international terrorist network*. The *organizations* that are *most important* within the global system, i.e., have the most connections, operating the *South Asian region,* but the number of relatively important organizations stand out from the cooperation network in the Middle East, too.

Before identifying the central actors, let us briefly look at the whole global cooperation structure. In the sub-system formed by the interconnected actors of the network the geodesic distance[8] is 5.34 – which results in low compactness (= 0.040) and significant fragmentation (0.96). The centrality of the network is also low (Freeman's degree centrality = 0.27%); only 0.27% of the possible connections exist in the network. There are significant differences between the terrorist organizations in terms of the number of connections: the average degree is 5.17, i.e., on average one actor has this number of connections, which is coupled with high standard deviation (10.16). *Fourteen terrorist organizations* are above the average degree plus two standard deviations – 25.49 connections, i.e. high centrality (Figure 3) –, which therefore have *outstanding importance* in the global cooperation network of terrorists compared to the other organizations. These actors *cover one-third of the connections of the entire network* (32.28%) although represents only a fragment of all organizations (~3%). In terms of composition, this upper segment of terrorist groups is rather homogeneous as half of the network elements come from the terrorist organizations of the Middle East and North African regions and another four are also affiliated in the rather large South Asian region. One or two South American organizations and one Southeast Asian actors have also made it to the top.

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[7] The importance of weak or bridging corrections emerges at *macro level* in relation to the integration of the particular structure: the closely related high density sub-groups emerging from strong connections build a relationship through the weak connections (Granovetter, 1991).

[8] In a particular social network the geodesic difference between any two points is the shortest path between them, i.e., "the number of actors through whom the points can have any interaction" (Letenyei, 2006: 247.).

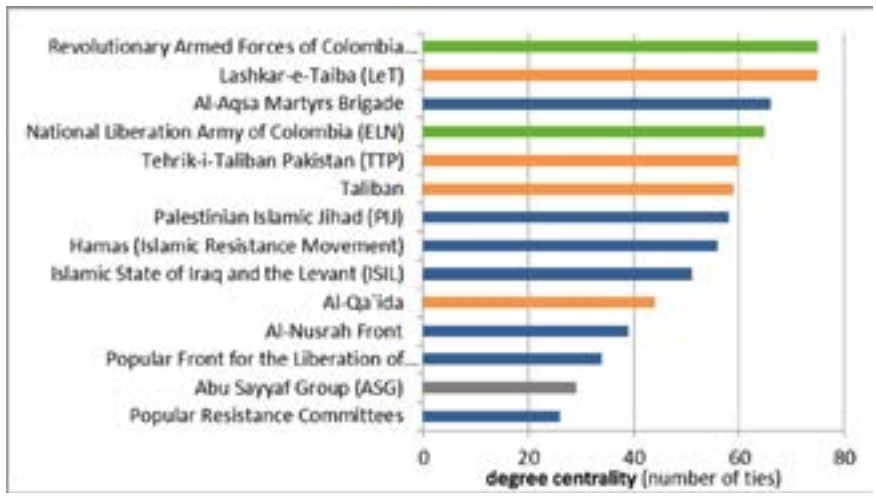

Figure 3

Major organizations of the cooperation network and their regional affiliation

Source: Own calculation and editing

Outcome indicators of cooperative terrorist actions

Cooperation provides considerable advantages to the participants: *the success rate of terrorist actions is also higher in attacks* executed in cooperation (Table 2). Approximately every ninth (90.9%) of the single actions – claimed by single organizations – is successful, but if cooperation evolves between the organizations, the ratio of successful attacks also becomes higher (93.9%).[9] Results also suggest that terrorist actions have *a more robust destructive force* when they are implemented by multiple actors in cooperation. Among the multi-actor terrorist events there are more[10] actions resulting considerable material damages (8.2% compared to 2.6%) and there are fewer cases leading to small and material damage (91.8% compared to 97.4%). Beside physical infrastructure, a terrorist attack implemented in cooperation is also *a more serious threat* in terms of *human losses*. While in actions executed by one organization on average 2.29 people die (not including suicide bombers), the attacks implemented by terrorist organizations in cooperation may claim 6.39 fatalities.[11] Similar and even stronger influence can be observed in the case of the wounded ones (again not including potentially wounded terrorist): cooperation raises the average 3 wounded observed in single actions on average to 10.25.[12]

[9] The difference is statistically significant: $Chi^2 = 9.828$; $p = 0.002$.
[10] The difference is statistically significant: $Chi^2 = 33.434$; $p = 0.000$.
[11] The difference is statistically significant: $d = –7.245$; $p = 0{,}000$.
[12] The difference is statistically significant: $d = –7.434$; $p = 0{,}000$.

Table 2
"Benefit" of cooperation

Type of the terrorist action	Successful (%)	Negligible material damage (%)	Significant material damage (%)	Fatalities (persons)	Wounded (persons)
single	90.9	97.4	2.6	2.29	3.02
cooperative	93.9	91.8	8.2	6.39	10.25
cooperation multiplier	1.03	0.94	3.15	2.79	3.39

Source: Own calculation and editing based on GTD data

In total, therefore, focusing only on the most important effects, cooperation almost triples the average number of fatalities of terrorist acts (cooperation multiplier factor = 2.79) and increases significant material damages and the average number of the wounded by more than three times.

Concluding remarks

As a general consequence of our analysis, the thought selected as the motto of this study *may be put into past tense,* as we have empirically proved that by 2014 a kind of connection *evolved* between the previously separate types of terrorism' (Haskó, 2002: 24.). Consequently, on the basis of our research results, we can state that (1) *terrorist actions implemented in cooperation* as a special type of the attacks are in fact a *western invention* as it emerged and spread first in the Northern region of the American continent, and (2) this form of cooperation *began to grow intensively* at the beginning of the new millennium and has become a mass phenomenon, predominantly in the *Middle-East/North African* and *South Asian regions, over the past two decades*. The (3) *social network structure of the attacks implemented in cooperation indicates global integration,* as on the basis of multiple (bridging) connections cooperative actions involve *inter-connectedness ,* embeddedness *between regions* ,as well as tight and dense internal networks. Finally, (4) the network embeddedness of terrorist actions has favourable consequences for the initiators and participants (greater probability of success, more significant material damage, more fatalities and wounded), yet these higher outcome indicators make this special form of cooperation an *outstanding social challenge* – spreading and diffusing according to the data – for the external environment and the potential targets.

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